Herbal medicine and risk constructions: representations in Australian print media

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Herbal Medicine and Risk Constructions: Representations in Australian Print Media

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Statement of Authorship

I certify that the work presented in this thesis is, to the best of my knowledge and belief, original, except as acknowledged in the text, and that the material has not been submitted, either in whole or in part, for a degree at this or any other university.

I acknowledge that I have read and understood the University's rules, requirements, procedures and policy relating to my higher degree research award and to my thesis. I certify that I have complied with the rules, requirements, procedures and policy of the University (as they may be from time to time).

Monique Lewis

Signature: ........................................................................................................

Date: ........................................................................................................
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Abstract

This thesis is an exploration of the construction of risk in Australian mainstream and biomedical media representations of herbal medicine (HM). It presents arguments and discussion based on my findings in response to two research questions: What are the dominant topics and frames that occur in media reports about HM? Is there a prevalence of risk references across two printed media forms and all articles?

The construction of risk in media reporting about HM is a specific phenomenon that has received little attention within the discipline that has become known as the sociology of complementary and alternative medicine (CAM). As a marginalised form of medicine in the context of mainstream Australian healthcare, HM media representations highlight the numerous tensions that exist between lay and expert knowledges and biomedicine and CAM, as well as the relationship between these forms of knowledge and the multiple ways in which they become mediated socially and politically.

The primary and secondary research of this thesis contributes to the sociological literature about HM as a product and therapy of CAM in the context of media representations and risk. My exploration of media risk representations about HM embraces an interpretive methodology within the discipline of sociology, drawing from social constructionist and poststructuralist epistemologies.

The primary research consists of two content analyses. The first is a longitudinal manifest analysis of articles about HM or CAM that appeared in Australia’s primary peer-reviewed biomedical journal, The Medical Journal of Australia (MJA) from 1966 to 2008. The second study which focuses on news articles from mainstream Australian newspapers blends qualitative and quantitative methods, using manifest content analysis to count the number of specific references to issues about HM, as well as latent analysis to extrapolate how these issues were framed, the frequencies of positive and negative intonation, as well as the main sources used in the texts. This is a content analysis of contemporary media reports, and covers a five-year timeframe, from January 2005 to May 2010.

The findings from these studies reveal that the construction of notions of risk about HM is prevalent in both biomedical media representations, as well as mainstream news reporting.
The issue of efficacy is also prominent in both media forms, which highlights the increasing acceptance of HM as a definite or potentially beneficial medicine, but which also portrays it as fraught with risk and requiring astute governance at the same time (whether by the state, industry, the individual or the practitioner).

The mapping of the discourse about HM and CAM in the MJA reveals that there is a notably broad association of risk with HM and CAM in Australia’s primary biomedical journal, a publication with substantial social and political influence. I argue this extensive occurrence of risk-defining associated with HM is a confluence of the professional requirements of risk awareness for biomedical practitioners, doctors’ unfamiliarity with HM and CAM, the legitimisation of biomedical dominance, the issue of publication bias, and also the legitimisation tactics of HM/CAM industries, research institutions and professions.

The mapping of news frames highlights the competing, collaborating and conflicting claims by stakeholders which include government, universities, private industry, health professionals from biomedicine and CAM, and lay audiences. Reasons for the predominance of risk as a discursive construct in news reports about HM are multi-layered, and involve a complex interactivity between multiple factors such as news culture and news production processes, temporal boundaries, opportunity, sources and competing claims-makers, as well as the broader sociocultural and political world in which HM is ambiguously placed, hovering at the edge of the marginalised, as well as the very threshold of mainstream healthcare.

This research is the first of its kind to consider risk and other representations in relation to HM discourse in Australian biomedical media, and mainstream news reportage. My interpretation of the findings demonstrates how and why such representations contribute to the construction of HM risk, a discourse that may influence HM usage by lay people, its acceptance by the mainstream health professions and finding a place for HM in the healthcare system, and the formulation of public policy.
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1 Introduction: Establishing the study

1.1 The thesis

This research is an investigation into the way in which Australian mainstream and biomedical media represent herbal medicine (HM), with a particular focus on the construction of risk as a significant part of these representations within the discipline known as the sociology of Complementary and Alternative Medicine (CAM). The construction of risk in media reporting about HM is a specific phenomenon that has not yet been explored. This research contributes to a sociological understanding about HM as a product and therapy of CAM in the context of media representations, knowledge and risk.

As a marginalised form of medicine in mainstream Australian healthcare, HM media representations highlight the numerous existing tensions between lay and expert forms of knowledge in relation to biomedicine and CAM. Such media representations also shed light on the relationship between these forms of knowledge and the multiple ways in which they become mediated socially and politically. The association of HM with risk highlights the complexities between the interaction of dominant scientific and biomedical expert knowledge systems with what is regarded as non-expert or lay knowledge systems.

The investigation provides an interdisciplinary approach combining ideas and interpretations from health, medicine and CAM sociology, history, media studies and risk society theory.

The topic is inspired by a number of factors: first, the historical backdrop that includes HM’s highly marginalised relationship with the biomedical establishment, which involved the imposition of a stigma of ‘quackery’ upon HM throughout much of the 20th century in Australia. Second, the way in which this stigma of quackery (with strong connotations of benignity) has evolved into a rhetoric of risk in contemporary Australia, promulgated by its scientisation. Third, HM’s evolution during the 20th century from being a ‘raw’ cottage industry based on lay knowledge to one of global commercialisation based on scientific knowledge in the 21st century. And finally, the conflicting truth-claims about HM, which appear in the mainstream or lay media, as well as biomedical media in Australia. Exploring the discrepancies in truth-claims reveals the existing tensions between lay and expert
knowledge, as well as the relationship between these knowledges and how the media interacts with them.

1.2 Research aim

The primary aim of the research is to measure the level of risk reporting about HM in Australian biomedical and mainstream media representations. The research questions are: What are the dominant topics and frames that occur in media reports about HM? Is there a prevalence of risk references across two printed media forms and all articles?

The research explores why such risk constructions are occurring in the lay and biomedical media discourses about HM and identifies the key interest groups involved, which include biomedical and HM or CAM practitioners, researchers, manufacturers and marketers of HM and of course the broader and highly diverse group of ‘publics’ – the ‘lay’ audiences – who make up Australia’s varied communities. Each of these groups is affected by the media representations and discussions of media and risk construction in relation to HM in the broader context of Australian health care, given the way in which media has been demonstrated to influence people’s acceptance of health information, as well as public policy. These points are elaborated on further in the study.

In considering the factors shaping risk constructions, this research also explores the competing knowledge and truth-claims being promoted and contested by different interest groups in relation to HM and CAM. Responses to these questions demonstrates the tensions between lay and expert knowledges mentioned above, as well as the issue of public trust in biomedicine and scientific legitimacy, all of which are a strong feature of risk society. It also presents the very complex interplay of actors, events, sources and other influences that serve to construct media representations about HM.

1.3 Scope of the thesis

The research design is based on an interpretive methodology influenced by social constructionism and poststructuralism. Politico-cultural considerations of power relations between different interest groups are addressed, taking into account HM as a marginalised therapy that appears to be increasingly shedding its marginalised status. The power of the consumer movement in relation to healthcare and to HM and CAM specifically is also
addressed. Other CAM modalities will not be addressed in the thesis, except when relevant comparisons are made.

Given the focus on print media representation, the thesis considers the sociocultural and political issues of media framing and media effects broadly and in the context of HM and CAM. While audience reception is much needed in the research of CAM media reporting, as Weeks and Strudsholm point out (2008), it is beyond the scope of the thesis, which focuses on representation, rather than measurable audience effects.

The thesis does not investigate the specific sociological issues relevant to issues of practice in relation to HM. Neither will it consider issues of gender and ethnicity in terms of feminist, postcolonialist and ethnomedical interpretations, which are of equal importance in the sociology of CAM, but are not within the scope of my research.

I apply a sociological framework to the question of HM in Australia, incorporating perspectives from media and cultural studies. Although relevant and useful as an epistemological approach, drawing from the theories of medical anthropology in relation to HM is largely beyond the scope of this thesis.

The thesis is restricted to analyses of Australian data only, however some consideration will be given to cross-cultural analogies or differences in the context of Western societies, rather than non-industrial or developing countries.

1.4 Rationale for research

1.4.1 HM usage
The use of HM and CAM products in industrialised Western countries is at an all-time high and appears to be steadily increasing. This gathering momentum of popularity has brought HM usage as an increasingly prominent issue in Australia into social, political and economic spheres of discourse. This escalation in usage of HM or CAM has also been identified in other Western countries including the US (Eisenberg, 1993; Eisenberg et al., 2000; Kelly et al., 2005; Tindle et al., 2005) and the UK (Ritchie, 2007; Thomas et al., 2001). Germany and France have an exceptionally high rate of HM usage, reflected by over-the-counter (OTC) sales and health insurance expenditure (De Smet, 2005: 1176).
One Australian population-based survey suggests HM usage alone has climbed from 9.9% in 1993 to 20.6% in 2004 despite the apparent decline in household expenditure on CAM items generally, which has been partially attributed to the Pan Pharmaceuticals event of 2003 (MacLennan, Myers & Taylor 2006: 28) (introduced in Section 2.1). Recent studies have suggested between 52% and 69% of Australians use self-prescribed CAM products, and between 16% and 23% use HM products (MacLennan et al., 2006; Xue et al., 2007; Zhang et al., 2007; Zhang et al., 2008).

Since the 1990s in Australia, science, as a dominant discourse in Western society has played a vital role in the development and articulation of HM discourse, and scientism has been well and truly harnessed by advocates, promoters, as well as those who take exception or are opposed to HM.

Scientific methods such as high performance liquid chromatography and nuclear magnetic resonance have been used to identify the active constituents that account for the efficacy of some medicinal plants. Universities compete for government grants to run product-based randomized controlled trials (RCTs), which validate the particular HM product’s effectiveness, or compete for industry contracts to test products for their phytochemical activity. Systematic reviews and RCTs have been undertaken to reveal benefits as well as adverse events and are published in peer-reviewed journals, which adhere to an orthodox scientific paradigm and promote the tenets of evidence based medicine (EBM). Advertisements about HM products are designed to resemble pharmaceutical product marketing information, inclusive of citations to give the ad the impression of a peer-reviewed journal article. This phenomenon of pharmaceuticalisation is further observable in the marketing of HM products, which use trademark pharmaceutical-style branding of products, with names that resemble either prescription or OTC pharmaceutical medications like Promensil or Cardiogenics and the brand names Bioceuticals and Metagenics, which appeal to the contemporary ‘pharma brandscape’ (Robins, 2006) and create an association with biomedical science. The ability to harness science to HM as a consumer-focused product is an important element to be considered in the evolution of HM’s commercial and academic successes in industrial modernity.

The growth in usage, expenditure, scientisation and media discourse about HM in Australia (discussed in Chapter 3) make it a relevant and important sociocultural movement for
sociological inquiry. The mounting relevance of HM has inevitably been noted by journalists, editors and publishers, whose professional function is to represent these discussions in non-specialised or lay media like newspapers, television programs and websites, as well as the specialised science and biomedical journals, and other media in this category.

1.4.2 Media as a powerful social force

This research of media reporting about HM carries an important function of clarifying and defining the way in which HM is represented by lay and biomedical media, in the Australian context. Like many other Western industrialised countries, Australia is an information-hungry society with the ‘need to know’ as an integral part of our social development (Hudson, 2006: 310; Noelle-Neumann 1973 in Johnson-Cartee, 2005: 13). In a society where access to information holds such sociocultural importance, the media wields significant power and influence. It attracts and directs public attention, it may persuade opinion or belief, it can influence behaviour, and may influence how we define reality (McQuail, 1994: 69). Digitised media formats have brought about convergence with various media sources, so media messages can be directly and immediately sent to our computers, mobile phones, or iPads. As a result many people in Western industrial countries like Australia are paying more attention to media representations than ever before. A cultural force like the media demands sociological attention and analysis, in order for societies to be able to understand and critique its role and influence, as well as actively resist, refute, reshape, or transform it.

The increasing media attention being given to CAM in Western industrialised countries corresponds with the burgeoning rate of its usage (Weeks & Strudsholm 2008). Both biomedical and lay media analyses indicate HM is at least being considered as having some sort of a role in Australian health care, whether the framing is positive or negative. At present in Australia this future role for HM is unpredictable and unclear (Turner, 2004: xix). This thesis argues that these much-needed discussions about HM’s role are being clouded by the media’s prioritisation of risk discourses in particular, which dominate the primary research findings in this study. The nature of these representations can obfuscate the central issue of whether HM as a mode of health care is beneficial and affordable, and whether it should be supported by government policy and how this support should be actioned.
The research investigates two forms of print media – biomedical as well as news media representations because both forms of media have a significant impact on mainstream audiences (including policy-makers as audiences) and both tend to be genres regarded as credible by their audiences (Schudson 2003: 6).

1.4.3 Biomedical and mainstream media - Genres under investigation
Biomedical journals not only affect how doctors treat their patients as well as public policy, they also influence how, as a society, we perceive health, pain, illness and mortality (Smith, 2006: 115). Their influence is much broader than we may assume (given the majority of non-biomedical or lay people do not read them), because of the important ‘front-line’ role played by biomedical practitioners in the Australian health care system. It is also important because journalists or health reporters typically regard this genre as an authoritative, credible and reliable source (Entwistle, 1995; van Trigt et al., 1994: 639).

This thesis explores the mass-mediated news genre, which plays a crucial role in setting the agenda for which risks are identified and the severity of the risks (Lupton 2006: 19). In many cases the mainstream media news genre feeds off the biomedical genre, as long as the adapted stories fit the news workers’ criteria for interest, relevance, conflict, entertainment and timeliness. Therefore, both genres rely on the relationships they forge with each other’s medium in order to convey their messages to lay and expert audiences.

1.4.4 Risk discourse and HM – an under-researched phenomenon
Risk theories are a product of Western industrial modernity. Bury (1986: 11) notes that in the health domain we have an ‘almost obsessive preoccupation’ with risk calculation, a process involving the science of probability and statistics, in order to bring disorder under some sort of control (Hacking, 1990 in Lupton, 1999: 6). Risk assessment is based on the precept that risks are objective phenomena, which can be brought under control, to an extent, via scientific calculation (Lupton, 2000: 206). Much of the risk-based discourse about HM – particularly in mainstream media and science-based journals – is based on this idea, an assumption commensurable with the biomedical paradigm. The idea that certain plants can be dangerous if not used properly is not new to herbalists (Evans, 2008a: 81), nor to lay people as Foster and Tyler suggest (1999: 2), but the formal, scientific application of risk

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1 Foster and Tyler comment: ‘Even those unfamiliar with the execution of Socrates by poison hemlock more than two thousand years ago are probably not inclined to collect and eat wild mushrooms indiscriminately’ (Foster & Tyler, 1999: 2).
calculability to HM is a recent phenomenon. This has also coincided with a more technologised manufacturing culture for HM, which involves extracting high concentrations of active constituents resulting in a finished product quite different from traditional herbal tinctures.

In addition to being a pragmatic tool of calculation that attempts to grasp control of an uncertain future, risk is also arguably a political tool, which employs certain rhetorics and other tactics in order to control threats to the social or ‘moral’ order (Lupton, 2006: 14). From this perspective, the practice of and participation in HM poses a problem for a health care system politically and culturally dominated by biomedicine as well as heavily influenced by the commercial objectives of the pharmaceutical industry. The paradox here is that, despite the increasing scientific evidence about HM, and indeed the developing alliance between HM and modern scientific research, it still remains marginalised and external to the mainstream health care sector.

The association of HM with risk highlights the complexities between the interaction of dominant scientific expert knowledge systems with what is regarded as non-expert or lay knowledge systems. The relationship between each of these systems with commercialisation and marketing processes and, in particular, our individual and collective approaches to health care are issues raised by the association of HM with risk. Interestingly, the measured and rational approach to risk attributes that psychological studies have associated with expert perceptions of risk (Slovic 1992 in Gabe, 1995: 4) changes significantly when there is professional or political territory to defend. This has been highlighted by home-birth debates in the Netherlands (Springer & Van Weel, 1996: 1276), and more locally, the harnessing of a risk argument about home-births by obstetricians as well as Australian Medical Association (AMA) representatives, whose articles in biomedical journals present statistics which suit an anti-homebirth agenda and ignore, or choose not to elaborate on, the findings from the studies that indicate homebirths categorised as ‘low-risk’ were as safe as hospital births (Bastian et al., 1998; de Costa & Robson, 2004; Pesce, 2010). Such discursive tactics about risk, also evident in biomedical discourse about HM, obfuscate the broader and necessary debates about the place for homebirths in the Australian health care system.

Risk is particularly relevant in relation to media representations of HM because it highlights the divide between expert and lay knowledges, as well as the increasing awareness by lay
people of the fallibility of expert knowledge systems. This division has been a feature of HM history in Australia, contributing to HM being a marginalised therapy throughout much of the 20\textsuperscript{th} century.

Risk is also enmeshed with science discourse and the process of scientisation occurring for HM as it becomes an increasingly regulated product in the consumer marketplace. This phenomenon also ties in with evidence-based medicine research, which constitutes its own marketplace in universities and private research institutions.

There has been little sociological exploration of risk discourses in relation to HM and CAM, with the exception of the qualitative research by Broom and Adams (2009: 331), who note rhetorical strategies associated with CAM risk in their interviews with oncologists in two Australian hospitals. This thesis investigates and demonstrates the risk arguments and media framings about HM, taking into consideration the factors for these risk conflicts, as well as endeavouring to understand these factors in terms of plural social constructions of meaning (Gabe 1995: 7). The construction of risk is evident in the very discourses themselves, which, as Carter has pointed out, function to define spaces of safety and danger – a process that is neither objective nor democratic (1995: 145). It is for this reason risk constructions occurring in the mainstream domain must be identified, scrutinised and discussed.

1.5 Structure of the thesis

1.5.1 Chapter 2 – From margins to mainstream

Chapter 2 historically contextualises the sociocultural, political and economic role of HM in contemporary Australia, outlining those events impacting on HM’s transformation from a traditional and pragmatic medicine to a marginalised product hampered by its association with notions of fraudulence, ignorance and quackery. These events also highlight the volatility of boundary-making which has occurred through several centuries in relation to human health and medicine.

Sociological critiques of biomedicine are considered, looking at the rise of medical dominance in Australia, highlighting the way in which Australian newspaper representations of medical physicians evolved from being extremely negative to the very opposite. The impact of medicalisation resulting from a hegemony of biomedicine is then explored, raising global concerns about the impact of this phenomenon on health care.
The construction of HM as ‘quackery’ is discussed, considering the origins of the term ‘quackery’ and the commercial and voracious world of patent medicines, the promoters of which artfully drew upon the increasing prevalence of newspapers and periodicals to make as many people as possible aware of their products.

The idea of reification, an ideological mode of operation, is presented to demonstrate biomedicine’s ‘double-thinking’ or ‘cultural forgetting’ of plant medicines which occurred throughout the 20th century. It is argued that this process of reification is indicated by the progressive disappearance of medicinal plants from the biomedical psyche.

An event of historical and political importance to HM and CAM in Australia, the Pan Pharmaceuticals event of 2003, is presented at the end of the chapter. The Pan event resulted in an unprecedented recall of over 1600 therapeutic products, most of which were HMs and nutritional supplements. The event received saturation media coverage and brought about policy changes in relation to the way in which HM and CAM are regulated in Australia. The Pan event is discussed to highlight the relevance of risk reporting about HM in Australia, and the complexities involved in understanding risk reporting, competing claims-makers and public policy formulation.

1.5.2 Chapter 3 – Literature review: Framing scientific knowledge, risk, media representation and HM.

This chapter reviews the most relevant literature pertaining to the representation of HM and CAM in media reporting and the construction of risk within lay and biomedical media discourses in Australia. It investigates the complex interrelationships between the media and media reporting, science, and risk, as well as the potential sociocultural and political ramifications of these interactions. Whilst the relationships between media, science and risk have received a significant amount of attention in the social sciences, there has been little discussion of this in relation to HM or CAM.

Risk is a starting point in the literature review, since risk construction is a key phenomenon being addressed in the research. The hypothesis that there is a prevalence of risk in media discourse about HM requires initial backgrounding and exploration of risk theories. Any discourse of risk must also consider the interplay of lay and expert knowledges, as well as
1 – Introduction: Establishing the study

agenda-setting by interest groups. In the case of media reporting of HM, these interest
groups include the naturopathic and biomedical professions and academe, the industry
players from both HM and pharmaceutical sectors, the media and of course, lay publics.

The research also explores risk as a sociocultural construction. Risk society theories are
introduced and explored in relation to HM reporting in lay and biomedical media. This
chapter reviews the literature regarding peoples’ concepts of risk in relation to HM,
highlighting findings from several attitudinal studies. These studies reveal differing
perspectives suggesting the discrepancies and subsequent tensions between expert (including
specialists and non-specialists) and lay knowledges, tensions that are a strong feature of risk
society.

Given science’s (and scientists’) important role in risk constructions and subsequent
relevance to the central themes of the research, an over-arching deconstruction of science
and scientism follows on from the review of risk. This review identifies how HM is being
scientised and investigates the reasons for this process of scientisation, which has
sociocultural, political and economic implications.

The discussion of scientific knowledge is followed by a review of the literature about media
representations. The broad perspectives on news-making and news reporting from a
constructionist perspective are presented, taking into account the potential impact and
influence of media representations in society. This review of the literature broadly
highlights the complexities of the numerous interactions between news-makers and their
institutions (and journalistic culture), the events being reported, sources, and audiences.

The literature concerned with inaccuracies in media reporting and media effects and framing
is considered, highlighting research that demonstrates how media influences people’s
interpretation of the news, as well as their beliefs about it. This also considers research
findings that show how the media influences public and professional opinions and especially
public policy. Studies on the media representation of health are reviewed, many of which
are particularly concerned with the problems of inaccurate reporting and errors of omission
by journalists rather than the ideological construction of truth-claims, followed by the
findings of multiple content analyses about CAM broadly and HM specifically. Most of
these studies have found a poor quality of reporting in terms of scientific accuracy, the

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omission of information about potential harms or about the validity of research methods. No such studies have specifically isolated risk discourse for scrutiny, which is a focus of this research. Sociological treatments of CAM representation in the literature are also explored.

This section closes with a consideration of some critical questions about risk research posed by media scholar Jenny Kitzinger (1999: 62). Finally, it is suggested that answering these questions highlights the complex interplay of events and sources which influence media; the media constructions of conflicting truth-claims about HM within the context of journalistic culture and the prioritising of certain truth-claims; and finally, the social, political and economic consequences of HM’s growing popularity and usage (and potential ‘mainstreaming’) in Australia.

Theories on the news production process, the social and political function of news, media power and influence, and the role of claims-makers are presented, all of which have contributed to the design of the newspaper content analysis presented in Chapter 7. The rationale for an Australian-based newspaper focus is also provided, demonstrating the social function of newspapers in guiding other media forms such as television news and current affairs.

1.5.3 Chapter 4 – Research Design
Chapter 4 introduces and explains the research methodology and design. The methods used incorporate the discursive study of HM, which draws on historical and sociological analysis, focus groups, media content analysis, and textual analysis. This chapter highlights the benefits and limitations of the research methods employed and in it I argue for the need to distinguish HM as a separate product and therapy in order to understand how it is represented in the media.

The chapter details two focus groups which assisted in shaping the research questions and key themes for exploration and highlighted the discrepancies in how culturally different groups formulate meaning about HM. The findings from these focus groups contributed to the design of the subsequent media content analyses and are presented in Chapter 5.

The benefits and limitations of media content analysis are considered next. My approach to understanding representations of HM from two distinct media forms with very different functions and readership entailed two separate studies. The representations of HM in
Australia’s primary peer-reviewed biomedical journal consists of a longitudinal content analysis of the Medical Journal of Australia (MJA) over a 42-year period. This was a quantitative approach, which involved the coding of denotative meanings found within the texts analysed. Complementing the MJA manifest analysis, the investigation of mainstream news reporting about HM considers connotative meanings which are framed within the text as well as the framing analysis of news reports in mainstream Australian national and metropolitan newspapers over a five-year period. The combination of manifest and latent analysis ensures a more rigorous approach that is both validatable and replicable.

The particular methods applied for the content analyses of the MJA and mainstream Australian newspapers are explained and rationale for these methods provided.

1.5.4 Chapter 5 – Focus groups: Mapping the issues
This chapter presents the findings from the first phase of the research – the focus groups. The focus groups were undertaken with two quite distinct groups of participants from Southern Cross University. The first group consisted of naturopathically-oriented educators and researchers, and the second group mostly scientific researchers and educators. The themes that emerged from this research phase are presented, and the distinct ways in which each group attributed risk to either HM or pharmaceuticals, are presented. These risk definitions led the research into its second phases, which entailed a more systematic form of investigation in Australia’s primary peer-reviewed biomedical journal, the Medical Journal of Australia (MJA).

1.5.5 Chapter 6 – HM and risk in the Medical Journal of Australia
The Medical Journal of Australia (MJA) study presents the longitudinal content analysis of the MJA for articles referring to HM specifically or CAM broadly over a 42-year period. The purpose of this study was to gauge, over an extended period of time, the way in which Australia’s primary medical journal discusses HM and CAM, since the MJA is an important source of information for biomedical practitioners in hospital, research and educational settings, as well as in private practice. The methods are presented, detailing the development of coding categories and the coding process and manifest content analysis. This study demonstrates a significant increase in the discourse about risk in the MJA, which corresponds with the increase in articles about HM and CAM generally. Other codings with
substantial frequencies, such as efficacy, are also discussed, as well as the genres in which they are most frequent.

The reasons for the predominance of risk discourse are considered, as well as the increase in attention to efficacy. Issues of biomedical legitimisation, the inadequacies of biomedical knowledge about HM, theories about mainstreaming or ‘co-option’ of HM, the issue of biomedical publication bias, as well as the legitimisation of HM/CAM industries, research institutions and professions, are discussed. These findings reflect the existing tensions for biomedical practitioners in their relationship with HM and CAM, and highlight the often-underestimated influence of biomedical publications in terms of adopted healthcare practices, regulation, and public policy.

1.5.6 Chapter 7 – HM and risk in mainstream Australian newspapers: Content analysis

Chapter 7 presents the results from the content analysis of Australian newspaper reports over a period of five years and three months. This study focused on news-based reports in national and metropolitan newspapers in Australia from January 2005 to May 2010. The methods combined manifest and latent content analyses, which enables the scrutiny of both denotative and connotative meanings, with an aim to identify the key themes and frames emerging from the news reports, as well as headline and article intonation, and main sources of information.

The data from the study is detailed, indicating a prevalence of risk-based and negative reporting about HM. The high rate of risk framings and negativity in articles is analysed in relation to the overall discourse of HM in news reports. Efficacy is also discussed as a frequent frame and manifest code. Missing and marginalised discourses are also considered in the analysis of findings.

This study demonstrates the various ways in which risks and other frequent frames such as efficacy and regulation are constructed in mainstream Australian news articles about HM. By systematically mapping news frames, the study has highlighted the competing, collaborating and conflicting claims by stakeholders that include government, universities, private industry, health professionals from biomedicine and CAM, and lay audiences.

Reasons for the predominance of risk as a discursive construct in news reports about HM are
discussed in this chapter. The risk-efficacy relationship, discussed in the previous chapter, is also relevant to the findings from the newspaper analysis.

1.5.7 Chapter 8 – The HM-risk phenomenon: A comparative discussion of the findings
This chapter summarises the primary research results from both content analyses, and considers how these findings intersect. The implications of my findings in terms of the risk-efficacy interface are then theorised, and it is argued that acceptance of potency and efficacy creates the need for a premise of risk as a necessary part of imbuing HM with medical meaning. I contend that biomedical boundary-making and the legitimisation of biomedical dominance, as well as EBM and commercialisation, are relevant issues at the risk-efficacy interface. The final section of this chapter then positions my findings in terms of their contribution to the sociological literature in the field.

1.5.8 Chapter 9 – Research summary and implications
In the concluding chapter I provide a summary of the research findings, discussing the social contribution of the research in understanding risk representation of HM and its potential influence, and suggest opportunities for future research in the field of comparative content analysis and audience reception analysis, in particular. The pertinence of understanding media risk representations in contemporary Australian society is reiterated. The implications of my research findings regarding the role of HM in Australian healthcare are summarised.

1.6 Terms and terminologies
Defining the terminologies in the field of CAM sociology has been a highly contested terrain. Therefore, for purposes of clarity it is necessary to explain the specific terms employed throughout the thesis.

1.6.1 Herbal medicine
The type of HM referred to throughout this dissertation stems from the cultures of the non-indigenous white Anglo-Saxon colonisers of Australia - with British, European, and North American influence. Historically, the pharmacopoeia utilised in the practice of western herbal medicine have also been influenced by and incorporated plants from Africa, South America and the Middle-East as well as Asia. This form of Western HM is the most popular type of botanical medicine to be practised and consumed in Australia today by non-indigenous peoples (Wohlmuth, Oliver & Nathan 2002: 33).
The complexities which arise in defining HM as both a product and a practice have been pointed out by Evans (2008: 23). Whilst the typical confusion about definitions occurs in relation to the distinction between practice and product, I would suggest there are four distinct categories under which HM may be defined. These are:

a. **Culturally-specific herbal medicine.** HM as philosophies that are culturally developed around the usage of plants as part of a system of healing in a given society. These have been defined in the industrialised West as ‘folk’ medicines, which are used by both trained and untrained (‘folk’ or ‘lay’) people.

b. **The traditional practice.** The professional practice of HM, as undertaken by a practitioner who has been educated in its traditional use, be it Western HM, Ayurvedic, Kampo or Traditional Chinese Medicine. Each of these systems has an underlying adherence to a philosophy of vitalism or ‘vital force’, supported by a belief in the healing power of nature\(^2\). As Coulter and Willis (2004: 587) point out, it is primarily this philosophy of vitalism which is ‘the basis of the claim that biomedicine and CAM are distinct paradigms’.

c. **HM as phytotherapy.** Phytotherapy has been a movement to understand HM in scientific terms. It strives to understand HM on the basis of phytochemical or pharmacological explanations, rather than vital force (vanMarie, 2002: 76).

d. **HM the product.** HM as an industrialised product, manufactured and packaged for the consumer market, which has become part of the globalised market economy.

Attention to HM here is less focused on the ancient practitioner-based or culture-specific therapy and healing craft than with the HM products seen today on the shelves of health food stores, supermarkets and pharmacies, or in herbal dispensaries. Of course, the practice of HM, along with its cultural-specificity in indigenous medical systems, for example, is still very relevant and is referred to for contextualisation purposes.

The World Health Organisation (WHO) classifies herbal medicines as:

- **Herbs:** crude plant material such as leaves, flowers, fruit, seed, stems, wood, bark, roots, rhizomes or other plant parts, which may be entire, fragmented or powdered.
- **Herbal materials:** in addition to herbs, fresh juices, gums, fixed oils, essential oils, resins

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\(^2\) Coulter and Willis (2004) point out the more ‘extreme’ view of vitalism, which holds vital force as a ‘supernatural’ phenomenon, rather than something inherent in the natural world.
and dry powders of herbs. In some countries, these materials may be processed by various local procedures, such as steaming, roasting, or stir-baking with honey, alcoholic beverages or other materials.

**Herbal preparations:** the basis for finished herbal products and may include comminuted or powdered herbal materials, or extracts, tinctures and fatty oils of herbal materials. They are produced by extraction, fractionation, purification, concentration, or other physical or biological processes. They also include preparations made by steeping or heating herbal materials in alcoholic beverages and/or honey, or in other materials.

**Finished herbal products:** herbal preparations made from one or more herbs. If more than one herb is used, the term mixture herbal product can also be used. Finished herbal products and mixture herbal products may contain excipients in addition to the active ingredients. However, finished products or mixture products to which chemically defined active substances have been added, including synthetic compounds and/or isolated constituents from herbal materials, are not considered to be herbal (WHO, 2000: 3-4).

According to this classification by WHO, HMs may range from teas or pastes made directly from fresh or dried materials to capsules or pills.

HM as a product which may be recommended or prescribed by a health professional or which may be self-prescribed is as yet relatively unexplored in the sociological context, particularly in relation to media and risk. Analysis of the professional practice of the therapy of herbalism is beyond the scope of my thesis, although authors like Evans (2008), Singer (2008) and VanMarie (2002) have already addressed this issue.

### 1.6.2 CAM

The accepted terminology of ‘complementary and alternative medicine’ (CAM) at the level of government policy in Australia and elsewhere has been a highly political process (Coulter & Willis, 2007: 215) and for this reason is defined here in its historical context. The adaptation of this term covers a range of heterogeneous therapies which may be extremely distinct from one another (and indeed whose approaches may be diametrically opposed), but sharing one distinct commonality – they each claim to use ‘nature’ to heal or restore ‘balance’ to the body. Given the relatively recent attention being directed to CAM in the
field of sociology and cultural studies as well as the biomedical sciences, these broader CAM-specific discourses need to be considered in relation to HM.

The World Health Organisation (WHO) distinguishes CAM as being separate from ‘traditional medicine’ (i.e. Western herbal medicine) by the very particularity of it not being traditional within its contemporary cultural context of usage. By the WHO definition, CAM refers ‘to a broad set of health care practices that are not part of that country's own tradition and are not integrated into the dominant health care system’ (Shein & Maheira, 2005: xii; WHO, 2005: 1).

Broom and Tovey (2007: 1024) provide a sociological definition of CAM as ‘a constructed and dynamic entity that is historically and culturally variable’, referring to ‘a diverse and often paradigmatically disparate range of therapeutic practices’. In an attempt to address the confusion caused by CAM and unravel the therapeutic miscellaneity it constitutes, the US National Institute for Health website separates CAM into these categories:³

- **Whole Medical Systems** – such as naturopathy, homoeopathy, TCM and Ayurveda
- **Mind-Body Medicine** – such as meditation, cognitive behavioural therapy, yoga, prayer and arts-based healing practices such as music or art.
- **Biologically based practices** – based on substances derived from nature such as herbs, vitamins, minerals and shark cartilage.
- **Manipulative and body based practices** – such as osteopathy, chiropractic and massage.
- **Energy medicine** – biofield therapies such as reiki and qi gong and bioelectromagnetic therapies.

Given the extremely heterogeneous nature of CAM products and therapies, the need to formally classify the distinct modalities has been necessary to alleviate confusion. At the same time, it is a sociopolitical process in meaning-making. This phenomenon of CAM being constructed as it is defined has been noted by Broom and Adams (2009: 319). For example, a Western-style practitioner of herbalism may resent their main therapy being reduced to a ‘biologically based’ practice by the US National Institute for Health, a concept more suited to an orthodox biomedical paradigmatic way of thinking.

1.6.3 ‘Lay’ definition

‘Lay’ people is a common term used in risk society theory, a perspective discussed in Section 3.2.2 to define those individuals or communities who do not have formal ‘expert’ knowledge, based on the orthodox science heuristic. This term is frequently used throughout the thesis, particularly in relation to making distinctions between knowledge systems and media genres. The concept of the ‘lay’ person in industrial modernity is somewhat developed beyond the passive, docile bodies of Foucault’s ‘medical gaze’ (1973), particularly with the risk society theories of Giddens (1990) and Beck (1992) as they relate to the ‘lay’ or ‘non-expert’ individual – a point elaborated on in Section 3.2.2. These are the ‘socially rational’ voices defined by Frances Hall⁴ (in Cottle, 1999: 30), voices which Beck (1992) has described in the risk society context:

What scientists call ‘latent side effects’ and ‘unproven connections’ are for them their ‘coughing children’ who turn blue in the foggy weather and gasp for air, with a rattle in their throat. On their side of the fence, ‘side effects’ have voices, faces, ears and tears…. Therefore people themselves become small, private alternative experts in risks of modernization. … The parents begin to collect data and arguments. The ‘blank spots’ of modernization risks, which remain ‘unseen’ and ‘unproven’ for the experts, very quickly take form under their cognitive approach (Cottle, 1999: 61).

Lay publics in Western industrial modernity are individuals and/or communities that challenge expert knowledge systems, a point that is expanded in Section 3.2.2. Wynne (1996: 49) laments that lay public authorship of knowledge has been ‘deleted from social recognition’, in his arguments that non-expert lay publics were contending expert scientific knowledge well before the 1990s. In an information-oriented society, lay knowledge has become a more formidable force, given the access to data and other information more difficult to access previously. Such access to knowledge is accompanied by an increasing scepticism and mistrust in the expert systems managed by political elites, such as governments, and biomedicine.

⁴ Frances Hall was the mother of Peter Hall, one of the first victims of Creutzfeldt-Jacobs Disease - known in the vernacular as ‘Mad Cow Disease’.
1.6.4 Users versus consumers

Lay people may also be identified as users or consumers of HM. There is an increasing trend to use the term ‘consumer’ in the field of CAM research generally, in reference to people who use the therapies or services. Audiences are commodities, and are approached as commercial units (Kitzinger, 2004: 169). The consumer movement and the consumerisation of health have been factors credited with the increasing popularity of HM and CAM and are, importantly, referred to throughout the thesis. However, defining all users of HM as ‘consumers’ seems reductionist and inadequate, as does the term for those who read, listen to or view the media (preferred terms are ‘audiences’, ‘readers’ in the case of print media, or ‘publics’). For this reason the term ‘users’ of HM and CAM is employed.

1.6.5 Biomedicine

Biomedicine is a discipline that bases its knowledge and interpretations of health and illness on the belief that disease and illness are caused by specific biochemical mechanisms. This stems from 17th century Cartesian notions of the body as a self-contained machine, which occasionally ‘malfunctions’ and requires chemical and mechanical interventions (di Stefano, 2006: 60).

Biomedicine developed as a result of the alliance that occurred in the early 20th century between the orthodox medical profession and science. It came about following a period of unprecedented scientific discovery in the field of medicine, which witnessed revolutionary findings in bacteriology, microbiology and virology and the development of technologies like microscopy, x-rays and radium (Porter, 2006a). Those practitioners of Cartesian style medicine, the medical profession, had previously been struggling with their public image, particularly during the 19th century. During this time they skillfully aligned their profession to this awe-inspiring scientific movement in what was to be an extraordinary leap to social, political and economic power, which placed these medical professionals, with the state’s blessing, at the very pinnacle of the health care sector in Australia. As the 20th century progressed, the medical profession also aligned itself with the pharmaceutical revolution, which resulted in a strong alliance between the manufacturers and marketers of pharmaceuticals and the doctors and their institutions, notably hospitals and the private clinics of general practitioners and specialists. This point is elaborated on in Sections 2.5 and 2.7.
1.7 Conclusion

This chapter has provided the research aims and objectives, as well as the scope of the research. It has presented the rationale for exploring the phenomenon of the construction of risk in biomedical and mainstream media representations of HM, given the increasing presence of HM in Australian healthcare and the prominent role of media as a highly influential social force. The thesis structure has been outlined, and terms and terminologies have been presented. The following chapter historically contextualises HM usage and explores the sociopolitical landscape of its evolution, particularly during the 20th century and in the first decade of the 21st century.
2 Contextualising the evolution of herbal medicine usage

2.1 Introduction
This chapter considers the sociopolitical and historical events that brought about the reconstruction of HM in 21st century Australia. The evolution of HM, particularly during the 20th century, and the first decade of the 21st century, has been promulgated by the scientisation and commercialisation of HM products and the consumerisation of healthcare in particular. This has occurred within a sociopolitical framework of biomedical and pharmaceutical dominance, as well as a culture of medicalisation. The historical stigma of ‘quackery’ in association with HM, along with the ‘cultural forgetting’ or ‘double-thinking’ of plant medicines are issues also raised. The chapter concludes with an analysis of a particularly significant event occurring in Australia in the first decade of the new millennium. The Pan Pharmaceuticals event of 2003 is discussed as a media event which influenced Australian public policy in terms of regulation and the funding of research into HM.

2.2 Emerging from the margins
Western HM as both a practice and a product has a sociocultural and political history of marginalisation in Australia since the early 20th century. Its marginalised status has been perpetuated by a biomedical hegemony that was successfully established in Australia by the medical profession and its political allies by the early twentieth century (Martyr, 1993, 2002; Pensabene, 1980; Willis, 1989). Since Anglo-European colonisation in Australia, however, the use and attitudes towards this healing modality have undergone some transformations which have been brought about by a number of notable sociocultural, political, and economic experiences. Scientisation and medicalisation are each crucial experiences to be considered in relation to the changing status of Western HM as it becomes ‘modernised’ or part of mainstream healthcare approaches and processes in Australia. The Australian experiences of these phenomena as they occurred throughout the 20th century and into the 21st have impacted upon the ways in which Western HM is practised, professionally prescribed, and self-medicated in Australia. Commodification is another key element apparently contributing to the integration of herbalism and herb products into a scientised and medicalised ideology.
It is important to acknowledge that a sophisticated Aboriginal pharmacopoeia had been developed tens of thousands of years prior to the arrival of the First Fleet (Lassak & McCarthy, 1997; Pearn, 1987), about which the majority of Anglo-European Australians know very little. Medical historian John Pearn describes the first Australians as:

superb botanists, sophisticated pharmacognosists of the indigenous flora, and were well aware of and exploited the phenomenon of pharmacological variation among different races of the same species of plant (Pearn, 1987: 569).

The past two decades have witnessed a dramatic rise in popularity of HM and, broadly speaking, CAM usage in Australia and a subsequent process of marketisation and co-option of these forms of healthcare. It could be suggested the lines of demarcation have blurred between some CAM products, particularly herbal, vitamin, and mineral supplements, and pharmaceutical medications. The relatively small and marginalised ‘cottage industry’ once a feature of HM manufacturing and retail in Australia has entered the realm of corporatism – the world of mergers and acquisitions, as Collyer has discussed (2004).

Studies have suggested between 16 and 23% percent of Australians use medicinal plant products, with a broader usage of self-prescribed ‘complementary medicines’ (including vitamins, traditional Chinese medicines, naturopathy, osteopathy, aromatherapy and homoeopathics) at between 52 and 69 percent (MacLennan et al., 2006: 27; Xue et al., 2007: 648). A recent cross-sectional population survey of 2526 people in Victoria suggested the highest users were women, adults aged between 35 and 54 years of age, and people with a higher education qualification (Zhang et al., 2008: 1008). Over 90% of the users found the herbs beneficial. The most commonly used herbs were aloe vera, garlic, green tea, chamomile, echinacea and ginger (2008: 1008). Zhang and colleagues note even higher rates for garlic and echinacea use in a survey of a rural community in New South Wales (Wilkinson & Simpson, 2001: 166). Notably, half of the HM users in the Zhang study self-prescribed (2008: 1008).

Over a 12-month period in Australia, it is estimated that approximately $1.86 billion is spent on CAM products (Xue et al., 2007: 643). Xue and colleagues have pointed out this annual expenditure accounts for approximately half of the dollars spent on non-subsidised healthcare products (2007: 648). In Australia, people who use HMs or complementary
medicines (CAM) do not typically keep away from orthodox medicine. The research by Xue and colleagues has indicated the estimated number of visits to CAM practitioners over a twelve-month period (69.2 million) was almost identical to visits to medical practitioners (69.3 million) (2007: 646). Therefore, the need for engagement and collaboration between the two different practitioner groups has become a significant healthcare issue in Australia.

Chronically ill people are reported to be the highest CAM users (Pan et al., 2000; Spence & Ribeaux, 2004; van den Brink-Muinen & Rijken, 2006). Thorpe (2008: 418) has suggested the reasons chronically ill people use CAM are pragmatic rather than ideological, and such usage occurs alongside biomedical treatment, suggesting that the use of ‘multiple health modalities’ is more popular than an ‘integrative medicine’ approach.

There are conflicting reports about the reasons for the popularity of HM and CAM products. Spence and Ribeaux (2004) have pointed out the problems surrounding attitudinal research into CAM usage include the broad definitions used in survey design and the variables based on practitioner visits and self-treatment. Given the relatively limited scientific evidence of efficacy for CAM, Coulter and Willis (2007: 218) have suggested ‘other social processes are at work’ in Australia, such as an ageing population, the increase in chronic illness and lifestyle-related morbidity, and the appeal of therapies with a far lower likelihood of side-effects. They also point out health consumerism and the politicisation of health as two broad social changes that need to be taken into account (2007: 219-220).

Despite its commercial success, HM still operates in society as a marginalised form of medicine. It is typically regarded in both biomedical and mainstream media discourse as the binary opposite of pharmaceutical medicine, which has its firm place in the paradigm of medical dominance. HM as a product and a practice often loses its therapeutic specificity – and consequently its identity – within the various sociological, biomedical and indeed mainstream media discourses about CAM in general, as do the other therapies placed into the whole miscellaneity of CAM, such as osteopathy, naturopathy, Traditional Chinese Medicine (TCM), and homoeopathy. This question of clearly defining CAM has, according to Coulter & Willis (2007: 215), social and political ramifications. The approach used in the primary research presented in Chapters 6 and 7 reflects a move towards understanding the sociological issues surrounding a specific CAM-defined therapy like Western HM as a distinct medicine of its own.
Di Stefano (2006: 77) notes the more contemporary transformation in biomedicine, which has seen a ‘softening of the hubris’ of Western biomedicine regarding CAM therapies like HM. It is pertinent that this apparent ‘softening’ and the subsequent rise in the popularity of CAM usage has coincided with the actual weakening of the biomedically dominant position (Coulter & Willis, 2007: 218). Whether or not this ‘softening’ is apparent in modern mainstream news and biomedical media representations of HM, will be explored in this thesis. The media analysis, incorporating both discourse and textual analyses will attempt to scrutinise the nature of the more common messages being conveyed about HMs, and consider how these messages via representation may impact on legitimation of HM usage, its co-option by biomedicine, pharmaceuticalisation and commercialisation, and the subsequent future role for HM in Australian health care. The important social and political role of media representation should not be underestimated, given the potential influence of media communications, which are elaborated on in Section 3.4. The power of representation has been noted by Hodge & Kress (1991: 147): ‘Social control rests on control over the representation of reality. Whoever controls modality can control which version of reality will be selected out as the valid version’.

2.3 Definition of Western Herbal Medicine

The intricacies and complexities of Western HM practice and ingestion have been eloquently described by Lipp (1996):

Medicinal plants are more than simply objects with chemical and symbolic aspects: they are living organisms that are functionally imbedded in a complex, interrelated cultural fabric of social groups, institutions, and ideas of balance and cosmological order that often reflect a sophisticated medical theory of the body, the symptoms it experiences, and the underlying causes of those systems. The elements that comprise this medicinal plant-related nexus include a broad network of kin and friends; diverse medical specialists, a health-seeking process of therapeutic resort; patient-healer relationships; specific times of the year and days that a plant may be gathered, and prayers and offerings associated with their collection; modes of preparation; and dietary, sexual, or other restrictions associated with specific plants. The constituents of this medicinal plant-related complex vary from culture to culture and form a rich and diverse array of medical systems’.

A comparatively reductionist phytochemical definition of HM is provided by the European Scientific Cooperative on Phytotherapy, based purely on the medicines themselves (ESCOP):
...medicinal products containing as active ingredients only plants. Part of plants or plant materials or combinations thereof whether in crude or processed states. To this definition belongs the following addendum: Plant materials include juices, gums, fatty oils, essential oils and any other substance of this nature. Chemically defined isolated constituents are not considered as phytomedicines. It is understood that medicine may contain plant materials and/or drug preparations combined with chemically defined substances, but these are not considered to be phytomedicines by ESCOP (Zeylstra, 1992).

The distinctions between ‘HM’ and ‘phytomedicine’, reflected in the above quotations, have been described by VanMarie (2002), who presents phytomedicine as a political activity to legitimise HM via scientisation. VanMarie notes that phytotherapy draws from phytochemical and pharmacological explanations rather than traditional ones, or from explanations of vitalism. He argues that whilst HM philosophy is based on what one ‘learns’, the other is based on what one is ‘scientifically shown’ (2002: 73), which relates to arguments about empirical versus scientific knowledge. The issue of scientisation is elaborated on in the next chapter (Section 3.3.2).

HMs, like other medicines or health therapies, are plant-based medicinal products. We usually ingest them – as tinctures, pillules, occasionally raw, or as a herbal tea – with the hope they may help us to feel better, depending on our ailments. However, they are more than just material products we ingest. As medicines, they are also something we engage with on a variety of levels that may connote for each one of us rather different and individual emotions, social, political and cultural values, philosophical beliefs, sense of spirituality, or even a type of ecological outlook. The sociocultural significance of plant medicines is pointed out in Lipp’s paragraph above, in which he argues they are culturally specific. It is documented in a report by the WHO (2008) that in some Asian and African countries, 80% of the population use plant-derived medicines for their primary healthcare. This figure contrasts with our usage in Australia, which stands at a drastically lower figure of somewhere between 16 and 23% (MacLennan et al., 2006; Xue et al., 2007).

The practice of traditional Western herbal medicine is based on the belief that the ingestion or application of HM may be effective in not just addressing but preventing health problems by ‘boosting’ or ‘assisting’ the body’s mechanisms to maintain a certain homeostatic balance. Integral to the philosophy of Western herbalism is this notion of seeking to assist the body in its pursuit of wellness rather than merely ‘blocking’ processes which may
produce disease (Low Dog, 1999: 358). ‘We trust the body to look after its affairs and seek only to help it on its way without disturbing it unduly’ (Mills, 1991: 2). The famous quote by Paracelsus, ‘Nature is the physician, not you; from her you take your orders, not from yourself; she composes, not you’ (c. 1530) reflects the broad and increasingly popular belief of the healing power of nature in industrial modernity. This adherence and devotion to the ‘natural’ is well reflected in a contemporary account from di Stefano (2002), a practitioner, educator, philosopher, and scholar in HM:

Plants make sense, plants have been around for far, far longer than we have been around. They’re capable of looking after themselves, they don’t need to be tended by humanity, although we can obviously help their growth processes and various other things through fertilisation, and through selective breeding and things of that nature, but plants are an integral part of planetary consciousness and of planetary life. And we also participate in it. So there is a commonality, there is a common force which drives all of life, whether it be animal life or plant life, and from a philosophical point of view, I suppose, I feel far more comfortable using materials that share the same roots if I can put it that way…the same life-giving influences that are part of our own natures.

The biomedical approach to healthcare has been widely subjected to criticism by the natural medicine professions around the world, particularly for its Cartesian view of the body as a machine, which is seen as reductionist (di Stefano, 2006: 60). Removing the symptoms of illness or disorder by application of ‘suppressive’ pharmaceutical drugs, rather than addressing a more critical issue at hand: the return to ‘real’ health. The term ‘suppressive’ is important to Western-trained holistic practitioners, because it indicates that when the action of a drug removes the superficial symptoms of a disorder or illness, it may suppress the expression of a deeper disorder and therefore give a false sense the disorder is cured (Chernin, 2006: 17).

These opposing paradigms of healing highlight a range of binary oppositions on different sociocultural and political levels, which some academics have argued are incommensurable (Coulter & Willis, 2007; Evans, 2008b; Singer & Fisher, 2007). This point about opposing paradigms is raised again in relation to evidence-based medicine, in the following chapter (Section 3.3.2.1).

A research objective in this dissertation is to explore the sociocultural and political issues surrounding the taking of HM in Australia, rather than the actual practice of herbalism, as undertaken by herbalists and naturopaths. Therefore, throughout this dissertation the
2 – Contextualising the evolution of herbal medicine usage

reference to HM indicates the substances or products, rather than the practice of HM – unless specified.

2.4 The rise of medical dominance

Our position as an important class within the community should enable us to dictate on all questions pertaining to our common interests (AMJ 1856: 91 in Willis 1989: 51).

The medical profession in Australia want nothing for themselves, they have nothing to ask for their own aggrandizement (Australian Medical Journal, 1858: 207 in Willis 1989: 51).

Understanding the role of biomedicine in contemporary industrial modernity and its rise to dominance early in the 20th century is relevant to the measurement of risk and other discourses about HM in the biomedical and mainstream media. The role of biomedical and scientific knowledge in the construction of risk will be elaborated on in the following chapter, and also in the content analyses presented in Chapters 6 and 7.

The conflicting perspectives between biomedicine and HM have been demonstrated in the terminologies section earlier in this chapter. This section will explore the means by which biomedicine came to be a dominant and hegemonic force in Australian history.

Since the early twentieth century, Western HM usage in Australia has generally operated within a broader cultural framework of biomedical dominance. Prior to this time, biomedicine as a social force had not yet evolved into a formidable sociocultural and political movement in Western history. The evolution of biomedical hegemony was cultivated by an elite class of men who had medical training to secure state and industry support, which would enable them socially, politically and economically to dominate all matters associated with healthcare.

Towards the end of the 19th century, the predominantly British-trained medical profession in Australia was facing a significant image problem with its publics. An analysis of editorials from Melbourne newspaper, The Argus by Pensabene (1980: 27) between the period of 1880 to 1885 indicates over half of the editorials focused on negative issues regarding improper conduct, negligence and the inadequacies of medical practice. Pensabene also highlights a number of late nineteenth century illustrative plates from The Melbourne Punch, which
portray surgeons as 'butchers', in one case conveying the wife of a butcher and the wife of a surgeon discussing their attendance at the ‘Butchers Picnic’ (1980: 41). Another very direct ‘butcher’ illustration called ‘The Butcher’s Shop’ features bearded doctors at Melbourne’s Alfred Hospital rolling up their sleeves and sharpening their knives (Figure 2-1). These illustrations suggest a strong association of danger – a danger that was socially and culturally unacceptable – with the medical practitioner of the period. A rather pertinent dislike of what may have been a perceived elitism and pretentiousness is conveyed in an illustrative plate from 1882, in which a tutor asks the doctor’s daughter: “Surely you know what the alphabet is for?” The little girl replies pointedly: “Oh yes! Miss Monfether; to let papa put the letters at the end of his name” (Figure 2.2). An editorial from *The Age* in 1858 described doctors as ‘the blind leading the blind’ - whose medical certificates gave them the ability to ‘kill according to the law’ (1980: 26).
Figure 2-1  A symbol of danger: Political cartoon of a surgeon in the Alfred Hospital in The Melbourne Punch, 1876

(Pensabene, 1980)
Figure 2-2  Satirising elitism: Political cartoon from The Melbourne Punch in 1882

(Pensabene, 1980)

In contrast to these images of danger and elitism, there is evidence within popular fiction of an Australian sentimentality and reverence towards folk healing, which was linked with experience, knowledge and resilience of the Australian bush. This is well depicted in Henry
Lawson’s description of Doc Wild in his 1902 book *Joe Wilson and His Mates*. Doc Wild was:

…a weird Yankee who made medicine in a saucepan, and worked more cures on bushmen than did the other three doctors of the district together – maybe because the bushmen had faith in him, or he knew the bush and bush constitutions – or, perhaps, because he’d do things which no ‘respectable practitioner’ dared to (Lawson, 1902: 235).

Martyr’s *Paradise of Quacks* also documents the unpopularity of early Australian medical practitioners, and demonstrates the ‘anger, impatience and frustration’ expressed towards this group throughout the writings of ‘daily life’ in the 19th century (2002: 38). This public dissatisfaction was occurring at the peak of homoeopathy’s success in Australian society – exemplified by the popularity of the Homoeopathic Hospital (now Prince Henry’s Hospital) in Melbourne, which in contrast to other medical institutions of the time had a low mortality rate (Martyr, 2002: 142). Willis (1989: 58) has suggested that homoeopathy, from the 1850s, was the main barrier to the realisation of medical dominance in Australia. Homoeopathy, which often utilises plants for its remedies, is one of the most shunned and officially denounced forms of therapy by biomedical and science institutions and professions today (UK-Skeptics, 2009).

The crisis in public confidence confronting medical physicians in the new colonies, reflected in the historical writings of Pensabene (1980) and Martyr (1993, 2002), becomes all the more fascinating given the way in which medical dominance began to evolve in Australia from the early 20th century. Evan Willis provides a rich, comprehensive and poignant sociological account of this evolutionary process in his publication *Medical Dominance: The Division of Labour in Australian Health Care* (1989).

In Willis’ argument, medical dominance was the result of state support and patronage of medical physicians, “a small, relatively homogenous group of largely upper middle class, white men” (1989; 2006: 422). This rather specific demographic was able to take advantage of an issue that was the main focus of political discussion at the time: healthcare of the nation (Coburn, 2007: 432; Willis, 2006: 422).

Willis highlights the role of germ theory in providing the theoretical basis for what became ‘scientific medicine’. (1989: 62) This theory of disease causation was compatible with the
interests of the dominant class (Berliner, 1985), and became integral to the acquisition by medical physicians and institutions of the term ‘scientific medicine’. It enabled the reification of the view of ‘man as a self-determining, biologically contrived individual, who exists in a context of palpable facts and material things’ – consequently eliminating social and environmental contributions to disease (Comaroff, 1982: 57).

Berliner (1984: 32) notes the specificities of scientific medicine, which distinguished it from competing modes of healing like herbalism at the time via the following:

1) its understanding of the basis of disease (i.e. adherence to the germ theory)
2) class-specific practitioner base (restricted to those who could afford to undertake a medical degree)
3) research orientation (undertaken in hospital settings)
4) location of practice (often in the hospital).

As a cohesive group, the medical profession learned to become ‘experts in legitimation’ (Merrington 1968 in Willis 1989: 16), and employed a range of tools to convince people of the validity and importance of their practice and status. Aligning their practice with scientific knowledge, which provided a sense that their access to such knowledge was also a ‘privileged access to reality’ (Scheid 1993) was a crucial rhetorical resource to legitimise what they had coined ‘scientific medicine’. This was more of an unsubstantiated public relations ‘hook’, rather than a factual notion, in terms of its actual application to biomedical practice and philosophy, notably during the period when biomedicine gained its authoritative and elite status in the first half of the twentieth century (Willis 1980: 30). The pharmaceutical revolution introduced a number of strongly synthesised, dramatically effective, ‘heroic’ medicines, including anaesthesia, as well as immunisations for typhoid in the late 19th century (Weatherall, 2006: 222) and toxoids for diphtheria and tetanus were developed early in the 20th century (WHO, 2005). The public health outcomes claimed by scientific medicine during the 20th century have been refuted by a number of social historians and sociologists, whose findings have attributed the decline in mortality to social and environmental factors rather than biomedical interventions (Gandevia, 1971, 1978; Powles, 1973; Sinclair, 1975).
As Baer (2008: 6) notes:

Like the United States, Britain and other capitalist industrial societies, the germ theory, which downplayed the role of political, economic and social structural determinants of disease by focusing on biological determinants, appealed to the Australian capitalist class and its political allies situated in the state apparatus.

This is the broader and largely adversarial context in which HM has sought to develop professionally and culturally.

It has been argued that the people’s faith in the notion of science was what enabled such widespread public acceptance in the West – Berliner (1984: 36) contends this faith was much more significant than an implicit belief in the new movement of ‘scientific medicine’. Science was:

a word to conjure with, a word to sweep away all opposition by labelling it ‘benighted’, ‘romantic’, or ‘obscurantist’, a word to legitimise any program no matter what sacrifices it might call upon particular groups to make…the name had a magic of its own that made questioning irrelevant… (Daniels, 1971: 289 in Berliner 1984: 36).

The actors in the medical movement had caught hold of the series of important scientific discoveries, such as those of Louis Pasteur and Robert Koch, the founders of the immunology movement in the mid-19th century (Porter, 2006b: 165), as well as technological developments like the x-ray and radium, and claimed them for a newly captivated audience in a brilliantly timed and executed strategy of legitimation. Media disdain and suspicion towards medical practitioners gave way to accolades like this from the Argus in 1925:

…the real science of medicine has made wonderful advances and medicine at its best is fully represented in Victoria by men of the highest qualifications obtainable and the best knowledge’ (The Argus, 27/4/1925 in Willis 1989: 79).

Such support expressed in Australian newspapers was critical to conveying the support into the public domain. The mood of excitement about how scientific progress was eliminating disease and saving people’s lives was embraced by journalists and editors. The much-
beleaguered ‘medical man’ had become an heroic, romanticised figure whose mission was not unlike that of a saviour:

Of the medical man, it is at least known that he is constantly fighting the hungriest of foes for the most precious prize – life. What is wanted is a fuller recognition of the zest and whole-heartedness with which the war is waged (The Argus, 7/2/1903 in Pensabene, 1980: 47).

Thus it was during a period of unprecedented scientific discovery and in a sociopolitical climate which had matters of health at the top of its agenda that medical physicians were able to secure the media and state as well as industry support (e.g. the involvement of the Rockefeller Foundation in the Melbourne Medical School) required to establish a position of dominance. This group was now officially a social and political elite, with the advantage of media support, which could help to reinforce its messages to a broader public. As media scholar Schudson has noted: ‘Dominant media, whether commercial or state-sponsored, typically reinforce political understandings that reinforce the views of political elites’ (Schudson, 2002: 253).

Willis argues that ‘professionalism…arises when the political and economic conditions necessary to sustain it coincide with the interests of the dominant class’ (1989: 91). He also acknowledges the role played by industry in ‘promoting the paradigm of scientific medicine in Victoria’ (1989: 89). Evans (2008a) describes the impact of this ‘triumvirate of power’ on herbalists, who became disadvantaged and marginalised under biomedical hegemony. Medical dominance ‘ensured their ongoing exclusion from participation in the delivery of mainstream healthcare in Australia’ (2008a: 52-3).

2.5 Medicalisation – a consequence of biomedical hegemony

A flow on effect from biomedical dominance is medicalisation – defined as the ‘normalising’ of medical interventions which permeate our everyday life events and the consequent disempowerment and disabling of our capacity to take primary responsibility for our own health care. Medicalisation and the inherent sociological problems it creates, has been discussed in depth by numerous researchers, including Zola (1972), Illich (1976), Comaroff (1976), Taylor (1979), Freund & Mcguire (1991), Petersen (1994), Turner (1995), George & Davis (1998), and more recently Conrad (2007).
The powerful influence of medical hegemony is made possible by the moral regulation of populations and a ‘politico-medical hold on a population hedged in by a whole series of prescriptions relating not only to disease but to general forms of existence and behaviour (food and drink, sexuality and fecundity, clothing, and the layout of living space)’ (Foucault, 1980: 176). Willis (1989: 26) likewise defines a key feature of medicalisation as the ‘extension of the medical paradigm into our social world of morality and law’, which perfectly demonstrates ideological hegemony at work.

Conrad (2007) offers a more confined definition of medicalisation, which actually separates it from medical hegemony. He defines it as a phenomenon that does not necessarily have to involve the medical profession: ‘Medicalisation describes a process by which nonmedical problems become defined and treated as medical problems, usually in terms of illnesses or disorders’ (2007: 4). An appropriate example of Conrad’s definition of medicalisation at work is exemplified by the more recent marketing of diseases for the purpose of selling drugs to treat them. The unscrupulous marketing of Paxil by Glaxo-SmithKline to treat a highly obscure condition of social phobia called ‘social anxiety disorder’ (SAD), for example, has received criticism from Moynihan & Cassells (2005) and Koerner (2002). Moynihan and Mintzes (2010) have further elaborated on the issue of corporations constructing illnesses with their investigation into the apparent escalation of the condition constructed as ‘female sexual dysfunction’.

The tactic of creating a medical disorder and employing spin to convince the public of its worth has been well parodied in the BBC TV series Absolute Power (BBC, 2003-05), in which the public relations firm Prentiss McCabe develops an illness called Marqueiro-Hennel Disease in order to salve the public image of their client who has just been caught on camera assaulting his girlfriend. The Charles Prentiss character played by Stephen Fry, advises his team of young executives on how to create an illness: “…we trawl for symptoms, reference them, then slap on a name…Chop chop people! We have a career to save! And a pestilence to unleash!” (Tavener, 2003).

Gwyn (2002: 4-5) has expressed concern with the limited response or resistance to such corruptions:
While a lot is being said (and has already been said) about the medicalisation of contemporary society, very little, it seems, is actually being done to limit or resist the rhetorical sway of multinational pharmaceutical companies who plunder and then exclusively patent the HMs of indigenous peoples, or the extension of the medical gaze into areas of behavioural, social and familial life in quite unprecedented ways, creating new pathologies and epidemics.

In her account of the problems facing medical practitioners and patients in Australia, Merrilyn Walton, former NSW Health Care Complaints Commissioner, highlights some of the issues of medicalisation that have had a negative impact on both doctors and patients. These include the adoption of ‘defensive’ medical practices by doctors because of a fear of litigation; the pressure on doctors to prescribe the drugs promoted to them by pharmaceutical companies; lack of continuity of care in general practice as a result of appropriation by specialty and sub-specialty practitioners; the over-reliance and over-use of technology and its impact on furthering the doctor-patient divide; and conflicts of interest which resulted in doctors placing the pursuit of profit above patient care (Walton, 1998: 6-21).

Other negative impacts of modern medicalisation have included iatrogenesis (injury from medical error as a result of medical intervention due to adverse events to treatment or an error on the part of the medical practitioner or institution); the over-prescription and over-consumption of pharmaceutical drugs; discouraging a self-care philosophy; and the negating and dehumanisation of pain, suffering and death (Illich 1975; Taylor 1979). The medicalisation of childbirth provides an excellent example of medicalisation at its most ‘effective’ and indeed patriarchal – the sociocultural expectation in many Western societies is for women to be hospitalised to give birth (less than 3% of women in Australia give birth outside of hospital) where their bodies are made available to what Foucault (1973) defined as the ‘medical gaze’, and to the range of medical interventions now regarded as normal and safe in biomedical culture – including routine administration of pethidine, epidural, episiotomy, and the caesarean section that has become commonplace in Australian hospital birthing culture. Australia’s alarmingly high caesarian rates led to a Senate Inquiry in 1999 – where Australia was found to have one of the highest rates of caesarean sections in the world, with one South Australian hospital as high as 50% (Kirk, 1999). A 2008 Federal Government Maternity Services Review commented on a ‘cascade of intervention’ in childbirth services, noting that in 2006, the rate of caesarean sections in Australia was 30.8% across all hospitals, with private hospitals at a rate of over 40% (2009: 10). The report also
referred to the body of scientific evidence which suggested the risks this posed to both mother and baby (2009: 11). Such practices in maternal healthcare in Australia exemplify the extent to which the processes of medicalisation carries a level of risk that is politically and culturally acceptable, within a biomedical hegemonic framework.

Although HM was a common form of therapy prior to the twentieth century in Australia, during the period of medical dominance in the twentieth century, it became a subversive product and practice, condemned by society’s new ‘protectors’ as part of the broader quackery called ‘alternative medicine’ (Martyr 1993: 166). This marginalisation was enhanced by the strong alignment of biomedicine with the pharmaceutical industry, a formidable collaboration which created a culture of ‘pharmacodoxy’ – the application of pharmacotherapeutics as a first line of treatment in biomedical practice (Davies, 1997). This formidable connectedness between medicine and the pharmaceutical industry is exemplified in an image used on the face of the media kit used by the Medical Journal of Australia (MJA) which features the symbol of a giant pill, adjacent to the copy which informs the reader about the MJA’s ranking, readership and circulation. The doctor-drug industry relationship has not been perceived as a healthy one, and has encountered much criticism regarding its apparent economic conflicts of interest. Whilst such criticism has occurred predominantly in the social science academic literature (Abraham, 1995, 2002; Caudle, 2002; Illich, 1976; Tan, 1988), popular media (Moynihan, 1998), and non-fiction publications (Braithwaite, 1978; Moynihan & Cassels, 2005), concerns over the ‘unhealthy alliance’ (Caudle 2002) between doctors and the pharmaceutical industry are increasingly being brought under greater scrutiny in the medical literature (Jureidini & Mansfield, 2002; Komesaroff & Kerridge, 2002; Moynihan & Mintzes, 2010; Moynihan & Sweet, 2008; Spurgeon, 2002). The ethical problems which arise as a result of the doctor-drug industry relationship has also been a popular and exciting subject for representations in popular culture – as in John Le Carre’s novel (2001) and subsequent Hollywood film, The Constant Gardener (Meirelles, 2005) and the 1993 Hollywood film directed by Andrew Davis, The Fugitive (1993).

Conrad (2004: 172) contends that ‘the engines of medicalisation are found in the marketplace nexus of the biotechnology industry and rising consumerism’. The idea of medicinal plants being diametrically opposed to pharmaceuticals became more profound as a

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result of medicalisation, which enabled those with commercial interests to de-legitimise HM on the basis of:

- science - HMs were an ‘unscientific’ entity, and commensurate with the paradigm of non-legitimate ‘quack’ practitioners
- biomedical research – pharmaceuticals were required to be held up to a rigorous method of testing
- efficacy – as HMs were related to quackery, they were considered benign, or ineffective.  

The stigma of quackery, a significant historical feature of HM products and practice in Australia, will be further explored in the next section.

### 2.6 The history of biomedicine’s ‘Quack’

The history of quackery is an important phenomenon to consider in relation to appreciating the tensions that exist between biomedicine and HM today. The constructions of ‘quackery’ associated with HM have undergone an interesting process of transformation throughout the 20th century. It is useful first to explore the historical definition of the ‘quack’. Medical historian Roy Porter (1988: 63, 1994: 2) discusses the condemnation of quackery as a reaction by orthodox medical physicians to other practitioners, apothecaries or salespeople who encroached on their professional terrain. Porter acknowledges the social construction of quacks as ‘an artificial category, existing in the eye of beholders attuned to regular medicine and its claims’ (1994: 63). In her historical portrayal of the marginalisation of alternative medicine in Western Australia, Phillipa Martyr (1993) points out the word ‘quack’ ‘implies fraudulence, deceit and a ghoulish preying on the illnesses of a gullible public’ (1993: 149). Relegating non-medically trained practitioners to the realm of quackery was a method to ‘expurgate the other’ – a tactic of fragmenting those who pose a threat to the dominant group (Thompson, 1990: 65).

The title of Martyr’s 2002 book on the history of alternative medicine in Australia, ‘A Paradise of Quacks’, refers to a term used by medical publisher Ludwig Bruck in 1893

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6 This notion changes towards the final decades of the 20th century, where herbal medicines become associated with risk or danger. This coincided with the discoveries of active ingredients and more importantly, clinical trials that suggested they were both potent and effective.
(founder of the Australasian Medical Gazette in 1881, which later became the Medical Journal of Australia) describing the climate of unrestricted medical practice in New South Wales (2002: 8). Promoting this notion of quackery in relation to competing non-orthodox therapies was beneficial to a medical profession that was actively striving to eliminate its competitors in the health care market place, and convince the public of its role as protector (Martyr, 1993: 166; Saks, 2003: 17; Wahlberg, 2007: 2309). Whilst the Australian use of the expression ‘quack’ became broad enough to refer to anyone who was not a registered orthodox medical practitioner (Martyr 2002: 8), the original quacks of the 18th century were labelled as people with ambitions above their social position – ‘hacks and pretenders’ (Porter, 1997 cited in Martyr 2002: 11).

The condemnation of quackery by medical professionals was also a reaction to the voracious marketing activities for a wide range of unregulated patent or proprietary medicines during the late 18th to early 20th century, which became notorious for their claims of extravagant curative powers. The Scotsman Patrick Anderson’s Grana Angelica pills – famously known as ‘Anderson’s Scots Pills’ – were one of the earliest proprietary medicines in England (Griffenhagen & Bogard, 1999: 71). This medicinal product, invented around 1635, inspired the earliest known paper labelling made from woodcuts for patent medicines. The very first English patent recognised by the English Parliament for a compound medicine was granted to Benjamin Okell in 1711 for Dr Bateman’s Pectoral Drops, followed by Stoughton’s Elixir Magnum Stomachii in 1712 (Griffenhagen & Bogard, 1999: 72). These formulas were highly guarded by their makers, and a discourse of ‘genuineness’ emerged in the wake of others copying the patent (Griffenhagen & Bogard, 1999: 73).

In the 19th century, some of these proprietary medicines – often containing opium, morphine and cocaine (Burnby, 1988: 25) – were highly addictive, with women commonly becoming their primary addicts (George & Davis, 1998: 191). It has been suggested that, as scientific terminologies for illnesses and treatments broadened, ‘the more doctors used scientific terms to describe their practices, the more patent medicines offered simpler promises of cures based on commonsense understandings of disease’ (George & Davis 1998: 191).

Porter (1988: 19) warns against interpreting this marketplace phenomenon as an example of orthodox medicine ‘policing’ and marginalising folk medicine. Significantly, orthodox or ‘official’ medicine was still an occupation, and had not yet been professionalised. Given its
basis in individualistic capitalist enterprise, Porter argues that the marketing of ‘quack’ medicines during the 18\textsuperscript{th} century represents a very different activity altogether – and that it actually assisted to promulgate the ‘growth of medicine as business’ (1988: 19). Indeed, those practitioners who worked in the field of ‘official’ medicine, were also drawn to the entrepreneurial activities associated with patent medicines (Saks, 2003: 15). As Saks highlights, the ‘regulars’ and ‘irregulars’ seemed to have shared ‘more similarities than differences’ during the Georgian period (2003: 16).

The 18\textsuperscript{th} century rise in the prevalence and circulation of newspapers and periodicals saw an immense transformation in the marketing capacity of patent medicines. ‘For the first time’ says Porter (1988: 13):

> quack medicines made their appeal permanently and to the whole nation. The commodity took on a life, almost an immortality, independent of the producer.

Testimonials and letters of recommendation published in newspapers were common tools used to spread the word about patent medicines during this time (Burnby, 1988: 25). In the late 19\textsuperscript{th} century, Angelo Francois Mariani used these methods with great success to promote his \textit{Vin Mariani}, a popular concoction which originally contained cocaine, the active constituent of \textit{coca}. He also tapped into the rather forward-thinking method of ‘celebrity’ endorsement, and used testimonials from internationally known people like French actress Sarah Bernhardt, American inventor and scientist Thomas Edison, and French military hero Marshal Pétain (Burnby, 1988: 25).

HMs on their own were not as much a feature of this marketplace as were patent medicines from synthetic preparations – or, as in the case of Lydia Pinkham’s famous vegetable compound, containing 15\% alcohol (Unattributed, 2009b). By the end of the 19\textsuperscript{th} Century in Britain, ‘vegetable’ substances became passé in medical circles, ‘virtually a rude word in medicine, with synthetic laboratory medicine slowly edging out the original plant’ (Griggs, 1997: 233). It was within this context that herbalists found it increasingly necessary to start defending their craft more rigorously.

### 2.7 Double-thinking plants in biomedicine

This section presents arguments that suggest a sociocultural and political process of ‘cultural forgetting’ occurred in relation to HM, which was a consequence of the new biomedical
hegemony that dominated the 20th century. Thompson’s (1990) ideological modes of operation are highlighted in this section to demonstrate the mode of reification in particular.

In *Ideology and Modern Culture*, Thompson notes that the study of ideology:

…plunges the analyst into a realm of meaning and power, of interpretation and counter-interpretation, where the object of analysis is a weapon employed in a battle carried out on the terrain of symbols and signs (1990: 73).

Thompson offers five general modes of operation of ideology, with their accompanying strategies (Table 2-1). The five modes are ‘legitimation’, ‘dissimulation’, ‘unification’, ‘fragmentation’, and ‘reification’ (1990: 60). Reification is defined by Thompson as the development and sustaining of domination by eliminating or obfuscating the social and historical character of socio-historical phenomena (1990: 65). Quoting French social and political theorist Claude Lefort, Thompson explains that reification involves re-establishing ‘the dimension of society “without history” at the very heart of historical society’ (Lefort, *The Political Forms of Modern Society*, p 201 in Thompson 1990: 65). The tactics of reification involve deleting (or obfuscating) the present from its historical context, and subsequently eternalising the status quo as something ‘permanent, unchanging and ever-recurring’ without specific actors who influence the processes which create history (Thompson, 1990: 66). This is how biomedicine can be referred to as ‘traditional medicine’ in the context of biomedical hegemony.
Table 2-1 Modes of operation of ideology

(Thompson 1990: 60)

<table>
<thead>
<tr>
<th>General modes</th>
<th>Some typical strategies of symbolic construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legitimation</td>
<td>Rationalisation, Universalisation, Narrativisation</td>
</tr>
<tr>
<td>Dissimilation</td>
<td>Displacement, Euphemisation, Trope (e.g. synchdoche, metonymy, metaphor)</td>
</tr>
<tr>
<td>Unification</td>
<td>Standardisation, Symbolisation of unity</td>
</tr>
<tr>
<td>Fragmentation</td>
<td>Differentiation, Expurgation of the other</td>
</tr>
<tr>
<td>Reification</td>
<td>Naturalisation, Eternalisation, Nominalisation/passivisation</td>
</tr>
</tbody>
</table>

From the early twentieth century, once biomedical dominance was firmly established, the biomedical profession’s tactics of reification can be recognised in the progressive disappearance of medicinal plants from the biomedical psyche. Biomedicine’s history with plants was subjected to a ‘nostophobic’ process (the fear of remembering the past) by the profession, in which the new medical practitioners experienced difficulty in acknowledging a historical relationship with plants and their ‘usefulness’, including the very origins of a large number of pharmaceutical medicines. Herbs seemed to be an embarrassing anachronism from a period that the profession was keen to escape, as biomedicine and its allies embraced a new, more positive, progressive era that would take forward the scientific medicine of the 20th century. Herbs as medicines were relegated to the realm of quackery, benignity, uselessness – even fraud – despite the fact many of the 20th century wonder drugs which had become so intrinsic to the legitimisation of biomedicine’s effectiveness were derived from plants (Gurib-Fakim, 2006). As a product claiming therapeutic benefits, HMs were now on par with the wild, unsubstantiated claims and voracious marketing tactics of the patent medicines from earlier times (Burnby, 1988). Of particular importance, botanical medicines in their unsynthesised form and the practice of herbalism were also incompatible with what had become in the 20th century the medical-industrial complex (Wohl, 1984). A significant feature of the medical-industrial complex was a pharmaceutically-dominant

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7 See Tovey & Adams (2003) and Strangleman (1999) for perspectives on nostalgia and nostophobia.
culture of health care entailing a formidable alliance between biomedicine and the pharmaceutical industry and a pharmacodoxic approach to treatment (Davies, 1997). Unlike synthetic drugs, plants were seemingly unpatentable and consequently non-lucrative. Most of all they were not compatible with the notion of science – nor with the aura of heroism of synthetic medicines – at the time. As a result, they were eliminated from orthodox medical education and pharmacy programs and vanished from the British pharmacopoeia, a point highlighted by Griggs (1997: 256). Bakx (1991) has defined this phenomenon as an ‘eclipse’, characterised as cyclical and temporary in nature (1991: 35).

Marcuse (1966: 98) comments on the potential dangers posed by remembering the past, which may account for this aversion to historical acknowledgement about medicinal plants:

> Is this fight against history part of the fight against a dimension of the mind in which centrifugal faculties and forces might develop – faculties and forces that might hinder the total coordination of the individual with the society? Remembrance of the past may give rise to dangerous insights, and the established society seems to be apprehensive of the subversive contents of memory.

Evans (2008a: 110) proposes the term ‘agnotology’ to encapsulate the idea of ‘cultural forgetting’ of the knowledge base of HM. Agnotology as a term was first introduced by Proctor (1995: 13) to define the study of ‘the social construction of ignorance’, which was explored in relation to knowledge about cancer (that was either not sought or deliberately forgotten) during the 20th century. The notion was first applied by Schiebinger (2004a, 2004b, 2005) in relation to plant medicines in her discussions of colonial bioprospecting activities in the (‘New World’) United States and the West Indies during the 18th century.

This term is relevant in the context of biomedical discourse about HM. Foster and Tyler (1999: 13) refer to the disappearance of herbal remedies from the shelves of pharmacies in the United States during the 20th century, a phenomenon that also occurred in Australia. The role of plants in drug discovery and development, and subsequent application to diseases – aspirin from willowbark, digoxin from digitalis, quinine from cinchona bark – was rarely acknowledged in formal Australian biomedical discourse like the *Medical Journal of Australia (MJA)*. This was a point determined in the data from the content analysis, in Chapter 6.
Pharmacists, however, are different in this agnotological sense – at least symbolically. In Britain and Europe, pharmacists have used, amongst many other symbols, that of the mortar and pestle (RPS, 2010) for their profession, a symbol which has very strong association with the historical practice of HM as favourite signs of the apothecaries in 17th and 18th century Britain (Burnby, 1988: 29). Purchases from chemist stores in Australia today are often placed in a paper bag that carries the mortar and pestle symbol.

It is within this historical context of the ‘eclipsing’ of HM ‘under biomedical hegemony that a more contemporary analysis of biomedical discourse and HM is taken up.

The primary research presented in Chapters 6 and 7 needs to be understood in the historical context of the traditional use of plant medicines, as well as the rise to biomedical dominance and the process of medicalisation. These sociocultural and political occurrences resulted in the marginalisation of HM, in which plants as medicines also became subjected to a process of cultural forgetting.

As will be discussed in Chapter 6, Australia’s elite biomedical journal, the Medical Journal of Australia (MJA) is an ideal site for investigating the cultural shift within biomedicine which has resulted in an increase in discourse about HM and helped to shape its complex position in modernity. In this chapter I also point out the influence of biomedical journals on the broader community, and the way in which the discourse from the MJA (as a ‘newsmaker’ in health issues) may have an impact on reports in the mainstream news media. In Chapter 7, investigations of the discourse about HM in national and metropolitan Australian newspapers reveal the new sociocultural location of HM, which has effectively ‘arisen’ and is poised, with uncertainty and ambiguity, at the threshold of mainstream contemporary healthcare. The similar patterns of discourse in both studies suggest a relationship between the two media forms (and also that the discourse is quite widely spread), although this is not systematically measured.

Whilst the preceding sections have focused on some critical aspects of the historical contextualisation of HM in Australia, this next section brings the discussion into a more contemporary context, in which HM has emerged from its ‘eclipse’. This discussion highlights the relevance of risk reporting in the media as it relates to HM. It focuses on a pivotal incident in CAM media and regulatory history: the Pan Pharmaceuticals event.
2.8 The ‘panning’ of herbal medicine: An important event in HM media and regulation history

To conclude this chapter, the Pan Pharmaceuticals event of 2003, which was particularly prominent in the media, and which influenced aspects of public policy in relation to HM and other health supplement products, is analysed. Whilst the event was based on a risk episode particularly regarding one company’s poor manufacturing practices and corruption, the effect was the adoption of broader issues about HM and CAM in Australia by the media, as will be discussed. A Factiva search of Australian newspapers from 29 April 2003 until 31 July 2003 using the search term ‘Pan Pharmaceuticals’ yields 1,957 hits. Entry of the same search term from the period 29 April until 31 December 2003, results in 2,922 hits. This demonstrates the extent of coverage in newspapers alone.

The Pan Pharmaceuticals event resulted in the Federal Government issuing Australia’s biggest medicines recall and the suspension of the licence of the largest manufacturer of HM and dietary supplement products in Australia. The initial and subsequent impacts of the media coverage about Pan are presented as a critical part of the recall event itself. The event highlights the way in which different stakeholder groups attempt to use the media to have their truth-claims framed as well as the impact of media reporting on public policy formulation. The Pan event also challenges the extent to which media risk reporting influences lay people’s behaviour. A specific example is provided in Section 2.8.2 of one study that showed a resistance to intensive media messages by lay audiences who continued to take their medicines. This phenomenon may provide an example of lay resistance to expert knowledge, and in this particular instance, government authority – a feature of ‘risk society’.

As outlined in Section 2.2, HM is an increasingly commercialised force to be reckoned with in the medicines marketplace in Australia. However, the vulnerability of the market was demonstrated in 2003, when over 1600 HM and dietary supplement products (including vitamins and minerals) were recalled as a result of the government regulator’s concerns with issues of quality and ethical business practice from one manufacturer. The event, which became known as the Pan Pharmaceuticals incident, turned a concentrated level of media attention towards the industry ‘behind the CAM phenomenon’ in Australia, as well as raising the issue of CAM’s social and political legitimacy as a form of healthcare.
Any contemporary discussion of the CAM industry in Australia must take into account the Pan Pharmaceuticals incident. As Eagle et al. (2005b: 434) have noted, it was ‘the impact on multiple brand names and the associated negative publicity regarding the category as a whole in this event that had the potential to affect the entire CAM product category’.

The event resulted in saturation media coverage, in which risk (amongst other issues) was emphasised in relation to HM and CAM products. In-depth academic commentary on the Pan event has been largely restricted to legal and marketing publications, with the exceptions of Blasche et al. (2008) who considered audience reception, and Croucher (2009), who scrutinised media representations. Eagle et al. (2005) investigated both media representation and reception in the context of marketing implications.

The recall of over 1600 herbal and dietary supplements in April and May 2003 by the Therapeutic Goods Administration (TGA) was a pivotal and memorable event for the HM and CAM industries in Australia (TGA, 28 April 2003: 11; Worth, 2003). Dramatically, the recall, with an initial magnitude of 219 products, occurred in conjunction with the suspension of the manufacturing licence of Pan Pharmaceuticals after it was determined by the TGA and an independent expert advisory committee that the products, manufactured by Pan Pharmaceuticals, posed a risk to consumers, given the ‘serious safety and quality breaches’ by Pan. The initial recall figure of 219 products multiplied over the following weeks as further products manufactured by Pan were identified. The Pan incident has been noted as the largest medicines recall of its kind in Australasian history (Croucher, 2009: 1; Eagle et al., 2004: 3).

The suspension of Pan’s licence and the large-scale recall had been preceded in January 2003 by a Class I recall⁸ of an over-the-counter (OTC) pharmaceutical product for travel sickness, called ‘Travacalm Original Tablets’. Travacalm was investigated by the TGA after its Australian Adverse Drug Reactions Unit (ADRU) received six reports of suspected adverse reactions consistent with hyoscine hydrobromide poisoning (McKewen et al., 2007: 376). The manufacturer of the Travacalm tablets, Pan Pharmaceuticals, had advised the product sponsor, Key Pharmaceuticals, that the products had been tested, and complied with uniform requirements for hyoscine hydrobromide levels (McKewen et al., 2007: 376). Pan

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⁸ A Class I recall classification is based on the ruling that defect medicines are potentially life-threatening or could cause a serious risk to health (TGA, 2010b).
had provided Key with a written report as verification (Needham & Sexton, 2003). Following investigation by the TGA Laboratories, it was discovered the hyoscine hydrobromide content of the individual tablets ranged from ‘not detected’ to 164% of the amount claimed on the label (McKewen et al., 2007: 376-7). The varying levels of the drug between batches were so pronounced that Key Pharmaceuticals recalled three batches, followed by the recall of two batches of another product for travel sickness, Travacalm HO. It has been suggested Pan Pharmaceuticals had used ‘an unvalidated mixing procedure’ which resulted in the huge variations of hyoscine hydrobromide (McKewen et al., 2007: 377). At the same time, the validity of Pan’s own claim to have tested the product came under question.

The TGA issued a standard medicines recall media release for Travacalm on 22 January 2003, which received low-key newspaper coverage largely as ‘in brief’ news stories which adhered to the standard (and banal) recall frame used by the TGA in its recall media release of 22 January (TGA, 22 January 2003). Headlines included ‘Tablets recalled’ (2003) and ‘Travel drug warning’ (2003).

An unannounced audit by the TGA occurred at the Pan Pharmaceutical laboratories eight days later. Following the audit, on 13 February a search warrant was issued and Australian Federal Police executed a search (Needham & Sexton, 2003). In an interview with The Sydney Morning Herald, some months after the recall, the TGA official responsible for the TGA’s manufacturing audit program advised that a condition was placed on Pan’s licence, whereby the company was not authorised to manufacture any product which required uniformity (Needham & Sexton, 2003). Following two more site inspections by the TGA, a report was presented to government lawyers and an expert committee on 23 April, who reviewed the deficiencies at Pan, which included falsification of records, manipulation and fabrication of assay results, substitution of beef cartilage for shark cartilage, and failure to test raw materials (TGA, 28 April 2003). The independent advisory group (which included ‘five professors’) reviewed the TGA’s audit reports about Pan and advised the TGA on the substantial risks that Pan’s manufactured products may pose to the public, which were assessed as substantial (TGA, 2003).

By this stage, 19 people had been hospitalised and 68 others experienced ‘potentially life threatening adverse reactions’ to Travacalm (TGA, 28 April 2003).
On Monday 28 April 2003, following legal advice and recommendations from the expert committee, the TGA issued a media release to announce the suspension of the license held by Pan Pharmaceuticals and the urgent recall of 219 medicinal products manufactured by the company (TGA, 28 April 2003). The suspension and recall were explained in the media release as being a consequence of ‘serious safety and quality breaches by the company’, including ‘substitution of ingredients, manipulation of test results and substandard manufacturing processes’ (Figure 2-3).

Figure 2-3 Headlining Pan’s licence suspension: The TGA media release, 28 April 2003

As stated in the media release, the company’s safety and quality breaches included the ‘substitution of ingredients, manipulation of test results and substandard manufacturing processes’ (TGA, 28 April 2003). A point of contention by the CAM industry in the Pan debate regards the magnitude of the recall of all products (when only Travacalm, a non-
prescription pharmaceutical product, had demonstrated danger) rather than the suspension of Pan’s licence to manufacture.

A retrospective media release by the TGA attempted to address this industry concern and justify the reasons for the TGA not testing all of the recalled products (besides being a logistically impossible task given the sheer volume of products involved):

The TGA did not test all of the recalled products because the TGA was advised by the Expert Committee that the failures in manufacturing practices were so bad that they created immediate risks of death, serious injury or serious illness and no confidence could be placed in the quality of any products manufactured by Pan Pharmaceuticals (TGA, 2003).

Eagle et al. (2005) elaborate on the primary point of why the TGA did not test the products (which is defined as a matter of impracticality rather than the advice given by an Expert Committee):

Given that there is no universal test for all possible product contaminants, far less a universal test of ingredient consistency, providing such proof is impracticable, if not impossible. This latter point divides the industry and appears to remain a source of considerable bitterness among some of the brand controllers. It raises the question of what level of proof of actual, vs. potential, harm should be required before a product withdrawal is mandated, particularly in view of the potential burden such actions impose on third parties such as retailers (Eagle et al., 2005b: 439).

The recall had significant economic consequences for the many companies for whom Pan was a supplier, as well as marketers and retailers of the products. Eagle et al. (2004: 16) have noted the impact on health food stores and pharmacies in particular. In this sense, it is not surprising that the industry turned its anger and frustrations towards the regulator who had enacted the recall, particularly given the eventual bankruptcy and subsequent sale of the Pan company in November 2003 (Eagle et al., 2005b: 443), which curtailed the capacities for compensation from Pan.

Media interviews have included suggestions from private industry and a former TGA employee that Pan was notorious for cutting corners on quality (Latham, 2003; Quinlivan,

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9 This media release was prepared by the TGA (and released through its contracted public relations firm, McNiece Communications) in response to a forthcoming ABC TV program Australian Story, which featured a sympathetic portrayal of Jim Selim, the owner of Pan Pharmaceuticals.
2 – Contextualising the evolution of herbal medicine usage

2006: 32), offering the lowest price in manufacturing supply at the time. Pan manufactured over 70% of the HM and dietary supplements market in Australia, with an Australian Stock Exchange trading value of over $300 million (Easthope, 2004: 68; Shirlow & Faunce, 2009: 765). Invariably, these factors enhanced the news appeal for journalists, a point elaborated on in the following section.

As a direct consequence of the Pan event, the Australian Government made amendments to the Therapeutic Goods Act 1989, which increased penalties for offences by manufacturers under the Act and added offences to the Act regarding falsification of documents. Further amendments gave the TGA greater enforcement powers to ensure compliance with the Act, including the ability to administer on-the-spot fines to non-compliant companies (2006). Other consequences arose in the wake of Pan and the recommendations by the Expert Committee on Complementary Medicines in the Health System (2003) in the form of research funding. In November 2006, the Federal government committed $5 million for National Health and Medical Research Council (NHMRC) grants for CAM research and the establishment of the National Institute of Complementary Medicines (NICM) in 2007, which received $4.6 million from Federal and State governments.

The impact of media representations of risk in terms of influencing public policy is a key point emphasised by the Pan Pharmaceuticals event. The following section details the media ‘fallout’ which ensued, as well as the government’s communication efforts to influence media framing of the event. The discussion demonstrates the complexities involved in researching media representations about risk, which provides a relevant platform for the primary research presented in Chapters 6 and 7.

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10 Therapeutic Goods Amendment Act (No. 1) 2003

11 Therapeutic Goods Amendment Act (2005)
2.8.1 Pan consequences: the fallout
The Pan recall was a significant media event that served to underline the consequences of media representations on policy outcomes, specifically in relation to HM and dietary supplement product regulation. The media uptake of the Pan incident was intense, resulting in media saturation over a three-month period, with ongoing reportage and updates throughout the year, which tracked the flow of product recalls, the adverse reactions from Travacalm, the reputational and financial demise of Pan, the disruption to and difficulty confronting retailers, the concern of lay people using the products, and the consequent sale of Pan.

The Pan situation confronted the TGA with the need to account for its actions to a range of stakeholder groups. In the case of the Pan recall, these included the lay public, the substantial CAM industry, which included distributors and retailers such as health food stores, pharmacies and supermarkets, the government’s political competitors, as well as investors in the Pan Pharmaceuticals Ltd company. The TGA media release headline (Figure 2-3), focusing on the suspension of Pan’s license, indicates the TGA wanted to frame the story as a morality issue first, which involved a corrupt organisation that the TGA had appropriately ‘dealt with’ in its responsibilities as the medicines regulator.

The function of government communication as a form of promoting its worth to the publics to whom it is accountable is discussed in Chapter 7 (Section 7.3.4.1) in relation to the findings of the newspaper content analysis. Entwistle and Sheldon (1999: 125) have also referred to this:

Politicians with responsibilities in the Department of Health need to be seen to be improving health care or successfully implementing government policies. They also need to avoid publicity that might reduce public confidence in the health service or themselves. For these reasons, they increasingly attempt to secure the kinds of media coverage that serve their interests.

The Pan event potentially jeopardised the reputation of the TGA and its effectiveness as a medicines regulator, which was confronted with a medicines recall of unprecedented scale. The TGA media release bore many of the characteristics of news values which I outline in the following chapter (Table 3-2) – in fact, it could be argued that the media release document represented a slice of journalistic manna. The narrative featured conflict, negativity and drama, magnitude of social impact based on the scale of the recall, novelty,
familiarity, not to mention some essential ‘wounded bodies’ from the Travacalm tablets. Most of all, there was the villain. This was not simply a stock-standard medicines recall media release, as it elaborated on the quite shocking, unexpected actions such as ‘substitution of ingredients, manipulation of test results’ as well as ‘fabrication’ of finished product assay results by ‘Australia’s largest contract manufacturer of complementary medicines’. The drama of Pan’s corruption was a frame that became understandably adopted, appropriated and ‘fleshed out’ by the media. Although perhaps unintentional on the part of the TGA, the alignment of this corruption frame with the country’s ‘largest contract manufacturer of complementary medicines’ inevitably drew media attention towards the industry as a whole. At the same time, as Croucher points out, the media started to question the competence of the government regulator (2009: 9). The media horse had effectively bolted. This point also highlights the way in which communications from claims-makers may also take on a life of their own once they have been transferred into the hands of the media, despite the intentions and efforts of claims-makers (McNair, 2006: 48). This last point will be expanded on shortly.

The initial media coverage following the TGA’s 28 April media release and press conference has been discussed by Easthope (2004), Eagle et al. (2004, 2005a, 2005b) Blasche (2008), and Croucher (2009). On Tuesday 29 April, the newspapers responded to the TGA’s media release and press conference from the previous day. The following headlines appeared on the front pages of the major national and metropolitan newspapers: ‘Massive recall of faulty health pills’ (Needham, 2003b), ‘Medicines recall alert: alarm on herbal, vitamin remedies’ (Noble, 2003), ‘Alarm on pills’ (Zonneveldt et al., 2003), ‘Lives at risk as contaminated vitamins spark recall’ (Harris & Fraser, 2003), ‘Mass recall of vitamins’ (Starick & Skatsssoon, 2003) and ‘Suspect medicines recalled’ (Edmistone, 2003).
2 – Contextualising the evolution of herbal medicine usage

Figure 2-4 Front Page News: The First Day of Media Coverage about Pan. The Australian, 29 April 2003

Figure 2-5 Front Page of The Age, 29 April 2003
Radio and television news and current affairs programs also covered the story as a leading news item. Whilst the initial newspaper headlines led with the recall message, as did the leading paragraphs, the corruption message about Pan was provided in the second or third paragraph of the news report in the case of the major metropolitan and national dailies in the Factiva search. This highlights a degree of media independence from the framing via the government communication, which framed the news in the reverse order – with the corruption message in the headline and lead paragraphs, and the recall message in the second or third paragraphs. The recall was, after all, the ‘real’ leading message of most relevance to the public on that first day of the news cycle. However, the corruption story was far from neglected, particularly in subsequent articles over the coming days.

This challenges Croucher’s (2009: 2) contention that the government, whilst being the primary source of authority in the reporting, did not significantly influence the news agenda, at least not initially, and that the ‘media discourse surrounding the case was significantly divorced from TGA communication’ (2009: 12). In contrast, I would argue that in the case of the TGA’s initial media release about the suspension of Pan’s licence and the recall, the media was provided with enough drama and intrigue to guarantee the media saturation that followed. This intense media interest was also fuelled by Pan’s own evasive and defensive communications response to the crisis, which has been criticised by O’Neill (2003: 4), a media strategist, as demonstrating how a company’s poor handling of communications in a crisis can unfold into a disaster. Eagle et al. (2005b: 442) also make this point:

From a public relations perspective, the role of the media in lessening potential negative impact in relation to a product recall crisis by reporting that a company is acting in a socially responsible way seems to have been ignored by Pan as was the potential impact of the event on the company worth, let alone the chance of long-term survival or the impact on the industry as a whole.

A newspaper content analysis of 408 articles about the Pan event by Croucher (2009: 7) suggests the majority of newspaper articles used frames about ‘public/health safety’ and/or ‘consumer recompense’. Of particular note in Croucher’s study was that a substantial proportion of articles retrieved during the period of analysis focused on a very different frame to the one provided via government communication – the scrutiny of the entire CAM

12 O’Neill criticises Pan’s communication problems for the lack of a crisis media strategy, unavailability of company spokespeople, not adequately informing employees or stakeholders, and issuing inadequate company statements that did not express contrition.
industry, rather than the more relevant issue of manufacturing (2009: 8). This media focus on the whole CAM industry, which frequently included spokespeople and framings that questioned the validity or legitimacy of HM and dietary supplement products in the marketplace, was a notable feature of the Pan event. Despite the dominant role played by the TGA as a main source, as noted in Croucher’s study, there was a diverse range of ‘voices’ emerging in the news discourse (in which biomedical practitioners played a minor role and individual customers were most prominent), which influenced the news frames. Sceptical ‘unscrupulous’ industry framings were reflected in comments like: ‘medicine man hucksters’ (a much-quoted phrase from the then NSW Premier Bob Carr), ‘conned’, ‘duped’, ‘snake-oil salesmen’, and ‘quackery’. Expert voices challenging the validity of HM and CAM products also emerged:

‘By definition, all alternative medicines have been shown to be clearly no better than a placebo’ (MacLennan, Professor of Obstetrics and Gynaecology, Adelaide University) (Booth, 2003).

‘…the alternative medicine industry is rife with myth and misleading claims by some dodgy manufacturers’ (Ramesh Monacha, clinical research fellow at the natural therapies unit at Sydney’s Royal Hospital for Women, cited in Tobler, 2003: 11)

‘Where is the evidence of efficacy of nutritional supplements and complementary medicine?’ (AMA spokesperson from QLD branch, Moore & Mathewson, 2003: 9)

‘A study of complementary medicines reveals the dangers of unproven herbs and supplements particularly to children and pregnant women’ (Riley, 2003: 9)

As a result of false advertising, however, millions of consumer dollars are wasted on taking very expensive, albeit usually harmless, preparations containing many ingredients destined to go straight down the consumer's toilet (Dwyer, 2003: 17).

What is particularly interesting about such commentary on the ‘albeit usually harmless’, benign if not fraudulent medicines which were ‘no better than a placebo’, was that they were presented in the context of a risk-based news event. Benignity or ineffectiveness is a difficult construct, particularly where risk and medicines are concerned (this notion is further explored in Chapters 6 and 7, in the discussions of the primary research findings). At the same time, the one product shown to cause quite serious adverse reactions in a substantial number of people was not a listed natural product, but an OTC pharmaceutical medication, a
point regularly noted in media commentary by CAM industry representatives such as Marcus Blackmore of Blackmores Ltd (Blackmore, 2003: 7).

A systematic content analysis would yield information about the level of frequency of such framings or commentary about the Pan event, but is not within the scope of this research. Background literature presented in the following chapter, combined with the research findings presented in Chapters 6 and 7 suggests a correlation between HM ‘risk’ and HM ‘efficacy’, particularly in terms of biomedical perceptions and the Australian regulatory system. Biomedical perceptions will be expanded on in Chapter 6, which presents the research findings from the MJA content analysis.

The next section will elaborate on the regulation of HM products in Australia, which is a pertinent issue in the context of HM and risk and the positioning of HM products in Australia.

2.8.2 Regulation, risk and efficacy

It can be argued that the regulation of HM in Australia has sped up its mainstreaming process, or at least its increasing acceptance as a form of healthcare. HM and other supplements holding a unique status of regulation in Australia, particularly compared to countries like the United States and Great Britain. Products are evaluated by the Therapeutic Goods Administration (TGA) and given an ‘AUST L’ number which appears on the product’s label, which indicates it has been evaluated as ‘low-risk’ and subsequently is classified as a ‘listed’ medicine (Braun et al., 2010: 242). Biomedical antagonisms towards this process appear more frequently in mainstream newspapers (discussed in Chapter 7), since the issue of regulation is regarded as important for lay publics who purchase them. These antagonisms appeared and were occasionally heard during the Pan event, although they did not necessarily dominate the media representations (although they were typically conveyed by privileged voices). This regulatory process does suggest acceptance of the products having medicinal (or therapeutic) meaning at the level of government. It is also reflective of the consumerisation of healthcare as well as politicisation, which as Coulter and Willis (2007: 218) point out, involves the ‘returning control of one’s health back to the individual and the control of the health system to the community’. In relation to politicisation, Baer (2006: 1778) has also noted the limitations to biomedical hegemony:
Biomedicine’s dominance over rival medical systems has never been absolute in any society, developed or developing. In advanced capitalist societies, the state, which primarily serves the interests of the corporate class, must periodically make concessions to subordinate social groups in the interests of maintaining social order and the capitalist mode of production.

Baer argues that ‘limited practice rights’ for herbalists, naturopaths and other CAM practitioners has been a consequence of the state making such ‘concessions’. Such concessions are arguably a tactic of ‘repressive tolerance’ about which Marcuse has written (1966). Nevertheless, these concessions do potentially encroach on the territory that biomedical practitioners have previously enjoyed and do represent a waning of biomedical dominance and authority, particularly at the political level.

Government policies such as the Therapeutic Goods Act, funding for both private naturopathic colleges as well as university-based programs like Southern Cross University’s Bachelor of Naturopathy degree program, have occurred without the formal blessing of biomedical organisations like the Australian Medical Association (AMA). Baer (2006: 1780) also acknowledges rising health costs as another important factor which drives government interest in health therapies that support an ideology of the individual taking responsibility for his or her health (2006: 1779), subsequently exercising self-regulation and self-governance.

Regulation of HM is an issue about which the biomedical professions may feel somewhat disempowered, given the processes of consumerisation and politicisation of healthcare discussed above. The Pan event was an opportunity for some university and hospital-based biomedical claims-makers to voice their concerns and attempt to influence media frames.

There is little evidence to suggest that the Pan event actually influenced people to stop using HM or CAM products. In fact, in the case of an AC Nielsen poll reported by Fairfax consumer writer Kirsty Needham on 7 May 2003, 79% of people in Australia ignored the recall and continued taking products which they knew had been recalled (Needham, 2003a). This was also reflected in market research conducted in New Zealand, albeit at a significantly lower rate of resistance to recall messages, whereby 37% of users continued taking their recalled products (Eagle et al., 2004: 22). This phenomenon reflects the public contestation of expert knowledges, a feature of risk society. This is further discussed in the following chapter in relation to risk (Section 3.2). It also relates to Goldner’s (2003)
comments about CAM consumption as a form of ‘activism’, which resists dominant biomedical ideologies about health care. Additionally, research suggests people are ‘more willing to accept risks they impose upon themselves, or they consider to be ‘natural’, than to have risks imposed upon them’ (Allan, 2002: 91)

The Pan event also highlights the intricacies involved in interpreting media reportings on risk and the role of claims-makers in the news-making process, particularly in relation to HM and CAM. These issues are further explored in Sections 3.5-3.7, where the news production process is discussed, and in the primary research findings from both the MJA and newspaper content analyses in Chapters 6 and 7.

The way in which stories emerge in mainstream news media is very different from the narratives occurring in the MJA. The Pan reportings demonstrate the very distinctive way in which stories evolve in mainstream news media or lay media (a genre that may also be influenced by biomedical discourses), which influenced my decision to incorporate a newspaper content analysis in the primary research.

2.9 Conclusion
This chapter has provided a broad historical contextualisation of HM in Australia, and presents information on the prevalence of HM and CAM in Australian society, despite its marginalised status. The chapter has also outlined the rise of medical dominance, the process of medicalisation and the cultural forgetting of plants as medicines under a new biomedical and pharmaceuticalised approach to health care during the previous century. The issue of ‘quackery’ has also been raised as pertinent to biomedical discourse of HM in Australia. The chapter has concluded with a discussion of the Pan Pharmaceuticals event of 2003, which is discussed as a relevant and important introduction to media representation and risk reporting about HM in Australia.
3 Literature review: Framing risk, media representation, scientific knowledge, and HM

3.1 Introduction

This chapter reviews the sociological literature about risk, scientisation, and media representation as they each relate to HM in contemporary Australia. Risk is first introduced, and theoretical approaches to risk are discussed, which are relevant to the primary aim of measuring risk discourse in media representations. Following on from the discussion of risk is a review of the literature on the sociology of scientific knowledge (SSK) and the sociopolitical forces involved in the construction of science. Sociological viewpoints on the scientisation of HM are presented. The final section provides a review of the literature on media studies and, in particular, theories about and research of media representations. News culture is explored, followed by discussion of media framing and the potential (and well-researched) influence of media representations. Studies on media representations in health and CAM reporting are reviewed, none of which have isolated risk discourse as a specific area of interest, which is the focus of this research. The news-making process is described as a meaning-making process also, which carries its own set of news values. The conflicting tensions between contending claims-makers are described, as well as the (often controversial) power and influence of news media. The role of the news genre specifically is discussed, providing the rationale for my focus on news in Chapter 7.

3.2 Herbal medicine in the risk society

The main aim of the research is to measure the discourse of risk about HM in biomedical and mainstream media representations in Australia. The following review of sociological literature about risk theories provides a theoretical background and significant framework to the primary research presented in Chapters 6 and 7.

A corpus linguistics approach to the word ‘risk’ by Hamilton and colleagues (2007: 178) in which systematic searches of the use of the term ‘risk’ were conducted in CANCODE\(^{13}\) and the Collins WordBanks Online revealed that ‘as both a noun and a verb, “risk” emphasised

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\(^{13}\) Cambridge Nottingham Corpus of the Discourse of English
actions, agents or protagonists, and bad outcomes such as loss of a valuable asset’. Their research also revealed a frequency of the word ‘risk’ in the context of health and illness, which carried a negative semantic pattern of stress and intonation. Hamilton and colleagues argue that this frame semantics perspective, which measures semantic patterns across texts, is useful to understanding the nuances of the context in which ‘risk’ is used (2007: 178). The negative prosody of risk in relation to health and illness revealed by Hamilton and colleagues’ corpus linguistics study may assist to clarify references to risk in relation to HM.

Despite the long association of risk assessment in healthcare, particularly in the context of insurance, techniques of risk assessment have been more widespread only since the Second World War, as a result of the need to assess hazards arising from new technologies (Carter, 1995: 135). The process of risk assessment is aptly described by Wynne as ‘the scientific elucidation of damage mechanisms from different natural or technical processes, and the quantification of probabilities and consequences’ (Wynne, 1987: 2). Attempting to chart the uncertain terrain that arises from the predominance of risk is the objective of risk assessment (Carter, 1995: 136).

Commentators and academics including Coulter & Willis (2007), MacLennan (2006) and Myers & Cheras (2004), have referred to the lay public’s sense of safety associated with HM and other CAM products, particularly as these products are perceived in comparison to pharmaceutical medications. The phrase ‘natural is not necessarily safe’ recurs in 16 articles over four decades in articles about HM or CAM from the *Medical Journal of Australia* (*MJA*), findings discussed in the results from my media content analysis of the *MJA*, presented in Chapter 6. It has become an increasingly popular turn of phrase in biomedical as well as mainstream news discourse on HM in particular, and has coincided with the increased acceptance of HM in these discourses.

The key points that follow stem from a social-constructionist perspective of risk, which Lupton (2000: 206) defines as being based on perceiving risk as a sociocultural construction rather than an objective ‘fact’ which can be identified via scientific procedures. This is a critical viewpoint to take in the process of understanding how sociocultural and political elements can influence our acceptance of social, political and economic structures and systems which have been ‘normalised’ through hegemonic processes. Social
constructionism and the varying ‘strong’ and ‘weak’ positions within this theoretical framework are elaborated on in Section 4.3 in the following chapter.

Whilst Douglas (1992: 24) defines risk as a negative concept, denoting dangerousness, Beck (1992; 1999b) defines what he famously coined the ‘the risk society’ as a complex, chaotic world where one can be certain of nothing, resulting in an anxious and uncertain social psyche in a very global sense. An important feature of the risk society is the way in which ‘human action or intervention within nature and tradition’ replace chance, randomness, or fate as the new risks of the 21st century (Green et al., 2000: 110-11). At the same time, despite its sociocultural prominence, scientific technology and knowledge is less reliable, unable to guarantee security, and as a result its authority is challenged (Green et al., 2000: 111).

In the risk society, society’s experts are subjected to constant challenge and suspicion by lay people as part of a movement Beck has termed ‘reflexive scientisation’ (1992: 167). This movement has resulted in lay protests against scientific activities and efforts, in what Beck has called a form of ‘scientisation of the protest against science’ (1992: 161-2). The scientised discourses about HM, evident in articles I have collated from the MJA and presented in Chapter 6, are interesting to consider in relation to this postulation by Beck. However I would suggest that overall they do not convey reflexive scientisation, but rather an attempt to come to terms with HM in what is primarily a rather more non-reflexively scientised context. This shows a missed opportunity in reflexive scientisation, whereby the opportunity to ‘emancipate social practice from science through science’ (as Beck proposes is necessary for a just, equal and compassionate society) has not been taken up (1992: 157).

Scientisation continues as a formidable cultural force with political and economic motives, even though it is open to questioning and challenge in a more globalised society. Beck (1992, 2002: 111) notes that in modernity, the potentially liberating characteristic of science as unveiling the truth has given way to something quite different:

Science is no longer concerned with ‘liberation’ from pre-existing dependencies, but with the definition and distribution of errors and risks which are produced by itself.

Beck’s comment is important to understanding the broad role science plays in risk construction, a significantly evident process revealed in the media content and discourse
3 – Literature review: Framing risk, media representation, scientific knowledge and HM

analyses in this thesis. This point harks back to Fuller’s query about whether science will eventually ‘outgrow’ knowledge as its aim (2000: 34). It also suggests a context in which contemporary medicinal plant research may be viewed, prompting the question about what the consequences of biomedical research into HM may be. This question is elaborated on in Section 3.3.2.1 below.

Lupton and Tulloch (2002) and Wynne (1996), amongst others, have criticised the ‘grand theories’ of risk society formulated by Giddens (1990, 1991, 1994) and Beck (1992, 1994, 1998, 1999a). These particular authors have undertaken research into lay knowledge about risk with local community groups in Australia and England, and have in their findings highlighted the need to understand how ordinary (non-expert) people relate and respond to risk in their localised context. Hier (2003: 312) also supports the argument that peoples’ perceptions of risk are located within their routine, normalised order and that of everyday living. How people respond to risk represents a complexity of local and cultural factors which must be appreciated, a point which Cottle (1998: 21) has argued was neglected by Beck during the 1990s.

Wynne (1996: 76) argues that lay people are not passive recipients who simply choose between an array of often conflicting expert knowledges as Giddens suggests. Williams and Calnan (1996: 1619) concur with this view: ‘lay people are not simply passive or active, dependent or independent, believers or sceptics, rather they are a complex mixture of all these things (and much more besides)’. These authors argue that the contribution of local knowledges and identities should inspire people as social beings living in societies to ‘find the collective self-conceptions which can sustain universals that do not bury the traces of their own human commitment and responsibility’ (1996: 78). This refutation of the idea of society’s publics as ‘passive recipients’ is a point also to be discussed in this literature review regarding assumptions about audience responses to media representations.

Qualitative research by Lupton and Tulloch (2002) challenged Beck’s ‘grand theorising’ about risk by gauging the views of 74 Australians about risk and what it meant in their lives. The interviews revealed that people, in their local contexts, made an association of risk with uncertainty and anxiety, which supported Beck’s theory. However, risk was also seen as a potentially positive phenomenon – an element of an activity that could yield benefits. Interestingly, this Australian group did not display the significant level of concern about
environmental risk which Beck has theorised exists globally (1992, 1994, 1999). The importance of gender, age, occupation and sexual identity in terms of how people responded to risk in the study also raised questions about the appropriateness of Beck’s and Giddens’ model of the democratised ‘universal risk actor’, a model which Lupton and Tulloch are concerned is ethnocentric (2002: 332-3). Following on from this point, focus group research by Hornig suggested that lay people have a more expansive vocabulary of risk and take into account a broader and more sophisticated set of factors than ‘rationalist’ measures of risk (Hornig, 1993: 98). This point is reinforced in research of young people’s perceptions of risk by Green et al. (2000) and more recently by Austen (2009), who (like Lupton and Tulloch) argue for the need to gather empirical evidence and explore the lived experiences of those under the risk theory gaze. In direct contrast to Beck’s theoretical assumptions about risk, Austen found that young school-age people indicated they were neutral rather than negative about risk, and they felt they had knowledge or awareness about behaviours categorised as risky, rather than uncertainty or ambivalence. The sample group interviewed also did not convey scepticism toward those who provide expert knowledge, such as their teachers (2009: 468). Significantly, the term ‘risk’ was rarely used by the young participants in Austen’s research (2009: 466). Green et al.’s UK-based research of the perceptions of risk amongst young people living in a socially disadvantaged area emphasises the need to consider race, class and gender distinctions in understanding risk behaviours and perceptions amongst youth. These researchers also found a less negative attitude towards risk amongst the sample group, however, it was a normalisation of risk that was prevalent. This was accompanied by the finding that members of the sample group were constantly managing risk elements and behaviours. Green et al. found that these young people’s management of risk did not stem from a predicated social code. Rather, their perceptions of risk were grounded within a ‘shared experiential code of behaviour’ (2000: 123).

The numerous research findings discussed above raises the need to appreciate the distinctive experiences and perceptions of risk by different social groups, which emphasises the importance of empirical research in investigating risk, rather than the reliance on the grand theories of risk argued by Ulrich Beck and Anthony Giddens. This is essentially a cultural theory approach, which is offered as an alternative to risk society theory, and in which the emphasis is on cultural identity and how individuals and groups experience and perceive risk (Alaszewski, 2009: 489). This distinction is highlighted in the way in which different health practitioners perceive risks of HM or CAM, which is discussed in the following sections.
3.2.1 Why risk matters to doctors

In Australia, people who use HMs or CAM do not typically avoid orthodox medicine. (Adams et al., 2003; Donnelly et al., 1985; Ni et al., 2002; Thorpe, 2008). Research by Xue et al. (2007) has illustrated that the estimated number of visits to CAM practitioners over a twelve-month period (69.2 million) was almost identical to visits to medical practitioners (69.3 million). In another Australian survey of GPs, more than half believed their patients were increasingly demanding CAM (Lin et al., 2005: 219).

Risk management is an important issue in mainstream medical practice. Whilst ‘risk avoidance’ has become something of a moral responsibility for the individual in society (Lupton, 2006: 14), it is a particularly prominent concept in the working life of biomedical practitioners. The Australian Broadcasting Corporation (ABC) drama series MDA (2002-03, ABC Television) poignantly highlighted these risks in the context of a burgeoning industry of medical litigation. As noted by Lupton (2006: 14), those who do not engage in risk avoidance ‘may thus often find themselves stigmatised and subject to moral judgements’. In the case of medical litigation, these judgements can have severe financial and professional repercussions for the individual practitioner. The sociocultural impact of risk avoidance is therefore important to consider in the relationship between biomedical practitioners and representations of HM and CAM.

3.2.2 Expert and lay perceptions of HM risk

An Australian survey by Newell and Sanson-Fisher (2000) revealed that oncologists’ attitudes towards HM being helpful or harmful for patients in palliative care were equally divided. However in the case of patients who were classified as ‘curative’, that is, patients who were receiving medical treatment with the expectation of improvement or ‘cure’ of the patient’s symptoms, the results were quite different. Eight percent of oncologists believed HM (or naturopathic) therapies may be helpful in ‘curing’ a patient’s symptoms, compared with 22% who thought HM may be harmful to use curatively (Newell & Sanson-Fisher, 2000). It is also important to note the knowledge level amongst the oncologists surveyed was only at a level of 13% in relation to HM.

A government-funded report in Australia by Lin and colleagues (2005) suggested that, as a therapy, HM is considered (by experts) to be of a higher risk than other Western naturopathic modalities because of the possibility of toxicity related to overdose, interactions
with pharmaceutical drugs, allergic and anaphylactic reactions, and idiosyncratic reactions. Australian research by Bensoussan, Myers and Carlton have showed that doctors’ perceptions of adverse events from HMs are exceptionally higher than those held by TCM practitioners (Bensoussan et al., 2000). In the report by Lin et al. (2005), Western HM was regarded by GPs as one of the most ‘dangerous’ of the CAM therapies, after chiropractic and Chinese HM. The report carried a range of recommendations for regulation of products and the practice of HM in Australia, based on the risks posed by HM products and practice (2005: 13). The authors of the report noted that for GPs, ‘potential harmfulness was seen to mirror potential effectiveness’ in the case of the therapies that were ‘moderately harmful’ (Lin et al., 2005: 202). Braun’s (2006: 250) study of 127 hospital-based surgeons, anaesthetists, medical physicians and pharmacists also conveyed this correlation between perceived effectiveness or ‘usefulness’ and harm. However, in both the Lin (2005) and Braun (2006) studies, the practitioners’ perceptions of harmfulness outweighed their perceptions of usefulness or effectiveness. Braun’s findings are depicted in Figure 3-1.

**Figure 3-1 Diagram of results from Braun’s 2006 study: perceptions of usefulness and harmfulness of CAM amongst hospital-based practitioners**

(Braun, 2006: 250)

This was not the case in the Newell and Sanson-Fisher study cited above, which showed a closer correlation between potential harm and efficacy in the case of HM and naturopathy.
being used for palliative cancer patients (2000). However, in the case of patients defined as ‘curative’ rather than palliative, that is, patients with cancer for whom the oncologists had hope of recovery, the perception of benefit for HM was only 8% compared with 22% of practitioners who believed it would be harmful (2000).

As mentioned earlier in this section about risk, this notion of harmfulness about HM starkly contradicts attitudes held by many lay people who self-treat or who are prescribed herbs by naturopaths or herbalists in Australia (Coulter & Willis, 2007; MacLennan et al., 2006; MacLennan et al., 2002; Myers & Cheras, 2004). A 1980 cognitive psychology study by Slovic and Fischoff which compared risk assessments by lay people and experts demonstrated that lay people’s fears about risk were closely related to risk factors which were ‘involuntary, uncertain or unfamiliar’ whilst these factors were not at all perceived by expert people in the study, whose sense of risk tended to be based on estimates of annual mortality (Gabe, 1995: 4). However, the discourse of risk about HM in biomedical circles does not in fact draw from scientific calculability, given the low frequency (and severity) of adverse effects from HM (Myers & Cheras, 2004). It is more likely that HM confronts biomedical practitioners with a similar uncertainty and unfamiliarity that inspires a sense of risk in lay people. This can perhaps be explained by the fact that, in the HM domain, biomedical practitioners cease to be ‘experts’ (Lewis, 2010). The 2000 Australian study of oncologists’ attitudes towards CAM concluded that ‘the less familiar, more physical or invasive therapies dominated those considered likely to be harmful’ (Newell & Sanson-Fisher, 2000).

Lupton (1999) has argued that it is rarely lay people who play a major role in the construction – and indeed publicising – of risk ‘objects’ (1999). This work is undertaken by the ‘technical experts’, who ‘define agendas and impose bounding premises a priori on risk discourses’ (Lash & Wynne, 1992: 4).

It could also be suggested, along the lines of Beck’s and Giddens’ exploration of reflexive modernity and risk society, that there is a process of identification and calculation of risks about HM and CAM by ‘experts’ in the field, although by the very nature of reflexive modernity, doubt and mistrust is a modern consequence of such expert knowledges (Beck, 1992, 1994; Giddens, 1990, 1994). This doubt is carried by those ‘others’ to the particular realm of specialism, which includes both experts from different fields, and lay people.
Indeed, it is misgivings about expert knowledge by lay people in particular which have invariably contributed to the public’s increasing use of HMs and CAM. Sociocultural scarring has occurred through experience, particularly in the second half of the 20th century. This period is characterised by mistrust of the expert knowledge that had assured populations of the safety of thalidomide, tobacco, nuclear power and reprocessing plants, the insecticide dichlorodiphenyltrichloroethane (DDT), and, most recently in the first decade of the 21st century, the ideology of a free-market economy. Wynne captures the mood of this new risk-conscious society:

The modern institutions and culture have failed to live up to their promise and to deeply rooted social expectations because the risks and side-effects are now unacceptably high; so the response is to disengage from and reconstruct the prevailing institutions and political culture (1996: 56).

Having noted this public mistrust in expert systems of knowledge, the expert constructions of risk about plant-based medicines that appear in biomedical and popular discourses seem to be largely uncontested. Contestations of the scientific commentaries on the risk of HM tend to be contained within specialised sociological or CAM journals or forums, rather than in public mainstream discourses like newspapers, magazines, radio, or television programs and their websites. Indeed, Wynne refers to the absence of those ‘existing forms of expertise giving any acknowledgement that there could in the public realm be the basis of alternative forms of public knowledge’ (1996: 45-6).

However, the most significant contestation of the constructed notions of risk about HM and CAM exhibited by lay people is evidenced by the public’s ongoing use of it. This phenomenon has been exemplified in the Pan Pharmaceuticals event discussed in the previous chapter (Section 2.8.2), in which surveys have suggested that a significant proportion of people continued to use their HM or dietary supplements, even though they were aware they had been recalled.

It is possible the notion of risk has not yet managed to elicit much of a response from the lay public, or alternatively, various publics are rejecting the association of suggested magnitudes of risk. Risk discourses about HM and CAM (usually in the news-style format in popular media) are at the same time competing with rather more prolific and certainly more consistent marketing discourses appearing not only in advertisements, but also in lifestyle articles from magazines and newspapers, and in lifestyle, ‘infotainment’, and current affairs.
programs. Such discourses are directly oppositional to risk discourses in the way they promote HMs as natural, safe, gentle and beneficial, often with a romantic or nostalgic connection to ‘time-honoured tradition’ and the purity of nature. At the same time, companies promoting HM products can take advantage of a society scarred from a century of iatrogenic injuries, toxic waste, and a host of carcinogenic substances. This point is also made by Miles (1998: 2133) in her study of the promotion of natural medicine products in Ecuador, where radio advertisements conveyed industrialisation as a toxic mess that needed ‘cleaning up’ and the need for a return to ‘ancient wisdom.’

3.2.3 Notions of risk outside of the Australian context

It is important to note that the Australian biomedical correlation of HM and potential harm, as defined by experts or what Giddens (1994) calls ‘specialists’, is not necessarily representative of a broader Western biomedical culture – such as those based in Europe. A recent survey of attitudes amongst a large random sample of 516 German outpatient care physicians with qualifications in 13 medical fields revealed a far broader acceptance and usage of CAM amongst German physicians than previously assumed (Stange et al., 2008: 1255). Notably, HM – defined as ‘phytotherapy’ in the survey – was prescribed by doctors with a 67% rate of frequency when answers of ‘very often’ or ‘at times’ were combined – second only to physical therapy (2008: 1258). Over 50% of specialists and almost 80% of primary care physicians had used HM over the past year (2008: 1259). Markedly, 40% of doctors in the study agreed with the statement that ‘CAM has helped many after the failure of conventional medicine’ (2008: 1257).

This German study can be contrasted with the findings from the report by Lin et al, which included a study of 636 general practitioners (Lin et al., 2005: 220). The Australian study revealed less than 40% of biomedical practitioners felt HMs were effective, whilst over 60% believed they were potentially harmful. This also took into account HM in the hands of naturopaths rather than GPs – ‘incorrect, inadequate, or delayed diagnoses’ (Lin et al., 2005: 220).

3.2.4 Risk in the biomedical context

Risk assessment is a major issue in matters of health (Gabe, 1995: 2). Bury (1986: 11) has noted the ‘almost obsessive preoccupation’ of risk calculation in the health domain, which Flynn (2006: 83) suggests has ‘spawned new subdisciplines (such as epidemiology and
public health) with their own academic and technical literatures, professional organisations and policies’. These sociocultural and political phenomena have also been discussed in the domain of evidence-based medicine (See Jagtenberg et al., 2006). In this sense, it could be argued the contribution to a discourse of risk about HM and CAM may assist to justify or legitimise this burgeoning ‘industry’ of risk-based research and discussion. This is but one of the many layers involved in understanding the process and consequences of the construction of a discourse of risk about HM and CAM, where numerous and sometimes oppositional vested interests play a major role.

Another important layer to consider, which will be investigated more closely in the MJA study presented in Chapter 6, is the way in which risk discourse serves biomedical dominance in the Australian healthcare system. The construction of risk concepts is a process which sets up ‘boundaries and connections to define spaces of safety and danger’ (Carter, 1995: 145). As Carter argues, risk discourses are not neutral or democratic – rather, they engage in a process of ‘othering’ – whereby the ‘other’ is cast as potentially dangerous (1995: 145).

The full complexity of risk discourse about HM and CAM can be appreciated by evidence it is also being co-constructed and harnessed by a group of university-based academics and researchers from the naturopathic professions, whose goal is for acceptance of naturopathic modalities (applied by the naturopathic profession) into mainstream healthcare in Australia. The writings of Wardle (2008a, 2008b), an advocate of the registration of the naturopathic profession in Australia and more stringent regulation of HM and CAM products, reflect some of the attitudes behind this movement. Embracing the notion of risk and the need for an experienced, quality-educated CAM practitioner, Wardle argues, will assist in paving the way to integration of CAM practitioners with mainstream healthcare system in Australia:

The risk is only ever inherent when these practices are used improperly. If complementary medicine is to fulfill its potential in healthcare delivery, the industry needs to acknowledge this risk…complementary medicine practitioners should acknowledge [risk] and take pride in the fact that as a profession they are the only ones qualified to make informed judgements surrounding these risks (2008b: 139)

There is evidence of a less rallying but certainly equally defensive construction of risk by other prominent university-based advocates of HM and CAM in Australia, highlighted in
articles by Drew and Myers (1997), Bensoussan and Myers (1996), Wardle (2008a, 2008b), and Myers (2004). Their editorial and review contributions to the *MJA* since the 1990s contribute to the construction of a discourse of risk, albeit from a pragmatic and political attempt to rationally define the risks using scientised language and symbols which would be likely to appeal to the *MJA* editorial board and readers. Evans (2008a: 80) has argued that ‘biomedical thought and assumptions determine the framework within which non-biomedical practitioners may participate in mainstream healthcare’. This discourse about risk has also become more clearly defined using the risk assessment terminologies that have penetrated most of the professions.

A 1997 review paper titled ‘Safety issues in HM: implications for the health professions’ by Drew and Myers in the *MJA* mentions the term ‘risk’ five times. Seven years later, a similar paper by one of the authors and a colleague from the University of Queensland uses the word ‘risk’ a total of 30 times (Myers & Cheras, 2004). This could reflect a sociocultural trend in the usage of the word risk, but also suggests an increasing association of HM risk in biomedical discourse, which is reinforced by the content analysis findings presented in Chapter 6. In her extensive analysis of risk theories and concepts, Lupton found a marked increase in the number of references to ‘risk’ in news stories appearing in *The Sydney Morning Herald* from 1992 (2,356) to 1997 (3,488), indicating its increasing adoption by the news media as a buzz-word – and, as Lupton suggests, a more ambiguous alternative to words like ‘danger’, ‘threat’ and ‘hazard’ (1999: 10). In both *MJA* articles, the authors are contributing to risk discourse about HM and CAM, while at the same time they are endeavouring to shape it.\(^\text{14}\)

These authors appeal to the aura of calculability in science by presenting statistical data throughout their papers about usage and adverse events – a technique applied in assessing risks associated with pharmaceutical medicines (Corrigan, 2002). Irrefutable in the context of orthodox biomedicine, this tactic is again applied in the final section of the Drew and Myers paper (1997) under the sub-heading ‘Achieving perspective’. Here the authors present the data based on hospitalisations resulting from food poisoning and adverse events

\(^{14}\) Evans (2008a) makes the point that what has been defined by Bensoussan and Myers (1996) as ‘predictable risk’ is what herbalists have for centuries understood as ‘danger’: ‘Herbalists have long understood that some plants are dangerous, and should be avoided or handled with extreme care’ (2008a: 81). She notes the frustration for herbalists who are not allowed access to plant medicines categorised as ‘registered’, such as comfrey, yet other mainstream health professionals such as pharmacists and doctors, who may have no training in the use of these HMs, are able to access them (2008a: 83).
from pharmaceutical drugs, which may prompt a biomedically-logical professional who is risk-conscious to make a comparative risk calculation showing HM in a statistically favourable light. In the Myers and Cheras (2004) article the authors take a similar but more detailed approach, offering statistical estimates of adverse events, surmising that despite the under-reporting of adverse events of HM, it is unlikely ‘that thousands of such reactions remain unreported in the community’ (2004: 223).

This approach concurs with Beck’s representation of ‘counter-scientific mediations’, in which those countering science use the ‘entire arsenal of scientific measurement, experimental and argumentative instruments’ (1993: 162). Although Beck is using the example of the scientised ecology movement which had its basis amongst lay people, it is pertinent to consider this notion of scientisation of HM and CAM, which is visible in the aforementioned MJA articles. The difference here is that experts in the field of HM and CAM research, practice and education are employing the scientised tactic in a convincing manner which results in publication and exposure to a key target group that needs ‘persuading’. There is an element of the ‘democratising’ effect of scientisation presented by McCormick (2007) where science is re-framed and mobilised. However, unlike the ecology movements to which McCormick refers, lay participation and influence is apparently absent in the discourse. This point about lay participation or contribution to the discourse about HM is also reflected in the findings from the content analysis of mainstream Australian newspapers presented in Chapter 7. Healthcare, particularly in Australia, which follows a biomedically dominant model, is still not a democratic domain, highlighted more recently by proposed Federal legislation that threatens the freedom of choice by Australian women to give birth to their babies at home.\(^{15}\)

This mapping of HM in the context of ‘safety’ by authors like Myers, Bensoussan, and Wardle (all of whom are trained CAM practitioners and researchers based in universities) in biomedical discourse reflects an attempt to control or gain control of the way in which risk is being constructed in biomedical discourse, and to prompt a scientised understanding that: 1) defines the specific risks within the biomedical review genre; and 2) encourages its audience

\(^{15}\) November 5 2009 proposed amendment to Health Legislation (Midwives and Nurse Practitioners) Bill 2009 and Midwife Professional Indemnity (Commonwealth Contribution) Scheme Bill.
(an audience very familiar and aligned with a process of reaching conclusions based on a process of measurement and calculation) to consider the probability of such risks occurring. It is important to note that the agendas of those presenting risk-based articles in journals like the *MJA* may be quite different. Some authors like MacLennan (2006, 2002) and Dwyer (2004), both of whom are biomedical practitioners operating in hospital environments, are significantly less positive about the role of CAM in the Australian healthcare system.

The comment by Myers and Cheras that ‘any pharmacologically active product is likely to have adverse effects’ (2004: 222), along with their stated position on the need for pharmacovigilance (‘postmarketing surveillance’) demonstrates an engagement by the authors in the process of legitimisation by Australian advocates of HM in the mainstream healthcare system. The argument being applied about ‘pharmacological activity’ does suggest risk, but only as a secondary concern to a much more significant and powerful factor: that of efficacy.

In their 1997 article about HMs and safety, Drew and Myers make the distinction between adverse effects which should be defined as either ‘intrinsic’ – a direct reaction to the herb itself that is either predictable or idiosyncratic (ie allergic reactions or interactions with pharmaceutical drugs) – or ‘extrinsic’ – risks that are a result of the human involvement with creating the HM product, such as misidentification, poor manufacturing practice, adulteration, contamination and incorrect dosage. For the purposes of my research I have added several factors to the ‘extrinsic’ risk category: ‘self-treatment’, ‘misuse’, and ‘discouraging use of biomedical therapies’, as these issues arose with some frequency in the preliminary *MJA* content analysis and were subsequently included in the risk coding categories. This delineation of the reasons for adverse reactions to HM and CAM products as defined by Drew and Myers (1997) and Myers and Cheras (2004) can be viewed in Table 3-1.
Table 3-1 Reasons for adverse reactions to HM or CAM products
(adapted from Drew & Myers, 1997: 56)

<table>
<thead>
<tr>
<th>Intrinsic risks (Type A) Predictable reactions</th>
<th>Intrinsic risks (Type B) Idiosyncratic reactions</th>
<th>Extrinsic risks Manufacturing, marketing, and misuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herb-drug interaction</td>
<td>Dose-related reaction (ie long-term usage = toxicity)</td>
<td>Allergic reaction</td>
</tr>
<tr>
<td>Predictable reactions</td>
<td>Idiosyncratic reactions</td>
<td>Misidentification</td>
</tr>
<tr>
<td>Predictable reactions</td>
<td>Idiosyncratic reactions</td>
<td>Lack of standardisation</td>
</tr>
<tr>
<td>Predictable reactions</td>
<td>Idiosyncratic reactions</td>
<td>Contamination</td>
</tr>
<tr>
<td>Predictable reactions</td>
<td>Idiosyncratic reactions</td>
<td>Substitution</td>
</tr>
<tr>
<td>Predictable reactions</td>
<td>Idiosyncratic reactions</td>
<td>Adulteration</td>
</tr>
<tr>
<td>Predictable reactions</td>
<td>Idiosyncratic reactions</td>
<td>Incorrect preparation/dosage</td>
</tr>
<tr>
<td>Predictable reactions</td>
<td>Idiosyncratic reactions</td>
<td>Inappropriate labelling or advertising</td>
</tr>
<tr>
<td>Predictable reactions</td>
<td>Idiosyncratic reactions</td>
<td>Self-treatment / misuse</td>
</tr>
<tr>
<td>Predictable reactions</td>
<td>Idiosyncratic reactions</td>
<td>Discouraging use of biomedical therapies</td>
</tr>
</tbody>
</table>

The backgrounding of risk theories and the issues surrounding HM and notions of risk in this section has highlighted the agenda-setting involved in discursive strategies about HM risk. An integral component to risk is the role of scientific knowledge, which is discussed in the following section.

3.3 The impact of scientific knowledge

Following on from the critique of medical dominance and the tactics of legitimation used by its stakeholders to support biomedical hegemony discussed in the previous chapter, it is pertinent to contemplate the sociological forces at work in relation to scientific knowledge itself. ‘Science’, said Albert Einstein, ‘is the attempt to make the chaotic diversity of our sense-experience correspond to a logically uniform system of thought’ (1954: 323). Science is the activity of investigating natural phenomena, using observation, experimentation and classification. Scientific knowledge is what occurs as a result of this process.

It has only been in the last 100 or so years that scientific theories have ‘appreciably extended our control over natural phenomena’ (Fuller 1996: 30). This control permeates all aspects of society, including health, information access, education, industry, commerce, military, and the media.
Scientific knowledge as an extremely powerful sociocultural phenomenon reached its zenith, largely unchallenged, throughout the first seven decades of the 20th century, relentlessly driven by a steadfast (and seemingly impenetrable) conviction of progress. The global impact of science is noted by Drori and colleagues (2003: 10), who laud the sciences, science experts and science education as the ‘central locus of the culture or knowledge system of modern globalising world society’. Critiquing science in its sociopolitical context, Steve Fuller offers a rather more critical perspective on science, identifying the major problem of colonisation and assimilation:

…efforts to Westernise Third World curricula for purposes of rendering the natives “governable” by making them epistemologically accountable to standards that Western authorities can understand and evaluate (1996: 38).

Like Fuller, many other sociologists including Barnes (1977); Böhme & Stehr (1986); Bourdieu (1981); Dickson (1988); Foucault (1980); Habermas (1971a); Marcuse (1966); Nelkin (1996); and Ross (1996) have expressed their concerns about the ‘monopoly of scientific authority’ (Bourdieu, 1981: 257), a culture often accused of being as elitist as it is Eurocentric. An important point made by Böhme and Stehr (1986: 9) is the way in which scientific knowledge is universalised, harnessed as a ‘major societal resource’ and used to justify authority at the sociopolitical level. Such criticisms, often digging at the corrupting influences of wealth and power, have prompted accusations of ‘anti-science’ from ‘science warriors’ like Gross and Levitt, the authors of Higher Superstition: the Academic Left and its Quarrels with Science (1994). The point lost to Gross and Levitt, however, is that these sociologists are not setting about to negate the merits or benefits of scientific endeavour and scientific knowledge – rather, they are calling to task the motives for it in the context of Western industrial modernity. As Ross argues, ‘the rise of a privatised knowledge society does not translate into a scientifically informed citizenry’ (1996: 12). Dickson (1988) explores the specific components (relevant to the mid- to late-1980s) of what Eisenhower had termed the ‘military-industrial complex’, and also investigates the role played by universities and industry in the commoditisation of knowledge, questioning the social worthiness of this phenomenon of ‘public institutions doing public business’ (1988: 103). Levins takes this contention further in his critique of ‘commoditised science’, suggesting that, as a product of capitalism, science shares capitalism’s ‘liberal progressivist ideology that informs its practice and that it helped mould…It proclaimed universal ideals that it did not quite mean, violated them in practice, and sometimes revealed those ideals to be
oppressive even in theory’ (1996: 184). Levins is not really talking about science as an activity in its own right, but about the constructed versions of it. Wynne has argued that science, as an expert system of knowledge, is ‘dripping with impoverished and expropriated meanings, and ones in which there is no longer ordinary participation and access’ (1996: 60).

Criticisms of the culture of science are not exclusive to sociologists, social scientists or philosophers of science. Scientists too have been critical of the potentially corrupting social, political and economic influences on science. The need for scientists to think beyond the narrow scope of science – whereby it is held up as a ‘universalistic a-social monolith’ (Locke, 2001: 2) – and consider the nature of their own thinking processes was addressed by Einstein in 1936:

> The whole of science is nothing more than a refinement of everyday thinking. It is for this reason that the critical thinking of the physicist cannot possibly be restricted to the examination of the concepts of his own specific field. He cannot proceed without considering critically a much more difficult problem, the problem of analysing the nature of everyday thinking (1954: 290).

The problematic influences of materialism and political power on science have placed scientific knowledge at a crisis point in its history, which is also a feature of risk society, as argued earlier in Section 3.2. Aronowitz (1988: 152) suggests the modern social relations of science are a result of the ‘subordination of science to the needs of industry in the mid-nineteenth century and thereby the inscription of scientific theory into the forces of production’.

The elite standing of scientific expertise, which is often shrouded in mystique, is directly attacked by Latour and Woolgar:

> Science, in general, generates too much hope and too much fear, and the history of the relationship of scientists and non-scientists is fraught with passions, sudden bursts of enthusiasm, and equally sudden fits of panic. If the public could be helped to understand how scientific knowledge is generated and could understand that it is comprehensible and no more extraordinary than any other field of endeavor, they would not expect more of scientists than they are capable of delivering, nor would they fear scientists as much as they do (1986: 13).

Latour and Woolgar’s endeavour to demystify or desacrilise science in *Laboratory Life: The Construction of Scientific Knowledge* (1986) leads to the discussion of how something like
scientific knowledge can be ‘constructed’. The next section elaborates on how scientific knowledge is constructed, which is relevant to investigations of risk reporting in particular, given the role science plays in risk discourse.

3.3.1 The construction of scientific knowledge

The idea that our consciousness is determined by our role as social beings was articulated by Karl Marx in *Die Fruhschriften* from 1843-44 (1975: 7). This concept lies at the origins of the sociology of knowledge (Berger & Luckmann, 1967: 17). In *Ideology and Utopia* (1936) Karl Mannheim introduced a method of ideological analysis, which distinguished itself from Marx’s approach by taking into account all of the social factors that influence thought. These include one’s own thoughts as well as those of one’s adversaries (Mannheim 1936, cited in Thompson, 1990: 49), and had the objective of providing ‘a revised view of the whole historical process’, or a ‘self-reflective historicism’ (Thompson, 1990: 51). In this way, the matter of ideology broadened from its restricted social and political contexts into frameworks that were epistemological and historical as well (Berger & Luckmann, 1967: 21).

Social constructionist accounts of scientific knowledge are concerned with the authority of science in the context of culture, politics, history and materialism. In *The Structure of Scientific Revolutions* Thomas Kuhn (1962) raised the notion that scientists are part of a rigid social culture which adheres to an inflexible framework of knowledge, rules and procedures that he defined as a ‘paradigm’. Scientists’ adherence to their paradigm is reflected in the way in which they follow the rules, without questioning or arguing about the legitimacy of the particular problem or solution that may be their focus (Kuhn, 1962: 46). In the contemporary field of research into Korean Medicine (KM), Kim draws attention to the way in which KM laboratory research simply adheres to the paradigm of biomedical research in its focus on proving efficacy of KM, rather than ‘initiating innovative research’ (2007: 875). This point could be argued across the board for much research into Western HM, which also focuses on isolating active constituents and engages in the political process of proving efficacy.

Following on from Kuhn, the idea that science entails a community or a ‘tribe’ of people who engage in the day-to-day business of constructing scientific knowledge has been sociologically explored by Campbell (1979), Jagtenberg (1983), Knorr-Cetina (1981), as
well as Latour and Woolgar (1986), whose research applied an anthropological methodology. Latour had spent two years in the Salk Institute for Biological Studies in California, where he recorded ‘the routine exchanges and gestures which pass between scientists and the way in which such minutiae are seen to give rise to “logical” arguments, the implementation of “proofs”, and the operation of so-called “thought processes”’ (1986: 151). The authors point out that the laboratory setting is a place where the workers are faced with chaos, and where their daily work entails ‘the confrontation and negotiation of utter confusion’ (1986: 36). This is a site where scientists ‘struggle to produce order’ out of disorder, and the authors go so far as to suggest that the ways in which scientists negotiate ‘what counts as a proof and what constitutes a good assay’ are no different from arguments between lawyers or politicians (1986: 237). The matter of establishing, maintaining or enhancing credibility is critical in the laboratory setting, according to Latour and Woolgar’s account. This is where the authors do much to unveil the inherent subjectivity that lies within science practice, much to the consternation of Gross and Levitt (1994). The knowledge produced in the laboratory becomes influenced by the ‘large cycle of credibility investment’ which is integral to the world of scientists, it is a place where ‘credibility facilitates the synthesis of economic notions (such as money, budget, and payoff) and epistemological notions (such as certitude, doubt, and proof)’ (Latour & Woolgar, 1986: 238).

Although Gross and Levitt concur to some extent with the view of the cultural subjectivities of scientific practice, they argue that perspectives such as Latour and Woolgar’s leave no room for enabling the distinction between ‘reliable knowledge’ and mere ‘superstition’ (1994: 45).

Concurring with the principal approach by risk sociologists Beck, Giddens and Lash, I would suggest that the 20th century antagonisms towards science and scientific knowledge (and these do not just occur in a vacuum of sociology, they are prevalent in forms of popular culture) reflect the development of an increasing consciousness, scrutiny of and disenchantment with elite forms of knowledge and practices, and the relationships these have with power, prestige, and wealth. For example, the poststructuralist position that Foucault advocated was concerned less with the ‘contents, methods or concepts of a science’ than with the ‘centralising powers’ of the scientific institution or discourse. It is upon this precept
that Foucault famously called for the ‘insurrection of knowledges against the institutions and
effects of the knowledge and power that invests scientific discourse’ (1980: 87).

The religious-like quality of science in modernity in terms of its role in organising meaning
in society (van Krieken et al., 2000: 483) has been articulated by both proponents (Drori et
al., 2003) and critics (Feyerabend, 1975) alike.

3.3.2 The process of scientisation
Medicalisation, the process by which medical interventions are normalised or by which
nonmedical problems become defined and treated as medical ones, was discussed in the
preceding chapter (Section 2.5). The process of defining (or, one could argue, ‘reducing’) a
thing, an activity or a system into the methodological (and elite) parameters of science is
how Habermas conceptualised ‘scientisation’:

The reified models of the sciences migrate into the sociocultural life-world and gain objective power
over the latter’s self-understanding. The ideological nucleus of this consciousness is the elimination
of the distinction between the practical and the technical (1971b: 88, original italics).

Scientisation occurs when science moves into the social world and imbues objects of what
Habermas (1971b) coined the ‘life-world’ with specifically scientific meanings and
definitions. This is a transformational and highly political process for the object being
scientised. The changing status and role of botanical products in industrial modernity
provide useful examples of scientisation in effect. Kim (2007: 870) has demonstrated how
Korean Medicine (KM) has been scientised via the laboratory, where the medicines become
transformed from clinical objects (occupying a clinical setting) into scientific objects. This
transformation results in subjugation of KM professionals who must ‘construct their
knowledge in interactions with science and biomedicine’ (2007: 857).

The language too is transformed from its traditional realm: Kim refers to Oriental medicine16
terminologies about the six meteorological factors of Wind, Cold, Heat, Dampness, Dryness,
and Summer Heat that can cause disease are permitted no place in biomedical journals or
other biomedical forms of discourse (2007: 862). This ‘migration’ of scientific concepts into

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16 It is important to acknowledge that the use of the term ‘Oriental medicine’ is distinctive to CAM discourse
and is based on the same principle of vitalistic force or ‘qi’ that characterises many CAM practices. This
covers a range of traditional therapeutic approaches from Asian countries such as China, Japan, and Korea.
the aetiology of KM results in the reduction of the aetiology to the specific pathology understood in the context of scientific physiology. KM thus becomes scientised and ultimately reduced to a mode of understanding suited to the current scientific paradigm. The disconnectedness from the traditional knowledge system which occurs as a result of this process has also been discussed by Lock (1990); Scheid (1993); Zhan (2001); Banerjee (2002); Singer and Fisher (2007); and Evans (2008a, 2008b).

Böhme and Stehr (1986: 125) refer to scientisation as ‘the penetration of all spheres of life by scientific knowledge’, resulting in ‘a gradual transformation of the life-world and the realm of social action which makes scientific concepts and technological procedures applicable’. Before extrapolating the issues raised by scientisation in relation to HM, it is necessary to demonstrate exactly how HM is being scientised.

In industrialised countries there are a number of indicators of the scientisation of HM practices and products, which are also inextricably entwined in a commodification process. Aspects of scientisation in relation to HM have been discussed by VanMarie (2002), Jagtenberg and Evans (2003), Jagtenberg et al. (2006) and Evans (2008a, 2008b).

One key indicator of the scientisation of HM is the increasing popularity and support for laboratory-based research in the science disciplines of phytochemistry, pharmacology, pharmacognosy, chemistry, toxicology, and botany. This type of research employs technologies to determine the ways in which the plant being studied may cause a physiological effect. Importantly, this involves the isolation of the ‘active’ constituents of a plant, which account for its effect. This approach involves the following procedures:

- Selection, collection, botanical identification, and preparation of plant material
- Extraction with suitable solvents and preliminary analysis
- Biological and pharmacological screening of crude extracts
- Chromatographic separation of pure bioactive constituents, guided by bioassay (activity-guided fractionation)
- Structure determination
- Analysis and pharmacological profile of pure compounds
- Toxicological testing
- Partial or total synthesis
- Preparation of derivatives for studying structure-activity relationships (Hostettmann et al., 1995).
The key focus of this activity is to isolate and identify the active constituents, or bioactive molecules in a plant product, for the purposes of what researchers of this field refer to as ‘drug discovery’, or substances that can be used for therapeutic application. This may involve the development of pharmaceutical products or of standardised HM products. The notion of ‘activity’ in a plant product is linked to the idea of determining efficacy, toxicity, and quality, three important goals of the laboratory process. This scientised approach has highly commercial significance, given the focus on product development, and reflects what can be understood as a process of pharmaceuticalisation. For advocates of vitalistic principles in healthcare, this approach is limited or ‘reduced’ to requiring the discovery of an ‘active’ ingredient which explains or validates the plant as a medicine.

3.3.2.1 Evidence-Based Medicine

The turn towards evidence-based medicine (EBM) has ensured that double-blind randomised controlled clinical trialling of natural plant products has become an increasingly sought-after research activity in Australia, and is regarded (in the context of a biomedical and scientific dominant paradigm in Western industrial culture) as the most significant activity to be undertaken for validation of efficacy and safety.

EBM was devised as a method for biomedical professionals to draw from both clinical expertise and external clinical evidence and is described by Sackett as follows:

Evidence based medicine is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence based medicine means integrating clinical expertise with the best available external clinical evidence from systematic research (1996: 71).

EBM is relevant to explorations of HM representations in the media, because its principles are a powerful influence in health and science reports. They are particularly adhered to (or at least seemingly so) in biomedical journals like the Medical Journal of Australia (MJA). The findings from the newspaper analysis presented in Chapter 7 show that health and science reporters also demonstrate reverence to EBM principles, and are unlikely to question its validity, particularly in relation to articles about HM. This tendency towards uncritical reverence in science or medical reporting has been noted by Moynihan et al., 2000 and Moynihan and Cossels, 2005, and more recently by Lewis, Orrock and Myers (2010).
EBM uses a hierarchy of evidence, with systematic review (with homogeneity) of randomised controlled trials (RCTs) at the very pinnacle of the hierarchy (see Figure 3-2). At the bottom end of the hierarchy is experience gained from clinical practice. EBM has held sociopolitical appeal for HM and CAM advocates because if RCTs, for example, are positive, it ‘supersede[s] any criticism of its use’ (Evans, 2008a: 96) and becomes firmly legitimised within the biomedical paradigm. Evans refers to this as the tantalising ‘carrot’ for HM advocates (2008a: 96). The inadequacies of EBM in HM practice have been highlighted by Coulter and Willis (2004, 2007), Jagtenberg et al. (2006), Singer and Fisher (2007) and Evans (2008a, 2008b). These authors are concerned with the incongruousness of integrating a reductionist paradigm like biomedicine with that of CAM, which is based on principles of vitalism and holism:

Vitalism lies at the heart of natural medicine, a deep respect for the body’s self-healing capacity and a commitment to working with that innate force. Vital force! How does the RCT cope with that! (Jagtenberg et al., 2006: 327).
As discussed in the previous chapter, a growing and primarily consumer-driven commercial industry of HM and dietary supplement products in Australia inevitably drew government attention in the late 1980s, resulting in the Therapeutic Goods Act in 1989 (Evans, 2008a). Evans points out that by legally defining these products as ‘therapeutic’ the government was also demonstrating a level of acceptance of their medicinal value (2008: 72). Whilst the manufacturing standards for HM and other products needed to be at the level required for pharmaceuticals, the claims and labelling permitted for the products have less restrictions, which has been the source of much contention from biomedical circles, a point which is illuminated in the discussion of the newspaper content analysis findings presented in Section 7.3. The main issue expressed by opponents to the current regulatory framework is that manufacturers can make claims (albeit restricted claims) without needing to undertake RCTs.
of their product.\textsuperscript{17} This aspect of the Australian Therapeutic Goods Act 1989 suggests a tolerance, or a level of acceptance, of the validity of claims about traditional usage. It also perhaps reinforces the point made by Coulter and Willis (2007: 218) about the consumerisation of healthcare being a driving force for the success of the CAM movement (rather than scientifically proven efficacy in accordance with EBM principles – although this is changing, as discussed in Chapter 7), as well as what has been termed the ‘postmodern greening’ of society, articulated by Jagtenberg and McKie (1997), Siahpush (1998) and Coulter and Willis (2007). Notably, the Therapeutic Goods Act has had some amendments in the wake of the Pan Pharmaceuticals event, however, these are associated with good manufacturing practice, not product claims or labelling requirements. This has been discussed in the previous chapter (Section 2.8).

Van der Ploeg (in Wynne 1996: 70-72) contrasts scientific and indigenous approaches to potato farming. Whilst the indigenous culture based the selection of seeds on the appropriate environmental conditions in which they were to grow, monitoring and adapting this selection over ‘a long and complex feedback cycle’, in the laboratory science devised the ‘ideal genotype’ that did not take into account the intricacies of farming practices and routines. Van der Ploeg concluded that the modernising influences of scientisation in farming ironically brought about the reinforcement of something one may have expected science to eliminate: ‘myths, vagueness, poly-interpretability and a certain subjectivity in the relation to nature’ (in Wynne 1996: 72). At the same time these elements were ‘reinforced and extended to farmers’ relations to science itself.’

This issue is raised by Wynne to demonstrate the approach by scientific culture to that which is ‘standardisable…as if [it were] an industrial mass-product, then attempts to reorganise the world to optimise the production of this standard universal ideal type’ (Wynne, 1996: 71). This perspective on the issue of standardisation can be applied to similar approaches in HM regulation, where standardisation of products has been called for. The pro-standardisation position argues for consistency and safety by standardising products, especially given the variability and vulnerabilities of HM at the primary production and manufacturing stages (with problems such as contamination, adulteration and misidentification potentially arising).

\textsuperscript{17} The Pan Pharmaceuticals event, discussed in the previous chapter (Section 2.12), highlighted the flaws in the rigour of regulation, although this was a manufacturing issue, not a product claims issue.
3.3.3 Solutions and possibilities for the science monolith

There is a suggested need for those studying scientific knowledge from sociological and anthropological perspectives to actively engage in the ‘complex ways of making knowledges and meanings’ rather than merely applying a critique (Zhan, 2001: 475). Engagement rather than just reaction or deconstruction would seem, in the context of social issues like health, far more productive and useful. In her anthropological study of the influence and impact of science on the everyday discourse and practice of traditional Chinese medicine in Shanghai and San Francisco, Zhan (2001: 475) calls for the need to explore ‘more fluid and participatory ways of envisioning, producing, and analysing science…by considering science as translocal, open-ended processes and networks for knowledge, identity and community formation’. Complementing this approach of engagement, Harding (1996) proposes a ‘borderlands epistemology’ in which individuals and local institutions would have a consciousness of the resources and limitations of knowledge systems:

Instead of the sciences being “smart” and cultures dumbly following their “directions”, cultures and their members would become “smart” and learn when to use one science as a reliable guide and when to use another; what to value in modern sciences and what to value in other knowledge systems (1996: 24).

Harding’s ‘borderlands epistemology’ makes use of the most appropriate knowledge for the individual, given their circumstance, and urges the interaction with a whole ‘collage’ of knowledges, rather than a strongly delineated border between the lay people and those within science itself. Her suggestion is perhaps closer to being realised than may be expected. ‘Medical pluralism’ is an increasingly potential phenomenon where the borders between different knowledge systems are starting to be crossed. Holistic health centres in Australia combining the services of GPs, psychologists, psychiatrists, and nutritionists with naturopaths, osteopaths and acupuncturists are a reflection of health practitioner boundaries becoming less severely demarcated (Phelps, 2010), and collaboration is a concept being raised in more recent Australian biomedical discourse, as the findings from my primary research indicate (Section 6.4.11.4). The need for collaboration between therapists has also been raised in a 2005 Senate report (SCARC, 2005: 95). Medical pluralism is already obvious in Australian health care usage and habits, reflected by people tending to use multiple knowledge systems rather than ‘integrated’ ones (Thorpe, 2008: 416). This trend towards medical pluralism has also been noted in relation to people in Australia who have cancer (Broom, 2009: 1052; Broom & Adams, 2009: 322).
This section has highlighted the important role of science in a sociocultural and political context, as well as the scientisation of HM. Science is implicated in the discourses about HM, given its important role in legitimising and validating HM for reasons that are both political and economic. Motion and Doolin have acknowledged the interdiscursive role of scientific discourses, which ‘draw upon, interrelate, compete and struggle with other discourses in order to both represent and also constitute science-oriented knowledge’ (2007: 67).

The previous sections have discussed risk and scientific knowledge as important phenomena in my research focus. Another integral component is media representation, which is discussed in the following section.

3.4 Media magnitudes: a review of media representation research

The question of media representation is crucial because of the magnitude of the impact and influence of ‘the media’ – in its multitude of forms – in Western, industrial modernity (Johnson-Cartee, 2005: 13-14; Schudson, 2003: 6). As argued in Chapter 1, the media has power because it is a product of our society’s ‘need to know’ (Noelle-Neumann 1973, 1981 in Johnson-Cartee 2005: 13), it attracts and directs public attention, it may persuade opinion or belief, it can influence behaviour, and may influence how we define reality (McQuail, 1994: 69).

A social constructionist approach to knowledge and risk is highly applicable to the following review of the issues and literature relevant to media representation broadly, and the media reporting of HM specifically (social constructionism as part of the design of this research is discussed in Section 4.3). Sociologists and media theorists have referred to media representation as a ‘manufacturing’ process whereby an interplay of news-workers – notably journalists, editors or producers, media owners, as well as the very culture of the news-making institution itself – functions to re-create and narrativise information or ‘news’ that people will read, listen to or view (Cottle, 1995; Goode & Ben-Yehuda, 1994; Herman & Chomsky, 1988; Parsons, 1995; Schudson, 2002; Seale, 2003a; Torfing, 1999; Tuchman, 1976). ‘News’, explains Tuchman, ‘like all public documents, is a constructed reality possessing its own internal validity’ (1976: 97). ‘News then’, Schudson comments provocatively, ‘like bread or sausage, is something people make’ (2008: 55). At the same
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time, news is a culturally available resource which contains narratives, stories, discourses, systems of knowledge, and ideologies, each of which play a significant role in the construction of the ‘modern self’ (Seale, 2003a: 514). An integral component of media representations is the role of narrative, which as Gwyn observes, is ‘the most convincing resource with which to make rhetorical acts’ (2002: 2).

Australian media audiences must negotiate their way through a barrage of inconsistent and sometimes conflicting information about health products and therapies (Lewis et al., 2010: 71). Journalists too can find themselves inundated with such information from a wide range of sources which may include the companies who manufacture and sell the products, the researchers who may wish to promote their research findings and build a public profile, the professionals who wish to promote the product in the context of their practice, the professionals to whom the product or therapy poses a threat, and the institutions engaged in promoting the breadth of their research activities (Lewis et al., 2010; Wilson et al., 2009: 1).

Modern approaches to media analysis generally attempt to go beyond the passive recipient notion articulated in materialist sociological discourse such as that of Herman and Chomsky (1988), or what is referred to as the linear ‘hypodermic model’ adopted by the Frankfurt School (Charters, 1933), whose approach was limited by the assumption that the public are defenceless against the ‘injection of messages’ from the ‘indoctrinating’ influence of the media (Gans, 2003: 70; McNair, 2006: 42; Schudson, 2003: 23). A number of media theorists have argued this perspective is oversimplified, and does not take into account the complex nature of journalistic culture and news-making (Allan, 2004: 69; Gans, 2003: 70; Johnson-Cartee, 2005; McNair, 2006: 42; Schudson, 2003: 8; Seale, 2003b: 23).

Seale has suggested the need for more audience studies exploring the consequences of inaccuracy in media reporting, given the variety of ways in which audiences may interpret and respond to media messages (2003b: 51). Kitzinger points out the dearth in research of audiences’ responses to risk reporting specifically (1999a: 57). Weeks and Strudsholm (2008) also highlight the importance of audience reception studies in media analysis research, particularly in relation to HM or CAM, which has been little explored.

A more sophisticated sociological approach to media analysis should aim to take into account what Schudson refers to as:
the blend of chance and intention, normality and catastrophe, instruments and accident, expectation and surprise, narrative and interjection that makes up the news (2003: 8).

and what Gamson describes as:

…refram[ing] the relationship between media and public opinion as the interplay of two interacting systems. On the one hand, we have a system of media discourse that frames events and presents information always in some context of meaning. On the other hand, we have a public of interacting individuals who approach media discourse in an active way, using it to construct their own personal meanings about public events and issues (1988: 165).

Any ‘distortions’ of the facts resulting from this complex range of processes and influences are not ‘personal’, Schudson (2003) argues. Rather, they are ‘socially organised distortions built into the structures and routines of news gathering’ (2003: 33). In this sense the problem lies in the very basis of the news-making culture. Concern about the social impact of these ‘distortions’ has given rise a breadth of academic areas of research devoted to media analysis in the disciplines of the social sciences and cultural studies. In Australia, the government-owned Australian Broadcasting Commission (ABC) has a program called Media Watch, devoted to scrutinising media representations in a weekly-aired program. Its approach is unforgiving of journalists who commit those offences that contravene the Australian Journalists’ Code of Ethics, the first point of which is ‘They shall report and interpret the news with scrupulous honesty by striving to disclose all essential facts and by not suppressing relevant, available facts or by distorting by wrong or improper emphasis’. The program often exposes those committing offences such as the suppression or distortion of available information, not disclosing conflicts of interest, and misrepresentation of information, for example, actions that contravene the Code. In the area of health reporting in particular, which is the focus of this research, the regularity of these media distortions has encouraged academics, practitioners and concerned members of the public to establish media ‘watchdog’ organisations in Australia like Media Doctor Australia and Healthy Skepticism.

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20 www.healthyskepticism.org.au
Media scrutiny in industrial modernity should involve, according to Allan (2004) and Schudson (2003), the turning of our attention to the techniques used by journalists in engendering their stories with ‘factual’ status (Allan, 2004: 73; Schudson, 2003: 8). Examples of these particular strategies in relation to media representations of HM, particularly regarding the discourse of risk, are discussed in Chapters 6 and 7. Both content analysis and discourse analysis have important functions for enabling a better understanding of how news – and the ‘facts’, or what Tuchman calls ‘facticity’ (1978) – are constructed. The specific purposes of content and discourse analyses are discussed in Sections 4.6 of the following chapter.

### 3.4.1 Some considerations of media effects and framing

The passive-recipient perspective of media effects is primarily flawed in its linear model of communication approach (Bertrand & Hughes, 2005: 38), which fails to credit the audience with having the capacity to interpret, accept, or reject messages in their daily news consumption. The meaning of the text, as Barthes pointed out in *S/Z* (Barthes, 1974) is generated by the encounter between the audience with the text. In her discussion of qualitative audience reception research and in relation to her own discourse analysis of medical drama television programs, Davin (2005: 40) concludes:

> Real audiences are media literate, insightful, astute…they read, re-read, modify, extend, analyse, assess, play with, learn from, and variously use broadcasts in unexpected, sometimes idiosyncratic, possibly contradictory ways according to their frames of reference, to their moods, to their situation, to their dominant identities, at a given moment.

It is important to be reminded of the polysemous nature of media texts and the variety of ways in which audiences may select, interpret and respond to these meanings (David & Sutton, 2004: 53). Importantly, Davin’s above quote does refer specifically to medical drama programs, rather than news reports, which are interpreted quite differently from television drama. News reporting and the news production process, and audience consumption of it, is discussed at greater length in Sections 3.5, 3.6 and 3.7.

Accepting that audiences may be active participants in their media consumption does not have to negate the idea that media has the power to influence people. The power of media to influence has been revealed in extensive audience effects research of news reports about social, political and health issues (Clarke et al., 2007; Iyengar, 1994; Kitzinger, 1999b;
Philo, 1993). There are hundreds of studies over the past few decades which support the hypothesis of media agenda-setting effects, as Semetko points out (2004: 360).

### 3.4.1.1 Media framing

Entman, one of the key scholars in the literature about media framing, has defined framing as follows:

> To frame is to select some aspects of a perceived reality and make them more salient in a communicating text in such a way as to promote a particular problem, definition, causal interpretation, moral evaluation, and/or treatment recommendations. (1993: 52)

More recently, Entman has described framing as ‘the process of culling a few elements of perceived reality and assembling a narrative that highlights connections among them to promote a particular interpretation’ (2007: 164).

According to media framing scholars such as Entman (1993, 2007, 2009), Iyengar (1994; 1997) Johnson-Cartee (2005) and Kitzinger (1999a, 1999b, 2007), framing is a reality-making exercise that not only involves journalists and their editors (and their news-making culture), but a larger media culture which involves news sources or ‘claims-makers’ such as ‘spin’ or public relations (PR) managers, politicians, professional and commercial representatives, as well as lay people, all of whom may attempt to influence the journalistic framing process but not all of whom have the resources or social advantages to be able to do this successfully. Any one of these claims-makers may contribute to the framing (or re-framing) process and subsequently, the construction of a perceived reality about an issue or an event (Johnson-Cartee, 2005: 59).

Framing serves to diagnose or define the problem, make a moral judgement about causal agents and their effects, prescribe remedies or treatments, and predict the likely effects of the problem (Entman, 1993: 52; Johnson-Cartee, 2005; Weaver, 2007: 143; Weerakkody, 2009: 271).

Kitzinger draws attention to the sociopolitical importance of framing analysis by pointing out:
Framing analysis has an important role in contemporary democracies. Bennett and Entman point out how communication can influence power and participation in society in both negative and positive ways (2001: 2). Media texts represent a potential site for identifying what Benford and Snow refer to as ‘the struggle over the production or mobilising and countermobilising of ideas and meanings (2000: 3, cited in Kitzinger 2007: 136). If the same patterns of certain news frames occur over a period of time, according to Entman, ‘the media may be systematically assisting certain entities to induce their preferred behaviour in others’ (2007: 166). This idea of media power and influence is a highly contested notion in the field of media studies, and is expanded on in Section 3.7.

Kitzinger (2007: 137) argues that when journalists report an event or perceived fact, they are not merely being a conduit of information – rather, ‘they are selecting highlights and directing attention to some aspects and not to others’. This argument draws attention to why framing analysis is a critical area of inquiry.

The objective of much of the representational investigations into mainstream media health reports is often to scrutinise how ‘accurately’ media report on events, particularly in relation to health reporting. Kitzinger (1999a: 61) puts forward that this approach is based on evaluating ‘media failures’ and it is problematic because it relies on the ‘accurate communication of expert risk assessments to the lay public’. This dependence on expert knowledge is problematic because this ‘cannot be expected to resolve the conflicts which inevitably arise in society over the choice and implementation of technologies’ (Cannell & Otway, 1988: 531). Exploring the way in which media representations are framed, rather than just measuring the ‘accuracy’ of the messages offers insight into these conflicts.

Political framing scholars Entman, Matthes and Pellicano (2009: 176) point out that, unlike politicians, editorial writers, bloggers and satirists, mainstream news reporters typically engage in framing with less awareness and intent that they are doing so. The media ‘frame’ can be explored by scrutinising the images, stereotypes, metaphors, actors and messages implicit in the text (2009: 180). According to Entman, Matthes and Pellicano (2009: 177), the media frame:
...repeatedly invokes the same objects and traits, using identical or synonymous words and symbols in a series of similar communications that are concentrated in time. These frames function to promote an interpretation of a problematic situation or actor and (implicit or explicit) support of a desirable response, often along with a moral judgement that provides an emotional charge.

In his review of the experimental and survey evidence on framing, media framing analyst Shanto Iyengar argues that how a news report is framed may influence decision outcomes for the individual (1994: 11). These studies explored by Iyengar included a ‘wide range of subject matter of sophistication and expertise’, suggesting that framing effects were not limited to the ‘naïve and the ignorant’ (1994: 13). Research by Clarke et al. (2007) found that audiences who expressed scepticism towards media reports and claimed to be sophisticated consumers were, when exposed to magazine articles about health conditions relevant to their demographic, surprisingly accepting of these media messages about health.

Research by the Glasgow Media Group (GMG) has also shown the extent to which media messages influence the construction of public knowledge (Philo, 2009: 414). This was conveyed in audience reception studies based on coverage of the 1984/5 miners strike (Philo, 1990), Northern Ireland (Miller, 1994), images of mental illness (Philo, 1996), and the Israel-Palestine conflict (Philo & Berry, 2004), which demonstrated the ways in which audiences understand and are able to reproduce messages conveyed to them. This of course does not mean they accept the messages and framings uncategorically, as Philo has pointed out (2009: 410, 2001: 39).

3.4.2 Issues in health reporting

In the case of health reports, research has indicated that people may gain their impressions of risk and the magnitudes of risk based on the way in which the media present information to them (DeSilva et al., 2004: 32). Collins et al. (2006: 90) describe mass media as the ‘nexus between public and policy agendas’, with the ability to ‘shape opinion and expectations about policies that, in turn, influence policy development processes’. Parsons suggests the way in which the mass media can ‘shape the context within which policy responses take place’ as well as ‘influence “public opinion” by setting a public agenda in terms of an incident or event’ (1995: 107). Media attention regarding the dangers of smoking exemplifies how media reporting has influenced smoking habits as well as government anti-smoking policies at federal, state and local levels (Otten, 1992: 112).
3 – Literature review: Framing risk, media representation, scientific knowledge and HM

Parsons explains how the media ‘select’ problems in the newsgathering process, which means they also ‘include and exclude issues, events and ideas’ (1995: 107). Errors of omission provide a good example of ‘exclusion’, as is the exclusion of questioning biomedical dominance or the scientific agenda.

Naidoo and Wills (2000) acknowledge the opposing nature of the forces at work for health and medical journalists:

People do not make TV programs or publish newspapers solely in order to provide the public with accurate health information. The entertainment agenda (and this applies to news and current affairs as much, probably, as it does to ‘fictional’ products) is more dominant, and scientists, medical care providers and health educators have increasingly come to recognise this (in Seale, 2003a: 519).

Media studies have highlighted the impact of news reporting on our acceptance and adaptation of certain types of biomedical and scientific knowledges that have been presented to us in the form of print media (Clarke et al., 2007; Davin, 2005; DeSilva et al., 2004). Print media are typically an important source where people discover health information, and also information about health risks, subsequently influencing audience attitudes and actions (Collins et al., 2006; DeSilva et al., 2004; MacDonald & Hoffman-Goetz, 2002; Moynihan et al., 2000; Schwartz & Woloshin, 2004; Seale, 2003a; Stryker, 2002; Wilson et al., 2009). Like other forms of media, newspapers carry a significant entertainment agenda that may be at odds with matters of accuracy or attention to detail (Seale, 2003a: 519). In their study of print news media coverage of type 2 diabetes, Gollust and Lantz (2009: 1097) draw attention to the political benefits of heavy exposure of a message in terms of audience impact and response to the issue from policymakers. The impact media representations can have on public policy should not be underestimated and is an important consideration in media coverage of health issues. Indeed, the sources behind the news stories may in fact have an agenda to influence public policy.

Both the disciplines of social science and biomedicine have argued there is a lack of straightforward and accurate reporting of medical research in the media (Bubela et al., 2006a; Gerbner et al., 1981; Gollust & Lantz, 2009; Karpf, 1988; MacDonald & Hoffman-Goetz, 2002; Moynihan et al., 2000; Moynihan & Sweet, 2000; Oxman et al., 1993; Schudson, 2002; Schwartz & Woloshin, 2004; Signorielli, 1993; Stryker, 2002; Voss, 2002; Wilson et al., 2009; Woloshin & Schwartz, 2006). The inadequacies of medical reporting
have been highlighted in content analysis studies by Gollust and Lantz (2009), Clarke and Gawley (2009), Wilson (2009), Verhoeven (2008), Bartlett (2007), Hayes (2007), Collins (2006), Ooi (2003), DeSilva (2004), MacDonald (2002) and Moynihan (2000), and. Specific content analyses which investigate how the mainstream media represents HM have been undertaken by a group of Canadian researchers Bubela (2008; 2006a; 2006b; 2007) and explorations of CAM representation have been carried out by (Barnes & Harkness, 1999; Carter, 2000; Clarke et al., 2010; Doel & Segrott, 2003a; Doel & Segrott, 2003b; Kava et al., 2002; Mercurio & Eliott, 2009; Milazzo & Ernst, 2006; Reddy, 2000; Weeks & Strudsholm, 2008; Weeks et al., 2007).

The work of the national medical media monitoring organisation Media Doctor Australia highlights the nature of the shortcomings of health media reports in general, including CAM. Media Doctor Australia provides regular analyses and critiques of print, electronic and online reports about biomedical and complementary therapies and products. Their rating instrument is based on a previous study undertaken by Moynihan et al. (2000) and reflects Australian Press Council reporting recommendations (Bonevski et al., 2008).

3.4.3 Findings from content analyses of media reporting on CAM

The advantages of content analysis as a method are discussed in the following chapter (Section 4.6). This section aims to review the findings from the research literature based on media representation of CAM generally.

The increase in HM and CAM usage throughout the Western world has resulted in more media reports about these products and therapies, and the issues or problems they raise in a social, political and economic context. There has been limited academic discussion of the way in which CAM is reported in the mass media, as highlighted in a scoping review by Weeks (2008). However, the increase in media coverage in Australia has warranted a specific section dedicated to the surveillance and scrutiny of CAM reports on the Media Doctor Australia website, which uses a similar framework for assessing coverage about other health interventions.

An Australian study by Bonevski, Wilson and Henry (2008) which sought to measure the ‘quality, accuracy and comprehensiveness of media reporting of CAM’ found that the

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overall quality of news reporting about CAM in Australia was poor, based on inaccuracies or
omissions (2008: 1). The highest ratings for the quality of reporting occurred for stories
about ‘biologically-based’ CAM treatments (which they defined as products that are
ingested, such as HMs, dietary supplements, vitamins and minerals, whole diets, functional
foods) and treatments for cancer, while the lowest ratings were connected to stories about
treatments for behavioural disorders in children (2008: 4). Along with stories about cancer,
heart disease items received the highest rating and both these categories had the largest
number of CAM stories (2008: 4-5). The stories from broadsheet newspapers scored higher
overall than current affairs programs on television, which concurs with previous research
undertaken by Media Doctor Australia (Wilson et al., 2009) at the University of Newcastle.

Content analyses looking at representations of dietary supplements (Kava et al., 2002; Shaw
et al., 2009) and antioxidants (Uusitalo et al., 2000) have referred to the problems with
media reports in terms of accuracy of product claims (Shaw et al., 2009), omission of
information about safety (Kava et al., 2002; Shaw et al., 2009), and confusing and
conflicting information from ‘experts’ (Uusitalo et al., 2000).

One of the most recent content analyses of media reports is by Clarke and colleagues (2010),
which examines and describes the portrayal of CAM in mass print media magazines.
Unfortunately, the paper does not qualify its definition of ‘CAM’ as such, and whether or not
the articles were referring to products alone or therapies that involved a CAM practitioner.
This point of clarification is particularly important in CAM media research, as much of the
generalisations about usage fail to distinguish between the specific CAM products which
may be independently purchased and ingested, like herbal remedies for example, and those
therapies that are practitioner-dependent such as osteopathy and acupuncture (Spence &
Ribeaux, 2004: 132). This ambiguity can result in the representation of data that is
misleading.

Clarke et al.’s study (2010), which combined manifest and latent analyses, was not
concerned with accuracy as such, but rather, endeavoured to gain a broad picture of the
themes which have emerged about CAM in Canadian and US magazines (all with a
circulation of over one million) since 1980. The study found three main emerging themes in
its framing analysis: 1) Medicalisation persists; 2) Individualism and consumerism are
venerated; and 3) Costs. Whilst this is an interesting component of the study, it is
unfortunate the latent analysis approach did not measure the frequency of the themes or frames identified as being significant to the study. This would have provided a clearer picture of how CAM is being discussed (and with what frequency) by the Canadian and US print media, the more pervasive themes in the discourse, and how this discourse has changed over two decades.

The manifest analysis component of the Clarke et al. study (2010) sought to measure the frequency of references to specific health conditions in the CAM context, as well as the use of terminologies about ‘patient’ versus ‘consumer’, the frequency of references to gender, and the focus on disease or wellness. There was a much higher reference to ‘patient’ than ‘consumer’ and a stronger focus on ‘disease’ rather than ‘wellness’ in the CAM context, which would suggest that CAM is being talked about as a treatment for illness rather than a preventative measure. The authors argue this reporting approach is reflecting a biomedically-based perspective, rather than a CAM perspective, which they suggest would be more inclined to focus on ‘wellness and consumers’. Whilst this is possible, given the influence of medical dominance, and particularly medicalisation (phenomena which have been discussed in Sections 2.4 and 2.5) this inference by the authors should also take into account the matter of newsworthiness, a critical requirement in journalistic culture and newsgathering. In journalistic culture, the topic of illness and disease is deemed far more interesting than that of wellness (Seale, 2003a: 518). At the same time, the influence of biomedical dominance in media reports is reflected by journalists’ uncritical approach to it. This has been demonstrated in studies of pharmaceutical representation by Moynihan et al. (2000, 2005) as well as a study of Australian mainstream newspaper representations of systematic reviews about antioxidants and dietary supplements (Lewis et al., 2010).

The conclusions from the Clarke et al. (2010) study pointed out ‘there is a sort of battle’ going on in the media portrayal of CAM, which involves competing truth-claims about the importance of biomedical standards and knowledge, the instability of biomedical dominance, as well as the notion of the independent CAM consumer and issues of cost.

One content analysis stands out for its analysis of biomedical journal advertising content and the correlation of journals publishing articles about dietary supplements (Kemper & Hood, 2008). Published in *BMC Complementary and Alternative Medicine*, they found biomedical journals (from the US, Canada, and Britain) with a high rate of pharmaceutical advertising
had a much lower frequency of articles about dietary supplements compared with journals with fewer pharmaceutical advertisements. In addition to the lower frequency of articles about supplements, the data also showed that articles about the safety of dietary supplements tended to draw more negative conclusions. This is the only study to analyze the commercial connection between advertising and editorial content. One other study (Bubela et al., 2008) has compared CAM and pharmaceutical representations in newspaper reporting. This study is discussed in the following section.

### 3.4.4 Studies of herbal medicine representation in the media

Research by a group of Canadian researchers has focused on how HMs specifically are being reported on in the media (Bubela et al., 2006a, 2006b, 2007, 2008). HM and dietary supplements are the only specific CAM products that seem to have been researched in relation to media representation to date. Other studies have been more general in scope about CAM, with the exception of two studies which took into account the specific product or therapy representations within their broader analysis of CAM reports (Bonevski et al., 2008; Milazzo & Ernst, 2006).

The Canadian group of researchers had framed their research around errors of omission and under-reporting of risk, in addition to a lack of disclosure of clinical trial funding and potential conflicts of interest. However, in contrast to the findings of numerous print media analyses, which have noted that newspaper reports about CAM are largely positive and uncritical (Ernst, 2004; Kava et al., 2002; Milazzo & Ernst, 2006; Shaw et al., 2009), Bubela, Boon and Caulfield discovered that newspaper coverage of herbal remedy clinical trials was more negative, particularly in comparison to pharmaceutical trials. They also suggest the ‘explosion’ in clinical trials of HMs is not reflected in newspapers, which are more likely to report positive anecdotal stories or negative results from clinical trials (Bubela et al., 2006a, 2006b, 2008). One explanation for the media not reporting clinical trial outcomes is the reliance by medical reporters on primary peer-reviewed biomedical journals (van Trigt et al., 1994: 639) which do not regularly publish CAM research articles. There are varying suggestions as to why this is the case – for example, rejections by the journals due to problems of quality in the research (i.e. that does not meet the requirements of biomedical research), the rise in CAM journal publications that are peer-reviewed, the favouring of research with negative results, or even publishing bias against CAM articles generally (Barnes & Harkness, 1999; Bubela et al., 2006b; Resch et al., 1997).
3.4.5 **Representations of CAM in the context of cancer**

Content analysis studies by Mercurio and Eliott (2009), Weeks, Verhoef and Scott (2007) and Milazzo and Ernst (2006) have investigated print media representation of CAM in relation to cancer specifically. The most recent Australian study about media representations of CAM in the context of cancer found that positive reporting outweighed negative reporting by almost two to one during the period 1998-2007 (Mercurio & Eliot, 2009). The findings were similar to the 2008 Media Doctor Australia study; those CAM treatments defined as ‘biologically based’ were the most frequently represented in the media, with herbs and other dietary supplements being the most common in this study. Two thirds of articles focused on benefits (67.2%) whilst just over half (53.8%) discussed possible risks. Personal anecdotes and testimonials and biomedical practitioners were almost equally cited sources of evidence, and research published in journals was the least used source. The researchers expressed concern about the frequency of CAM being represented as potentially curative, without ‘contradiction or correction’. The study, which included framing analysis, revealed that in the context of cancer, CAM was presented most frequently as:

...safe, normal and necessary and as a legitimate form of care that could effectively boost biomedical treatments, support the patient, relieve symptoms, and, with biomedicine, cure cancer (Mercurio & Eliott, 2009).

When CAM was represented negatively, it was conveyed as the diametric opposite:

An unwise and unnecessary undertaking, given its questionable validity and risky nature (particularly in comparison to biomedicine) and its association with practitioners described as possessing malevolent and unscrupulous intent (Mercurio & Eliott, 2009).

Such binary oppositions may culturally guide journalists in their pursuit of the narrative, seeking stories ‘with legs’ and which also offer a form of commentary on public life (Schudson, 2003: 179-180). The creation and exploitation of oppositions within the actual story itself is also an important feature of narrative, and much used in media health representations (Seale, 2003a: 518). The first framing example from the Mercurio and Eliott (2009) study provided above exploits what is arguably one of the most important oppositions in health reporting: the opposition of life (being cured or restored by the medicine or
therapy) with the ‘threat, or actuality, of death’ – a favoured narrative technique blamed for the enduring appeal of television medical soap operas (Seale, 2003a: 518; Turow, 1989).

Other studies about media representations of CAM use in the context of cancer in the UK (Milazzo & Ernst, 2006) and Canada (Weeks et al., 2007) have shown, as in other studies of CAM reports by the mass media, information is typically positive and uncritical, with a potential for providing misleading information. In the Canadian study (Weeks et al., 2007), botanical medicines were one of the most frequently referred to products in the media with a frequency rate of 20.5%, and in the UK they had a lesser frequency of 9.4%. The Canadian study also showed magazine articles were more likely than newspapers to represent CAM in a positive way (Weeks et al., 2007). This highlights that media cultures may differ between the type of media organisation as well as the medium, which indicates the difficulty in generalising about CAM representations across the media. The difference in quality of reporting between mediums was highlighted in the 2009 study by Media Doctor researchers, who found commercial current affairs television programs were of a lower quality than newspaper stories (Wilson et al., 2009: 3).

Like the Mercurio and Eliott (2009) study in Australia, the Canadian study indicated that preferred sources were personal anecdotes (Weeks et al., 2007). When the results from the Weeks et al. (2007) study are isolated to newspapers, personal anecdotes (by 35%) and biomedical practitioners (by 12%) are more common sources. Published research articles are used more often as a source in Canada by 7% and private industry is used more frequently as a source in the Australian study by 7%. This distinction in reporting may be indicative of important differences in journalistic culture as well as the differences in the sociocultural prominence of biomedical dominance between countries.

The results from these studies are discussed in relation to my own primary research findings in Section 8.3.

### 3.4.6 The limitations of content analysis

As noted in the discussion of research design in Section 4.6, content analysis is an efficient and unobtrusive method for tracking the frequency of ideas, opinions and political leanings in texts (Krippendorff, 2004: xiv). It enables the researcher to measure and compare the categories created, for the purposes of interpreting message characteristics (Neuendorf,
2002: 1; Stokes, 2003: 66). In the following chapter, I also point out that it should not be assumed the content analysis process is free from the effects of bias. The process of determining coding categories can be highly subjective (McKee, 2001: 14). Whilst some of the content analyses discussed in this section have looked for the emergence of sociological themes about CAM, such as the Clarke et al. study (2010), many others have focused on questions of scientific accuracy and the omission of information argued to be important in health reporting. These latter studies are generally uncritical of the scientific agenda, a problem noted by Seale (2003b: 61).

Whilst the content analyses considered here present assumptions from the data, they do not incorporate extensive audience effects discourse into their studies, nor do they include analyses of audience reception. Audience reception studies were not possible within the scope of this research, but may be useful as a further offshoot of it in the future.

### 3.4.7 Sociological treatments of CAM media representation

Several studies have discussed CAM media representation in a more in-depth sociological context (Doel & Segrott, 2003a, 2003b). Doel and Segrott, in their analysis of health and lifestyle magazine articles in the UK, as well as in-depth interviews with the editors of these publications, have noted the ‘multiple identities’ of CAM (2003b: 134-137), which are defined as:

*The ‘pragmatic tool kit’* - CAM as a collection of tools that may cure illness or relieve symptoms

*From illness to healthy living* – CAM as a way of coping with everyday urban life. This perspective, discovered within the discourse of the health and lifestyle magazines studied, applies the notion of the mind-body connectiveness to health and wellbeing. In the magazines studied, the notion of holism ‘is based around an idealised woman’s body, not least through metaphors of surface and depth, and harmony and balance’

*Natural and alternative lifestyles* – detachment from the biomedical model of illness and embracing the ‘natural’, self-responsibility, personal empowerment and enlightenment.

As geographers, Doel and Segrott (2003a, 2003b) are particularly concerned with the notion of the ‘therapeutic landscape’ that brings together ‘health, place and subjectivity [which] has become symptomatic of the newfound interest in health and place’ (Doel & Segrott, 2003a:
CAM is noted for its ‘astonishing miscellaneity’, a blend of incommensurate and incompatible practices (2003a: 741). This reflects the problem of CAM as a ‘chaotic conception without taxonomic closure’ (2003b: 131) and the difficulties in defining CAM, with all its ambivalence, from a consumer or lay perspective, as well as from a researcher’s point of view, in the context of media representation.

One of the key phenomena that Doel and Segrott argue is reflected within mass-mediated CAM – or rather, in health and lifestyle magazine representations of CAM – is the consistent context of consumerism, with the authors citing consumption (rather than curing illness) as the imperative of mass-mediated CAM (2003a: 749-750). In the consumer-focused world, satisfaction and choice are just as important as efficacy, which Doel and Segrott suggest is the reason for the increasing interest of safety over efficacy as well as ‘efficacy over plausibility’ (2003a: 744). Coulter and Willis (2007) also make this point about the consumerisation of healthcare.

From the risk perspective, mass-mediated CAM seduces not just through the signs of pleasure, but via a range of ‘new and improved fears’ (Bauman, 2001: 27, in Doel and Segrott, 2003a: 753). The dangers include pesticides or herbicides sprayed on the food we eat or the fabrics we wear, the chemicals we use to clean our homes, the polluted air we breathe, the pharmaceuticals or recreational drugs we ingest or inhale:

Such is the double game of mass-mediated CAM: it is, on the one hand, an obsessive and ultimately delirious cult of personal responsibility, panic production, trained incapacity, risk management, and gambling, and, on the other hand, a wanton abandonment, active nihilism, and radical passivity. In short, mass-mediated CAM is a perfect encapsulation of fatal strategies in risk societies (Doel & Segrott, 2003a: 754)

Doel and Segrott also explore the gendering of the articles, which are largely targeting women, who editors believe have a ‘serious, long-term interest in health and wellbeing (2003b: 139). Such gendering was not found in the Clarke et al. (2010) content analysis, which considered newspapers as well as high-circulation magazines. The issue of gendering in relation to CAM is pertinent, but is beyond the scope of this research.
3.4.8 Media representation and risk

The media construct rather than ‘mirror’ the reality that is ‘news’, and this also applies to the media’s approach to risk coverage, as Kitzinger has pointed out (1999a: 56). These constructions are not the work of the media workers and editorial culture alone, rather, they occur as the result of a combination of factors, including sources or claims-makers, timing, opportunity, and wider sociocultural influences. Importantly, the stories that are constructed by the media, particularly the news genres, are stories audiences take seriously (Schudson, 2003: 6).

The under-representation of risks in health reporting, particularly regarding pharmaceutical trials, as well as new technologies such as genetic research have been noted by Bubela and Caulfield (2004) and Moynihan and Cassels (2005) and Moynihan et al. (2000). It has been argued this failing in health representations is due to journalists being uncritical or unquestioning of scientific research, as noted earlier (Kitzinger, 1999a; Lewis et al., 2010; Moynihan et al., 2000; Moynihan & Cassels, 2005; Voss, 2003). There are numerous factors at work that may hinder journalists in writing critically and accurately about health issues, particularly those relating to research issues or findings. The exclusive language of biomedical science – employing statistics and various quantitative-based research approaches like randomised controlled trials and meta-analyses, is likely to generate a lack of confidence in journalists who report on health or medical news in general (Lewis et al., 2010: 69). This purported lack of confidence was supported by a study of Midwestern health-reporters in the US (Voss, 2002). The discomfort medical writers may encounter with biomedical discourse is also enhanced by the rules or ‘codes’ journalists follow in determining what makes news (Allan, 2004: 57-8). This point is elaborated on in Section 3.5.

At the same time, the mass media have been accused of being ‘risk junkies’ (Kitzinger, 1999a: 55), following the adages of ‘good news is no news’ or ‘if it bleeds it leads’. This reinforces the argument that risk stories are given greater attention and pursuit, as they suit entertainment agendas. In one study, positive editorials about a hazardous waste facility issue indicated the writer had researched the information and was ‘well informed’, whilst the more negative editorials showed less proof of editors attempting to validate their comments (Freudenburg et al., 1996: 31-32). Freudenberg and colleagues (1996) outline the polarised
views that exist in the literature about media representation of risk. The extreme position includes the juxtaposing notions that the media are sensationalist and anti-technology, with the supposition that the media are ‘tools’ of a technological establishment. The more moderate positions in the literature regard media coverage as ‘subtly anti-technology’ as well as being susceptible to framing and ‘spin’ control (1996: 32-33).

In assessing the media coverage of 128 hazard events, Freudenberg et al. discovered to their surprise that the extent of coverage was predicted only by the objective characteristics of the hazard events (1996: 38). That is, the only statistically significant predictors of the coverage were casualties, and other measures of damages. The researchers were concerned that this result occurred because the data was based on summaries from the actual newspaper articles. However, when comparing the factual summaries (provided to journalists by the companies responsible for the hazardous event) with the newspaper articles, they found that the news stories were actually less ‘sensationalist’ than the factual summaries (1996: 39). The authors surmised that the findings did not show ‘technology bias’ – on the contrary, the findings point to a subtle pro-technology bias (1996: 40). This shows the important role that media content analysis can play in clarifying the magnitude of risk reporting, which can be exaggerated by media scholars (Gans, 2003: 99).

Furthermore, and significantly, it is not possible to measure the extent to which ‘spin control’ may have had an influence here – for example, recording cases in which crisis management professionals were involved in guiding journalists about the details of the hazard event and ‘playing the game’ from the organisations’ crisis management media strategies.

Kitzinger points out that accusing media of sensationalism is problematic as it can suggest that the sources of risk information have no agenda or are acting ‘on a purely “scientific” basis’ (1999a: 56). The importance of media sources is elaborated on in Section 3.6, which discusses the news production process.

Risk reporting may not necessarily reflect the hazard itself, but the social and political activity that surrounds it (Dunwoody & Peters, 1992: 206). In her discussion of methodologies for researching media representations of risk, Kitzinger comments on the emergence of research that is ‘evaluating and engaging with’ media representations beyond
measurements of ‘accuracy’ and ‘balance’ (1999a: 61). Within this context, she suggests the important questions should not be about media exaggerations or understatements, but rather about ‘which risks attract attention, how, when why and under what conditions’ (1999: 62, original emphasis). This thesis strives to answer some of these questions in relation to risk reporting about HM.

### 3.5 What is news?

News is one of the activities through which people strive to make sense out of their lives and the world around them. All people are part of the news because they are part of their culture and because news is a participative narrative that defines the culture in all its diversity. News is not what we receive; it is the culture’s story, which develops as it is told (Anderson et al., 1994: 5-6).


As Anderson, Anderson, Dardenne and Killenberg (1994) also point out in the quote at the start of this chapter, news is one of our cultural narratives in which culture is defined during the news-telling process. This point is reiterated by mass communication scholar Donald Matheson:

> The journalist sitting down at the computer to write a news story does not therefore simply face a blank screen on which to construct a world or record a faithful record, but a space that we can imagine as already filled with conventions (2005: 16).

News is the ‘story’ that emerges from a range of interactive elements that include journalists, as both individuals and professionals, their editors, along with the whole culture of the organisation in which they gather their news, which incorporates news values (Johnson-Cartee, 2005: 108; McNair, 2006: 49). Timing is an all-important component of news-making as well as the ‘blend of chance and intention’ (Schudson 2003: 8). Another crucial interactive element in the construction of news is the journalist’s sources of information, which may include competing claims-makers or ‘policy entrepreneurs’ or ‘professional information brokers’, that is, those who struggle to make their own truth-claims dominate the news frame (Johnson-Cartee, 2005: 58; Northrop et al., 2006: 59) or to whom journalists may simply turn for commentary. Hansen (2000: 55) has articulated how claims-makers can work to ‘construct’ social problems:
If the construction of social problems depends on successful public claims-making, then the mass media constitute a key public arena in which the voices, definitions and claims of claims-makers (notably representatives of government, public authorities, formal political institutions, professional communities and associations, pressure groups and so on) are put on public display and compete with each other for legitimacy.

Finally, there are the readers’ potentially multiple interpretations of and reactions to the news item which results from the interplay of all these elements. ‘Readers’ may include lay people as well as those defined as ‘experts’ or ‘authorities’ of certain types of knowledge, and those from government sectors who have an influence on public policy formulation. All these factors that influence news representations are conveyed in Figure 3-3, which inspire the conceptual framework for this study.

While my analysis does not venture into the terrain of audience reception, the potential impact and influence of news constructions on media audiences has been a consistent motivation for my research into media representations of HM, and offers a direction for a subsequent study.

Figure 3-3 Influences on media reporting

One media scholar goes so far as to suggest that news is ‘the sense-making practice of modernity’ and even ‘the most important textual system in the world’ (Hartley in Schudson
2003: 12-13), a point Schudson argues may be grandiose perhaps, but ‘not absurd’ (2003: 12). The news we read, view or hear – that information which is judged to be ‘publicly notable’ and compiled (Schudson, 2003: 6) – functions as a reassuring sign of ‘life as usual’, that the social (and moral) order is preserved and will continue (Gans, 2003: 71-2). Additionally, news functions as a main conduit of information about science, health and politics, for example, which many people may not otherwise have access to. In making this point Allan (2002: 71) has argued that once people have left the education system, their primary source of information about science is via the news media (including, of course, online news sites).

Johnson-Cartee and Allan have summarised news values, or what is valued in news selection, based on research undertaken throughout the 1970s-1990s (Allan, 2004: 57-58; Johnson-Cartee 2005: 126). Cotter (2010: 69) has summarised lists of news values from a selection of newswriting textbooks for journalism degree programs. The following Table combines two of Cotter’s citations with those of Allan (2004) and Johnson-Cartee (2005). These are presented in Table 6-1.

Table 3-2  List of news values

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Timeliness</td>
<td>Timeliness</td>
<td>Relevance</td>
<td>Timeliness</td>
</tr>
<tr>
<td>Proximity (to audience)</td>
<td>Proximity</td>
<td>Simplification</td>
<td>Proximity</td>
</tr>
<tr>
<td>Prominence</td>
<td>Prominence</td>
<td>Unexpectedness</td>
<td>Conflict, negativity and drama</td>
</tr>
<tr>
<td>Currency</td>
<td>Currency</td>
<td>Continuity</td>
<td>Social impact, importance, consequence, significance</td>
</tr>
<tr>
<td>Drama</td>
<td>Drama</td>
<td>Composition</td>
<td>Size (ie. number of people affected)</td>
</tr>
<tr>
<td>Consequence</td>
<td>Consequence</td>
<td>Reference to elite nations</td>
<td>Novelty</td>
</tr>
<tr>
<td>Novelty</td>
<td>Novelty</td>
<td>Reference to elite persons</td>
<td>Familiarity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Negativity</td>
<td>Action taken or not taken</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Brevity</td>
</tr>
</tbody>
</table>

Whilst there is overlap between the news values listed, those delineated by Johnson-Cartee provide the most comprehensive articulation of the factors relevant to news-makers (ie. journalists and their editors) in the news context. The examples from Hough (1988) and Lorenz and Vivian (1996) are textbook-based, rather than sociological in nature. Cotter
Morris (1986) describes the news-making task confronting journalists as one of making order out of chaos, in which they must ‘subdue into harmony’ the range of information sources as well as a ‘riot of impressions’ and ‘a bedlam of attitudes and opinions’ (in Eldridge, 1993: 4). This is a meaning-making exercise, whereby the issues or events being taken as ‘news’ must be brought out of their ‘randomness’ into ‘the horizon of the “meaningful”’ (Hall et al., 1978: 54).

In addition to this function of making order and meaning out of a whole chaos of information, journalists then ‘have to construct this world at lightning speed, in a welter of instant judgments’ (Eldridge, 1993: 4). Australian print journalists rate ‘get[ing] news to the public quickly’ as one of their more important professional responsibilities (Deuze, 2002: 141). It is these time pressures that are often blamed for accusations of ‘poor quality reporting’, resulting in errors of omission, inaccuracies or reliance on press releases for content. However, the consequences of journalists selecting, condensing, and simplifying information in the construction of news must also be taken into account (Eldridge, 1993: 4). And on top of all the above factors, there is added pressure to entertain or ‘infotain’ an audience, a point that is of particular concern in health sociology (Collins, 2006: 90; Lewis et al., 2010: 68; Seale, 2003a: 519). In relation to the need to entertain, news stories that emphasise, exaggerate or sensationalise conflict, negativism, drama, danger and deviance, are often perceived in the newsroom as more interesting for news audiences and at the same time serve to increase our awareness and fear of risk. Investigating this emphasis on risk and negativity is of particular interest in the newspaper analysis that is presented in the following chapter. Such emphasis on negativity and risk can be particularly problematic in relation to stories about health.

Rather than telling a story about something ‘new’ as the word implies, news reminds us of the already familiar knowledge structures that predominate and that are resilient in modern industrial society (Matheson, 2005: 18). McNair presents journalism as an ideological
narrative, which communicates not only ‘facts’ but also the ‘assumptions, attitudes, beliefs and values of its maker(s), drawn from and expressive of a particular world view’ (1998: 6).

In order to appreciate the news function in relation to HM representations that are under scrutiny in my research, it is important to understand the conglomerate of individual, professional, and organisational factors that impact on journalists, as well as the significant interplay of elements external to the news-maker discussed above, such as sources, timing and opportunity. These interrelating factors are discussed in relation to my findings from the content analyses in Section 8.1.

3.6 The source-journalist interface

Turow has defined news construction as a type of ‘cultural argumentation’ that occurs between many ‘differentially powerful’ groups who compete to define reality (1989: 206). The critical role that media sources play in the news production process has been emphasised by Shoemaker (1987), Curran (1991), Entwistle and Sheldon (1992), and Vastag et al. (1999). Also by Schudson (2003), Gans (2003) and more recently by Johnson-Cartee (2005). Understanding the relationship between sources and media representations is a critical component of my research, and is further discussed in the following chapter.

Gans (2003: 78) contends that the news media may actually affect institutions and organisations more frequently and strongly than they do news audiences. For example, the lobbying of risk issues to media by advocates of more stringent regulations for product claims about HM may be more an attempt to gain the attention of government officials and policy-makers, than to reach the broader publics who use the products.

The importance of this struggle between claims-makers is discussed by Schudson, who points out that news actually represents ‘who are the authorised knowers and what are their authorised versions of reality’ (Ericson et al., 1995 in Schudson, 2003: 134). Lupton and McLean have also made this point, highlighting that those individuals used as sources tend to be either suppliers of information or news actors ‘whose own utterances have news value’ (1998: 952). They also note that those used most frequently as sources tend to be:

…typically elite, holding positions of power and authority, including politicians, senior government officials and spokespersons, members of high status professional groups (such as the legal profession and the medical profession), academics or researchers and individuals who are well-known because of their celebrity status…(1998: 952).
Curran (1991: 29) employs the language of war to argue the case that the media is a ‘battleground between contending forces’ in which the media have the power to influence the ‘balance of social forces’ and the ‘distribution of rewards’ based on the way in which they respond to or mediate those battling to have their truth definitions dominate.

Such magnitude of media power and influence is a cause of much contention amongst media scholars. The increasingly popular concept that audiences negotiate their own meaning of the texts, inspired by the early works of Roland Barthes (1974) and Stuart Hall (1980), and resulted in the shift of attention from the matter of contestations over reality and power relations to the interpretation or ‘decoding’ of the text itself (Philo and Miller, 2001: 52). Philo and Miller from the Glasgow Media Group lament that the whole purpose of studying media messages has been distracted by such ‘dead-end’ postmodernist ‘active audience theory’, which celebrates audiences’ capacities to subvert or resist media messages, but fails to keep the focus on power relations (2001: 52). They contend that this cultural theory approach is not necessarily socially or politically useful, with a crucial problem being, as Chomsky has observed, that people have been diverted away from potential activism (2001: 100) – and have become disempowered (or distracted) even further. Tuchman made this point in 1978 in her seminal work Making News: A Study of the Construction of Reality, in which she argued that news ‘sometimes uses symbols as the representation of reality and presents them as the product of forces outside human control’ – resulting in the news audience being encouraged ‘to sympathise or to rejoice, but not to organise politically’ (1978: 214). News is not the place where audience creativity and autonomy tends to be found – rather, this is more likely to occur in the domain of popular narrative genres like soap operas and television drama series (Deacon et al., 1999: 26).

Whilst Gans acknowledges the potential power of media influence, he suggests that media researchers may have a tendency to exaggerate the political effects of news media representations (2003: 99). He points out that the very pronounced visibility of media can contribute to this exaggeration, and it can also inflate perspectives on the level of media influence (2003: 99). For example, although there may in fact be a high level of risk reporting in relation to HM products and practitioners in comparison to media discourse about other HM issues in newspapers, this has not translated into declining levels of usage.
amongst the public. The Pan Pharmaceuticals event, discussed in Section 2.8 provides an excellent example of this.

### 3.7 Why news analysis?

News is a powerful medium in Western societies. Although the extent of how much it actually sways its audiences is a contentious topic, as pointed out above, there has been a significant amount of research to demonstrate the extent to which media messages can and do influence people.

For example, research by David Morley (1980) showed that whilst audiences were shown to be capable of deconstructing the messages from television programs, at the same time this did not result in the rejection of the perspective that was being framed. ‘The awareness of the construction’, Morley wrote, ‘by no means entails the rejection of what is constructed’ (1980: 140). Additionally, the audience’s familiarity with the subject is likely to influence their acceptance or rejection of the media frame. Research by Morley (1980), Iyengar (1982) and Hietbrink (1996) has shown that the more unfamiliar the audience is with an issue, the more likely they are to accept the media frame.

Of relevance to health representations in particular, research indicates that news reporting has been shown to have an impact on our acceptance and adaptation of knowledge about health issues, which has been discussed by Davin (2005), Clarke (2007) and DeSilva et al. (2004).

Journalists in Australia as well as Germany, Holland, Britain, and the US also share this view about the power that the news media wields in their own societies (Deuze, 2002: 140). One of the major sociological concerns with this power is the way in which different claim-makers struggle to have their own truth-claims dominate news reports. The tremendous influence of pharmaceutical companies on media representations about health and medicines has been argued in the works of Australian health journalist and author, Ray Moynihan (Moynihan and Sweet, 2000; Moynihan et al., 2000; Moynihan and Cassels, 2005; Moynihan, 2008; Moynihan and Mintzes, 2010) as well as Clarke and Gawley (2009), Seale (2003), Lloyd and Norris (1999), and Chapman (1979). These authors are concerned with the impact of commercial interests on media reporting and subsequent acceptance of the frames – by journalists who reproduce pro-pharmaceutical frames in their reports (that are
provided by pharmaceutical industry sources) and by audiences who may accept media frames that only offer drug-based solutions to health issues.

News is also important to consider as it carries particular weight as a genre that audiences tend to have more faith in as an objective representation of facts – more so than other genres such as opinion columns or feature stories. Schudson argues that media analysis would not be of great interest ‘if the news did not build a world that people took seriously or if the news did not affect how people act’ (2003: 6). Philo and Miller also point out the ‘high level of credibility’ that news enjoys with its audiences, based on their audience reception research (2001: 45). Framing research is useful to determine patterns of emphasis, interpretation, and exclusion (Caragee & Roefs, 2004: 217).

Unlike other genres, news leaves less room for polysemic interpretation (Deacon et al., 1999: 26). Deacon, Fenton and Bryman also note in their research that news audiences are conversant with news conventions and ‘construct their readings accordingly’ (1999: 26). As Seale points out, this is a very different concept to that of active audience theory (2003: 30).

An important point is made by Entman about content bias in media reporting, which he defines as ‘consistent patterns in the framing of mediated communication that promote the influence of one side in conflicts over the use of government power’ (2007: 166). He emphasises the need to consider patterns of ‘slant’:

> If the patterns of slant persist across time, message dimensions, and media outlets, it means that the media may be systematically assisting certain entities to induce their preferred behaviour in others (2007: 166).

His point is that heavy exposure of certain kinds of media framing over a period of time may result in those who have the privileged voice in the framing to influence audience responses, whether they be government, stakeholders or members of the lay public.
3.8 Australian mainstream newspapers

Mainstream Australian newspapers were chosen for the content analysis because of their role in influencing other news sources, particularly as both a print and online form of media. Newspapers notoriously influence television news, to the extent that Schudson makes the point that ‘citizens who say they get most of their news from television are getting most of their news, indirectly, from newspapers’ (2003: 7). In-depth interviews with news producers (or ‘news-makers’) in Australia has indicated that newspapers are the dominant agenda-setters in the daily news cycle (Pearson & Brand, 2001: 9). This point is reinforced in a report by the Australian Broadcast Association (ABA) which stated that ‘newspapers break news and are the greatest influence upon politicians and opinion-leaders’ (ABA, 2000: 1).

Editor of London-based *Guardian* newspaper, Alan Rusbridger, defines the role of a newspaper in the modern ‘crowded media hypermarket’ as a ‘pollinator of information’, a reflection to society of itself; a source of entertainment; and a place where power and privilege is held to account (Franklin, 2008: 5). Additionally, newspapers, at least in their textual online format, are a very accessible and subsequently popular medium for research.

While newspapers carry their own particular methods of fact construction, the culture of newspaper news reporting has less of the ‘embellishments’ of television news, which incorporates ‘mood, trend, condition, irony, relationship, or whatever else seems a suitable theme in the circumstances’ (Weaver, 2007: 283). Instead of ending with a ‘bang’ like television news, the newspaper account, with its consistently inverted pyramid structure (whereby the news is presented in order of importance), ends with a ‘whimper’, and is not necessarily intended to be read in its entirety (Cotter, 2010: 140; Schudson, 2003: 108).

Another motivation for restricting this research of mainstream lay media representations to newspapers is the evidence based on the research by Media Doctor Australia that suggests that the reporting of health issues by television current affairs programs in Australia is of ‘poorer quality’ than that of broadsheet newspapers (Bonevski et al., 2008: 6; Wilson et al., 2009: 4). In this sense, newspapers have more of a reputation for guarding the traditional journalistic values of factual or ‘objective’ reporting, or certainly have fewer available resources for embellishment or sensationalising the story. At the same time however, it has been argued that the corporatisation of news has transformed editorial priorities, resulting in
what has been referred to as ‘newszak’, which is the ‘softening’ or trivialising of news content to suit entertainment agendas:

Newszak understands news as a product designed and ‘processed’ for a particular market and delivered in increasingly homogenous snippets which make only modest demands on the audience (Franklin, 1997: 4-5).

This transformation of news representations in newspapers suggested here by media critic Bob Franklin, has also resulted in broadsheets using similar attention-grabbing strategies typically employed by tabloid newspapers, including ‘tabloid-style banner headlines, alliterative and punny headlines, large print, less text, shorter words, bigger pictures, colour pictures and more of them’ (Franklin, 1997: 7). In contrast to the newszak theory, a content analysis by Connell (1998) that compared tabloid and broadsheet news reports in the UK found Franklin’s views to be an exaggeration of the climate of news reporting. According to Connell, classical news discourse had not been ‘tabloidised’ (1998: 11), and in fact both tabloid and broadsheet versions of news were found in his research to be ‘explanatory’ in nature, mainly concerned with circumstantial explanations (1998: 28). An earlier content analysis of Australian tabloid and broadsheet newspapers by Henningham (1996) concurs with Connell’s findings. While the Australian study did reveal ‘predictable’ differences between the two types of newspapers in certain areas of news content, in terms of ‘content priorities’, tabloids and broadsheets were found to have more similarities than differences (1996: 22). Henningham also concluded that the newspapers of the mid 1990s were more dedicated to ‘serious’ news than they were 30 years previously (1996: 30).

Henningham, who measured the space allocated to item categories, also found that mainstream news stories account for almost two-thirds of the total articles from his content analysis of mainstream Australian newspapers (64.5%), with news briefs accounting for 13% (1996: 26). Science and medicine stories comprised 7% of all articles, with health-related stories the dominant contributor (1996: 29).
3.9 Conclusion

This chapter has provided a framework of scholarly studies that have informed the construction, rationale and approach to my research. The research aim to measure the discourse of risk in media representations of HM draws from the various theories on risk, media representations and the sociology of scientific knowledge presented above. Social-constructionist perspectives on risk have been provided, presenting the theories of Beck (1992, 1999), Giddens (1990, 1991, 1994), Wynne (1996), Green (2000), Lupton (2000) and Lupton and Tulloch (2002), in particular. The relevance of risk theories to perceptions about HM risk in Australia have been discussed, and the sociocultural consequences of risk discourse presented, as each of these relate to expert and lay contexts.

Given the important role of scientific knowledge in risk representations and constructions, the issue of science has also been discussed, highlighting critiques of the sociopolitical repercussions of scientific authority in industrial modernity, and introducing perspectives on the social construction of scientific knowledge. The process of scientisation in relation to HM has also been introduced, focusing on laboratory research as an activity used to investigate the validity of a plant product, and the more recent phenomenon of evidence-based medicine (EBM) as a research approach. This critical analysis of scientisation has highlighted the political activities to legitimise HM, as well as the commercial incentives to commodify HM products. The potential sociocultural worth of Harding’s ‘borderlands epistemology’ (1996) has been highlighted, which calls for the bold crossing of borders between different knowledge systems. Signs of medical pluralism in Australian healthcare, evidenced by people using multiple therapists from both biomedicine and CAM, have been acknowledged to exemplify this process already occurring.

Given the application of media content analysis in my primary research, this chapter has also provided a review of media representation research, with a focus on media framing, in particular, drawing from the research of Entman (1993, 2007), Iyengar (1994), Kitzinger (2007) and the Glasgow Media Group (Miller, 1994; Philo, 1990, 2009; Philo & Berry, 2004; Philo & Miller, 2001). The research of these scholars has inspired an approach to this project that is concerned with the sociological consequences of media representations about HM, including the conflicting and competing truth-claims, the influencing of audience’s behaviour and beliefs about health issues, as well as public policy formulation. Previous studies about HM and CAM in the media have been discussed, as well as the findings of
specific media content analyses in this area. Whilst most of these findings suggest that CAM is reported in an overly positive and uncritical way, the more recent findings of Bubela, Boon and Caulfield (2007, 2008) indicate that understanding media representations of HM and CAM is more complex and requires an approach that takes into account the specific CAM therapy being reported, as well as highlighting the relevance of how a specific issue like the results from clinical trials is represented. Discussion of media reporting and risk as a phenomenon offers arguments from Moynihan et al. (2000), Moynihan and Cassels (2005), Voss (2002, 2003) and Lewis, et al. (2010) that are concerned with journalists being uncritical or unquestioning of scientific research findings. The complexity of this issue has been noted in the presentation of research findings by Freudenberg et al. (1996) and in Kitzinger’s (1999) discussion of research methods for critical analysis of risk reporting in the media, whose arguments for greater rigour in approaches to content analysis have influenced the design of my research, detailed in the following chapter.

The background literature regarding newspapers and news reporting specifically has been discussed in this chapter, which argues for the need to gain insight into the news production process in order to understand the nature of media representations. As a more ‘serious’ genre, news has an important social and political function, particularly regarding health issues that impact on lay publics and influence public policy. The differing perspectives on media power and influence in sociological discourse have also been discussed, giving consideration to the frequently integral role that sources, or claims-makers, play in the news-making process. These theories have contributed to the design of the newspaper content analysis presented in Chapter 7.

This chapter has provided a review of the theoretical perspectives that have influenced my research design and the critical analysis of the findings presented in Chapters 6 and 7. It has presented key theories and perspectives on risk society, the sociology of scientific knowledge, and media representation, as these phenomena relate to HM as an issue in contemporary Australia.

The subsequent chapter details my research design, including the broad methodological approach as well as the specific methods used for determining those dominant topics and frames about HM that occur in biomedical and mainstream media, and whether there is a prevalence of risk in these representations.
4 Research design: A mixed methods approach

4.1 Introduction
Following on from the preceding historical contextualisation and review of the scholarly literature and theoretical frameworks that have influenced the development of the aims and design of my research, this chapter details the methodological approach that has guided the research and the methods employed for data gathering and analysis.

The broad methodological approach is first outlined, which is inspired by the sociological quest for understanding the nature of the social forces that affect individuals and society. The varying perspectives on social constructionism are introduced, and a rationale is provided for the moderate approach to this epistemology, which is argued to be a more pragmatic and socially useful way to comprehend and investigate the numerous sociocultural and political factors at play in media representations of HM and risk. The applicability of poststructuralist perspectives in the research is then discussed, highlighting how those factors influencing media representations involve the interplay of power relationships (for example, between biomedical and naturopathic/HM professions or ‘lay’ and ‘expert’ individuals).

A mixed methods approach is identified as beneficial and relevant to understanding media representations and is explained as a more holistic approach to understanding the phenomena under investigation. The theories of Bruhn Jensen (2002b), and Krippendorff (2004) are presented to support an integrated approach which combines qualitative and quantitative methods.

The three phases of the research are then presented. The research project was designed to occur in three phases, comprising focus groups and the content analysis of two different forms of print media – the Medical Journal of Australia (MJA) and mainstream Australian newspapers. The focus groups provided an important basis for formulating the coding categories used in the preliminary content analysis of the MJA, which then flowed to the mainstream newspaper analysis. Content analysis, employed for a major proportion of the primary research, is argued to be a useful method for defining the characteristics of media texts, from which inferences about why something is said can be made, as well as the
possible consequences of what is said. The distinctions between manifest and latent analytical approaches are defined, as well as the usefulness of both approaches in extrapolating meanings and their implications from the texts. Diagrams of the research design are provided to show the evolution of the mixed methods approach (Figure 4-2 and 4-3).

The specific methods applied in both content analyses undertaken are described in Sections 4.7 and 4.8. Section 4.7 explains the sequence of steps taken in the longitudinal content analysis of the MJA from 1966 to 2008. This approach was primarily quantitative in nature, measuring the frequencies of in-text references to a range of categories and sub-categories, and cross-tabulating these with other variables that were measured such as decades and article type.

Section 4.8 details the particular research methods used in the longitudinal content analysis of news reports about HM in mainstream Australian newspapers from January 2005 to May 2010. The research approach combined different methods of collating and scrutinising data to provide both denotative (manifest) and connotative (latent) meanings from the news texts, thereby ensuring a rigorous investigation of the content, and a more comprehensive understanding of the meanings in the text than that offered in the MJA study. The intercoder reliability study for this content analysis showed a substantial level of intercoder agreement, reinforcing the validity and replicability of the methods and codes used.

4.2 Methodology

The methodological approach adopted for this analysis of representations of risk and HM is informed by a social constructionist epistemology, which in turn is influenced by a poststructuralist approach to understanding power and knowledge. Broadly, this sociological perspective is focused on analysing and understanding those phenomena that affect us individually as social beings. The Weberian notion of Verstehen, or empathy with others, best reflects my preferred interpretive approach to social science research. Hermeneutics (from the Verstehen tradition) aim to understand human action, and the hermeneutic circle of understanding is a method which requires ‘insight, imagination, openness and patience’ (Potter, 1996, cited in Schwandt, 2000). Although this research does not formally apply a hermeneutic circle of understanding, it does draw from it, and Potter’s comments influenced the design of the research, which attempts to understand the range of
different people who are involved as individuals, collectives, collaborators and competitors in HM media representations.

### 4.3 Social constructionism

The particular social constructionist stance taken here is often defined in academic sociological discourse as ‘weak constructionism’, which does not adhere to a ‘strong constructionist’ or ‘universal constructionist’ approach (Lupton, 1999: 30; Schwandt, 2000: 198-200). In the context of risk discourse, as Lupton explains, the weak constructionist approach considers risks as ‘cultural mediations of ‘real’ dangers and hazards’ as distinct from the strong constructionist position, which describes the ‘hazard’ or ‘danger’ as a specifically human construct (1999: 30). A main concern with the ‘strong’ approach to constructionism and relativism relates to misgivings about the usefulness of this approach in terms of inspiring social action and subsequent social change, which has been a debated aspect of media and cultural studies in general. Philo and Miller (2001) have criticised this strong constructionist approach, popular in cultural studies and particularly postmodernist theory. They argue the relativist assumption that all reality is a social construct serves only as a ‘theoretical dead-end’, ultimately discouraging social action (2001: 4). In their 2001 book, *Market Killing*, Philo and Miller quote Chomsky, who offers this perspective:

> [Media and cultural studies] are highly relevant in diverting young people from activism and critical intelligence, and undermining the linkage of intellectuals to activism which, however limited, has typically been a factor in social change (2001: xiv).

Although Chomsky is criticising postmodernist approaches that deter social activism in the discipline of cultural studies, his comments serve to highlight the justification for a more moderate approach to constructionism, which seems a more useful paradigm in terms of understanding the sociocultural context in which knowledge is generated, as well as offering hope for ways in which change can be encouraged and facilitated – a point also made by Neuman (1994: 66). In the context of research into Australian media representations of HM, this particular paradigmatic approach serves to chart and analyse the various truth-claims being made about HM within media representations, with a specific focus on the construction of risk. The difference in the moderate social constructionist approach here takes the position that the media is a powerful sociocultural and political phenomenon, which, through its mediations, contributes to the social construction of knowledge as well as the construction of meaning. This perspective does not adhere to the view that absolutely
everything being discussed (including risk) is only ‘real’ or ‘true’ to the extent that it is constructed, nor does it accept the view that reality is created during the process of interpreting texts or signs. This moderate approach to constructionism does not adhere to the view that all realities are purely constructs, based on individual subjective experiences.

The epistemological approach used here carries with it certain assumptions. I assume the people involved in the media representations under analysis are social actors who have particular (but by no means static) roles, such as journalists and other news-workers, media sources, policy-makers, and audiences (an enormously diverse category of people who ‘consume’ the media messages). This broad-ranging group of people interact with the mediated messages on different levels. For example, journalists, whose work is governed by news values, create the news texts in a process of interaction with sources and a potential variety of claims-makers who may wish to influence the news frame, as well as being influenced by timing and opportunity. This has been discussed in the previous chapter. The audiences read and interpret the news stories. It is at this point in particular where discrepancies between strong and weak constructionism are most pronounced – in the audience interpretation or ‘decoding’ of the text. The weak or more moderate constructionist position considers the way in which news language, structure and images function to influence audiences as well as policy outcomes. The purpose of this position follows on from the point Philo and Miller make – it is not ideas that produce social movement but ideals and material interests (2001). With this purpose in mind, the use of content analysis to measure the frequency of certain media messages and framings is an approach used in the primary research to identify and describe the characteristics of mediated communication.

4.3.1 Poststructuralism

My social constructionist approach is influenced by poststructuralism, a theory concerned with the relationship between power and knowledge. Poststructuralism can be understood as the ‘theoretical branch of postmodernism’ (Bruhn Jensen, 2002a: 34), drawing from discursive structures in order to reveal relationships of power, particularly concerning the oppression or suppression of others, as inspired by the works of French theorists Michel Foucault (1926-1984) and Jacques Lacan (1901-1981). The poststructuralist position is pertinent to sociological discourse about the mediation of HM, given its history of marginalisation as a product and therapy in Australia, particularly throughout the 20th and
21st centuries. Discursive analysis of HM reveals the way in which different forms of knowledge about HM, coming from lay and expert perspectives, are continually legitimated, represented, resisted and contested. Notably, there is a characteristically unequal relationship between the stakeholders involved, particularly in the context of biomedical hegemony. As Bruhn Jensen argues:

… illuminating the exercise of power and structural constraints and exploring the possibilities for change remain the central aims of a critical social-scientific approach to media and communication (2002a: 57).

4.4 Methodological pluralism

In approaching the question of media representations of HM, this research acknowledges the complexity of how the media operates at a number of sociocultural, political and economic levels – as ‘businesses, aesthetic forms, and cultural resources’ (Bruhn Jensen, 2002a: 9). These distinguishing elements of the media influence the mediated production of meaning, which is why a mixed methods approach is beneficial to understanding the nature of media representations (Bruhn Jensen, 2002a: 9). Van Krieken et al. (2000: 600) refer to Bryman’s notion of triangulation (1988), which combines qualitative and quantitative methods for providing ‘useful insights into social life’. Combining these research methods enables the researcher to check the accuracy of conclusions on the basis of the findings from each method; qualitative research can be used to provide hypotheses which can be tested using quantitative methods (as demonstrated in the MJA study discussed in Section 4.7); and both methods can be combined to derive a more holistic understanding of the phenomenon being investigated, as shown in the mainstream newspaper analysis in Chapter 7. (van Krieken et al., 2000: 600).

Whilst much of this research uses an interpretivist framework for gaining understanding and making inferences from historical events, literature, and media texts, the content analyses provide the opportunity to blend specific qualitative and quantitative methods. An integrated methodological approach to content analysis has been referred to by Krippendorff as ‘indispensable’ (2004: 87). The importance of ‘working back and forth between the two [paradigmatic] extremes’ is referred to by Morgan (2007: 72-74), who endorses what he defines as a ‘pragmatic’ approach, which opens research up to an ‘intersubjectivity’ which enables researchers to step outside of their own paradigm and attempt to broaden their worldviews. The combination of qualitative and quantitative methods in the content
analytical research presented in Chapters 6 and 7 is a method of complementarity, which is relatively new terrain in the social sciences, but is becoming increasingly common in the area of media studies, particularly in the methods used in content analysis (Bruhn Jensen, 2002b: 272).

The next section elaborates on the specific methods employed to address the research questions. The research was structured around three phases, which included focus groups and two media content analyses, which are presented. Figure 4-1 illustrates the way in which the methods being discussed fed into the overall research.

![Figure 4-1 Flowchart: The research design process in 3 phases (‘CA’ = ‘content analysis’)](image)

### 4.5 Phase I: Focus Groups for preliminary research and identifying key issues

The initial preliminary research approach sought to understand HM in the social, political and economic contexts of its modernisation as a modality of healthcare in Australian society. The formation of two focus groups, held in July and October 2000, was intended to assist in the formulation of research questions and/or hypotheses for the primary research, a beneficial outcome of focus groups discussed by Kitzinger and Barbour (1999: 5).

In order to explore the sociopolitical landscape of CAM, I moderated two focus group sessions with staff members at Southern Cross University (SCU) in Lismore, Australia.\(^{22}\)

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\(^{22}\) SCU had launched Australia’s first Bachelor of Naturopathy university-based degree program and had become involved in a number of plant-based research initiatives, which were being undertaken within the School of Natural and Complementary Medicine, the Centre for Phytochemistry, the Centre for Plant Conservation Genetics, and the Australian Tea Tree Oil Research Institute (ATTORI). The university at this
The focus groups were conducted to gauge the differing beliefs and perceptions from HM and CAM practitioners, educators, and researchers regarding herbal and pharmaceutical medicines. Separate focus groups were facilitated with two distinct groups of professionals from the fields of natural and complementary medicine, and plant and pharmacological research. All participants were employees at Southern Cross University. The findings from these discussions contributed to the identification of ‘risk’ as a topic warranting further investigation, and which subsequently became a principal focus of my research.

4.5.1 The value of focus groups
As a highly qualitative method, focus groups are defined as ‘the explicit use of the group interaction to generate data’ (Kitzinger, 1994: 103; Kitzinger & Barbour, 1999: 4). This is a beneficial process for exploring and explaining social phenomena (Paterson & Higgs, 2005: 347). Their purpose is to encourage interaction and discussion amongst group participants, rather than individuals separately responding to a facilitator. They are an efficient method for gathering information about peoples’ views and perceptions quickly (Paterson & Higgs, 2005: 347). Focus groups also enable researchers to gather a concentration of experts in a particular field for specific research in their area of expertise. In relation to this last point, the participants of the focus groups conducted were highly knowledgeable about the topic of HM and its use as a product, therapy and subject of research.

Focus groups provide an interesting and important context for research (Dahgren, 1988: 292) and can reveal ‘attitudes, priorities, language and framework of understanding’ amongst group members and encourage a variety of perspectives through group members communicating with one another (Kitzinger, 1994: 116). As well as being a forum where ideas can be clarified, they also can provide insight into the social processes which result in the articulation of knowledge as well as its censure or muting (Kitzinger, 1994: 106, 116). Dahgren (1988: 292) suggests that ‘all talk through which people generate meaning is contextual and the contexts will inevitably somewhat colour the meaning’.

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23 Ethics approval number: ECN-03-01.
Focus groups potentially provide a forum of equality amongst group members, where each participant’s voice may be heard. A focus group can become what Baker and Hinton have defined as a ‘social and political forum in its own right’ (2001: 79), and in this sense it can be considered a democratic process (Kefyalew, 1996: 208).

This notion is reinforced by Kitzinger, who points out that by listening to exchanges between participants, the researcher can understand the issues as well as the participants’ shared perceptions of them:

> Group work ensures that priority is given to the respondents’ hierarchy of importance, their language and concepts, their frameworks for understanding the world (1994: 108).

Pre-existing groups or ‘natural clusterings’ are appropriate and useful for focus group research (Kitzinger, 1994: 105). In the case of the focus groups conducted at Southern Cross University, the groups were made up of colleagues who worked together at the university and who interacted on a regular basis as teaching or research colleagues, as CAM practitioners, or as scientists, as well as in meeting environments in departmental or other university associated meetings. Kitzinger and Barbour (2001: 8) note the usefulness of bringing together people ‘on the basis of some shared experience’ in the focus group context. They also argue for the value of bringing together people who already know each other in a social or work context, due to the fact the ‘naturally-occurring group’ is ‘one of the most important contexts in which ideas are formed and decisions made’ (2001: 8). My selection of participants who knew one another, and who constituted a highly specialised sample group, resonates with this strategy.

Whilst such gatherings in the focus group context are not necessarily unproblematic and cannot be assumed to encourage consistently ‘natural’ interactions, Kitzinger urges the researcher to take the opportunity to encourage engagement amongst participants, to ‘verbally formulate their ideas and draw out the cognitive structures which previously have been unarticulated (1994: 106). The distinctions between herbal and pharmaceutical medicines (and the broader sociocultural and political issues arising from this) was a topic that like-minded teaching and practitioner staff may have discussed amongst themselves, or even argued about with colleagues who held different perspectives from them. However, such interactions had never been formally discussed or documented at Southern Cross University (personal correspondence with Sue Evans, 2009).
4.5.2 Focus group participants

The focus groups were facilitated in an informal setting, in the main meeting room within the School of Natural and Complementary Medicine (NCM). Participants were familiar with each other as colleagues who regularly interact within the academic work environment (in either teaching, research or administrative capacities).

The participants were informed about the purpose of the focus groups by email and phone. These approaches resulted in all six participants from the first group (natural and complementary medicine) approached, and five participants out of seven approached (plant and pharmacological research) in the second group. This ‘clustering’ into two groups was intentional, and based on the different perspectives held by group members as colleagues, which had been (informally) articulated in meetings and forums since the inception of the Bachelor of Naturopathy degree program and SCU. These differences were frequently manifested as tensions between those staff members who were more naturopathically oriented (with a belief in holism and vital force), and those staff who held a more orthodox scientific perspective. Such tensions were something I had observed whilst employed as a staff member in the School of NCM. Group consensus about defining perceptions was integral to these focus groups, and given the previously articulated disagreements between the Group One and Group Two participants, combining the ‘naturopathic’ group with the ‘science’ group was not expected to result in agreed definitions. Such agreement was critical to the exercise.

At the start of each session, it was explained how the session would be structured, and the objective was outlined, which at this early stage in the research was defined to participants as a mapping exercise to help inform research questions and hypotheses for the research. Specifically, it was explained to participants that their perceptions about the differences between herbal and pharmaceutical medicines were to be brainstormed and recorded on a whiteboard, which would then be transcribed.

Debate in the sessions (although not extensive debate) was encouraged amongst participants, in order to enable the participants to consensually agree upon their group’s items of distinction, before the individual items were recorded on the whiteboard, creating a list. The purpose of the listing format was to commence an initial mapping of the views held by two
of the key professional groups involved in the debates on issues of research, regulation and education of HMs, and to assist in the design of an appropriate methodology for my research. The data from these sessions represent a preliminary step in mapping ideas about comparisons between natural plant and pharmaceutical medicines and contributed to informing research questions for this research.

The focus groups also provided the critical a priori base for devising the coding categories for the content analysis of the journal. The findings from these are presented in Chapter 5.

4.6 Phases 2 & 3: Content analysis

The next two phases of the research used content analysis as a primary method of investigation. Content analysis is useful as an efficient and unobtrusive method for tracking or mapping the frequency of ideas, opinions and political leanings in texts (Krippendorff, 2004: xiii-xiv). It enables the researcher to measure and compare the categories created, for the purposes of interpreting message characteristics (Neuendorf, 2002: 1) and is a powerful method for making explicit facts about content, which may not be immediately obvious (Stokes, 2003: 66).

For Holsti (1969: 46), content analysis has three main purposes: to describe the manifest characteristics of communication – what, how and to whom the message is addressed; to make inferences about why something is said; and to make inferences about the consequences of what is said.

As with other research methods, content analysis raises the concern over the need for reliability and validity (University of Texas, 2010). As a scientific tool, content analysis research should be able to make valid inferences from the text being studied, and should be replicable, a factor Krippendorff argues is the most important form of reliability (2004: 18). Both the analytical approaches used contain these attributes.

There are disputes about whether content analysis should be quantitative or qualitative in nature (Berg, 1998: 224-225). In contrast to Neuendorf (2002), who has argued content analysis must be exclusively quantitative in nature, Krippendorff highlights the value of content analysis in terms of how it ‘aligns content – the target of the research – with how contemporary society operates and understands itself through its texts’ (2004: xiv). Contrary
to Neuendorf, he argues that quantitative content analysis is ‘not a requirement for obtaining a valid answer to a research question’, pointing out the problem with ‘uncritically buying into the measurement theories of the natural sciences’ (2004: 87). His view that the ‘text is always qualitative to begin with’ (2004: 87) concurs with arguments by McKee (2001) as well as Bertrand and Hughes (2005: 184) who point out that defining the coding categories is a highly subjective process:

…much of the work of analysis – contrary to what might be expected, given the commonly-made claim that numerical data is particularly scientific or objective – is done even before the counting starts, simply by deciding what categories are going to be counted (McKee, 2001).

For this reason, the determination of coding categories was coordinated between more than one coder in both the MJA analysis and the newspaper analysis. In the case of the MJA study, this involved the author and a co-researcher developing the coding categories together. For the newspaper analysis, the same two researchers revised the MJA codes for the analysis of news reports in Australian newspapers. These codes were again revised between the author and an additional coder, after the intercoder reliability study was conducted.

Both quantitative and qualitative approaches to content analysis have certain commonalities, according to Krippendorff (2004: 87): the selection of relevant text samples; unitising text (whether it be words or whole quotes); the contextualisation of the text in terms of what is known about ‘the circumstances surrounding the text’; and the formulation of specific research questions. In Krippendorf’s view the two approaches are ‘indispensable’. The appeal of the systematic approach is highlighted by Schroder (2002: 102):

A main advantage of quantitative content studies is that they can serve to confirm or disconfirm intuitive impressions by performing a systematic description of a large set of media discourses through numbers that express the frequency and prominence of particular textual properties.

The obvious ‘trade-off’ here, Schroder adds, is what becomes a rather simplified approach to appreciating the intricacies and complexities of meaning (2002: 102). This is perhaps why Berg (1998: 226) advises on the use of both manifest and latent content analysis strategies whenever possible.
4.6.1 Manifest analysis

Manifest content analysis involves systematically counting the literal or denotative meanings of a message, rather than searching for meanings which may be inferred or concealed within the text – which is the domain of latent analysis (Berg, 1998: 225-226; Neuman, 1994: 264; Schroder, 2002; Weerakkody, 2009: 146).

The method of manifest analysis, or process of undertaking the ‘count’ of very specific references which are clearly determined and defined beforehand, should be able to be replicated and validated by other researchers. Despite the insistence by a number of content analysis theorists including Neuendorf (2002) on eliminating potential biases by introducing multiple coders, the ‘counting’ process is relatively objective and simply ‘counts’ the number of references to a particular phenomenon (Krippendorff, 2004: 32). For example, the frequency with which ‘risk’ references or codes such as ‘toxicity’, ‘adverse events’ or ‘adulteration’ are specifically mentioned in the texts in relation to HM can be counted without bias. The MJA analysis employed this method, using only one coder, which counted specific references to clearly delineated categories, as discussed in Section 4.6.

A manifest analytical approach enabled the systematic quantification of references to the specific sub-categories prepared at the coding stage over a longitudinal period. These categories were denotative, and were either present in the text or not, which enhances the reliability of the coding process (Neuman, 1994: 264; Stokes, 2003: 66). Originally, it was hypothesised that sub-categories under the ‘risk’ category would be particularly common. This was confirmed in the findings, however, other sub-categories occurred with a frequency or infrequency which was more surprising, particularly those sub-categories under the category of ‘benefit’. This highlights one of the advantages of undertaking systematic coding of manifest media content, which may reveal very different results from what is originally assumed or hypothesised, a factor highlighted in a study of risk reporting by Freudenberg et al. (1996).

Counterbalancing the analysis of a publication consumed by biomedical professionals, the third phase of the research analysed the content concerning HM and risk in mainstream newspapers. Given the potential far-reaching influence of biomedical discourses such as those of the MJA, it was relevant to gauge how lay media also reported on HM by replicating
the manifest analytical approach to contemporary mainstream news stories. In addition to analysis of manifest content, latent analysis as a method was introduced in this phase.

### 4.6.2 Latent analysis

The objective of latent media analysis is to penetrate the ‘deep structural’ or ‘implicit’ meaning in a text (Berg, 1998: 226; Neuman, 1994: 264). Arguably, there is a higher degree of subjectivity involved in the latent coding process, which is dependent on how the researcher interprets the underlying meanings extrapolated from the text (Neuman, 1994: 265). Neuman argues the validity of latent coding can exceed that of manifest coding because of the context-dependent nature of communication, which is more difficult to measure by coding words alone (1994: 265), rather than ‘images, stereotypes, metaphors, actors and messages’ (Entman et al., 2009: 180).

Media frames depend on ‘clusters’ and ‘patterns’, which reflect the organisation and interrelation of ideas, and it is for this reason a systematic approach is effective (Kitzinger, 2007: 148). In addition to media frames, the latent analysis took into account the different sources journalists cited or quoted in their articles, which were able to be cross-tabulated with framings. Hansen (2000) has noted the importance of taking into account how sources or media ‘claims-makers’ are incorporated into the media frames in their striving to achieve legitimacy and credibility, as well as understanding how media frames may serve to undermine sources or claims-makers (2000: 56). The sociocultural relevance of media framing has already been explained in Section 3.4.1.

The five-year analysis of Australian mainstream newspapers entailed both manifest and latent codings of the articles sourced. The benefits of manifest analysis have already been described in the previous section, and a similar approach was taken for the newspaper analysis as for the *MJA* study in terms of manifest coding. The purpose of the newspaper study was to investigate the contemporary discourse about HM, and to gauge whether similar issues and themes (indicated in the *MJA* study) arose in the Australian lay media. The Pan media event of 2003 (discussed in Section 2.8) gave a strong indication of risk being a primary theme and frame in the lay media discourse. However, this was just one event that fuelled much media discourse throughout an entire year. My newspaper analysis avoided the Pan saturation period and instead focused on the last five years of news reports in Australia.
Whilst both MJA and newspaper content analyses are distinct in terms of the periods of investigation and the framing component added for the newspaper study, the results from both studies do offer a broad picture of the patterns in the discourse in relation to HM media representations, suggesting that the themes are widespread. The significance of the findings from both studies is discussed in Sections 8.1 – 8.3. The details of the primary research undertaken will be presented in the following sections. The next section looks at the second phase of the research, the analysis of content from the MJA from 1966 to 2008.

4.7 Phase 2: Content analysis of Medical Journal of Australia

Manifest content analysis was the approach used for the longitudinal study of HM and CAM articles from the Medical Journal of Australia (MJA) from the period of 1966 - 2008. The purpose of this approach was to systematically quantify the references to specific items – referred to in the study as ‘sub-categories’ – which were first identified from the focus groups as well as searches of biomedical, CAM and sociological literature about HM. These items or sub-categories became the units of measurement for the study. In addition to the a priori categories established after the focus groups and review of literature were undertaken, emergent categories also arose during the data collection of both the pilot and final study. The codebook featuring these categories and sub-categories is tabled in Appendix 1.

4.7.1 Preliminary literature search for MJA articles (2003)

In 2003 a preliminary literature search of MEDLINE® was undertaken, in which themes about risk in 30 articles and editorials, and 24 letters to the editor were counted from 1968-2002. The search terms used were: ‘herbal medicine*’ OR ‘phytotherapy’ OR ‘medicinal plant*’ OR ‘plant extract*’ OR ‘Chinese Herbal Drug*’ OR ‘Traditional Chinese Medicine*’.  

24 Discourse on Chinese Herbal Medicines or Traditional Chinese Medicines (TCM) forms an important part of the MJA discourse about herbal medicines in general. The term ‘Chinese Herbal Drugs’ comes under the Medical Subject Heading (MeSH) recommended by MEDLINE® (Saxton & Owen 2005). This is also relevant to terminologies of other forms of CAM – for example, ‘complementary and alternative medicine’ was previously listed as ‘alternative medicine’ until 2002 by MEDLINE®.
This preliminary search contributed information in the form of articles sourced as well as emerging themes that were considered for coding categories in the most recent search in 2009.

4.7.2 Sourcing articles (2009)

Articles were sourced which appeared between 1966 and 2008 on the subject of HM specifically, as well as articles that were more broadly about CAM.

A search of the MJA using the MEDLINE® database was undertaken using the terms: ‘herbal medicine*’ OR ‘herb*’ OR ‘complementary medicine’ OR ‘alternative medicine*’ OR ‘complementary therapies’ OR ‘Chinese herbal medicine’. Additionally, a search on the MJA’s own website (www.mja.com.au) was undertaken using the terms ‘herbal medicine’ OR ‘complementary medicine’.

4.7.3 Inclusion and exclusion criteria

The term ‘articles’ refers to all writings that come under the following categories: editorial, peer-reviewed, reports, and letters to the editor. All articles mentioning HM were included. Articles broadly about CAM, but which may have mentioned HM or naturopathic practice were also included. Articles with a specific subject focus on different CAM modalities such as acupuncture, tactile therapies or meditation were excluded, unless HM or naturopathy (a practice which uses HM as a principal modality amongst other natural therapies) were mentioned in the text.

4.7.4 Coding categories

Drawing from the themes arising from the 2003 literature search, a codebook was prepared detailing the a priori coding categories. This codebook consisted of six primary categories with multiple items of relevance within each section (see Appendix 1). These categories were tested on five sample articles from the articles collated. From this test sample, new categories also emerged and were added to the database, notably those in the sociocultural category. During the coding process there were several further emergent categories added to the Excel spreadsheet.

The six primary categories outlined for coding were: safety, efficacy, quality, regulation, sociocultural and historical, with 84 sub-categories. These sub-categories included topics
widely discussed in relation to HM/CAM in contemporary biomedical and sociological contexts. Safety, efficacy and quality are the primary categories used in the assessment of new substances by medicines regulators, such as the Australian Therapeutic Goods Administration (TGA); regulation itself is then an obvious inclusion; and finally it was important to have a sociocultural and historical category for articles which were historical or referred to social and/or political issues associated with HM.

An Excel spreadsheet was prepared for coding data to be entered by date, principal author, type of article (i.e., editorial, letter or research paper), and the sub-categories developed under the primary category headings. During the analysis, the coding was recorded on the printed copy of each article beside the relevant text and then entered onto the spreadsheet. The finalised codings were entered into an SPSS database, for descriptive data analysis. Articles with one or more reference to an item were given a ‘1’ (to avoid repetition within one article) and articles with no reference to an item were given a ‘0’.

Frequency tables were prepared on SPSS to measure the frequency of any articles about HM or CAM during each year as well as each decade.

### 4.7.5 Grouping topics

The items ‘need for scientific research’, ‘lack of evidence’, ‘need for pharmacovigilance’ and ‘need for collaboration’ were initially coded under several headings. For example, ‘need for scientific research’ appears separately under each of the main category headings of ‘Safety’, ‘Efficacy’ and ‘Regulation’, and was differentiated by placing a number after the topic term on the spreadsheet (i.e. scires, scires2, scires3). This was to ensure the mention of these topics could be coded in relation to the specific issue of safety, efficacy or regulation. In order to gain a more general sense of the frequency of these topics throughout the decades, all of the ‘need for scientific research’ terms were combined into one category. The same was applied for ‘need for pharmacovigilance’ (which appeared in three different categories), ‘lack of evidence’ (two categories) and ‘need for collaboration’ (three categories).
4.7.6 Measuring items of risk and benefit about HM/CAMs

Sub-categories were clustered in order to investigate the more general categories of ‘risks’ and ‘benefits’. Figure 6-2 in Chapter 6 shows the results for frequency of items of risk and benefit.

Figure 4-2 shows an adaptation of Neuendorf’s content analysis flowchart of the typical process of content analysis research (2002). Her flowchart has been adapted to demonstrate the steps taken in the content analysis of the MJA. The data has been interpreted using both univariate and multivariate techniques. The univariate technique takes into account single variables (for example, the occurrence of the reference to ‘problem of toxicity of HM’, as well as a multivariate technique, which also considers the co-occurrences of variables (for example, the combination of all clustered ‘risk’ codes is correlated with the article type and the longitudinal period).
Figure 4-2: An adaptation of Neuendorf’s Content Analysis Flowchart template for the MJA content analysis

1) Theory and rationale
Examine MJA articles. HM usage as pertinent, topical issue for health policy. Biomedical journals are influential. Quantitative approach using interpretivist framework. Hypothesis that risk is prevalent in biomedical reports about HM/CAM. What are the frequencies of risk (and other) references?

2) Conceptualisation decisions
Content from articles and letters in the MJA from 1966 to 2008.

3) Operationalisation measures
Unit of data collection: Codings by topic/utterance (manifest).

4) Coding schemes
1) Codebook with 84 codes. 2) Codesheet.

5) Sampling
Final sample of 148 articles. Specific codes applied to generate frequencies per article.

6) Training and initial reliability
Two researchers developed coding categories. No intercoder reliability study.

7) Coding
One coder conducted the analysis.

8) Tabulation and reporting
Final figures were reported on using a univariate technique, as well as cross-tabulations that combined both bivariate and multivariate techniques.
4.8 Phase 3 - Content analysis of newspapers

The next stage of the research was the manifest and latent analysis of articles about HM in mainstream Australian newspapers, in order to measure the levels of risk reporting as well as a range of other issues (also arising from the focus groups sessions) including efficacy, quality and regulation.

The MJA codes were revisited during the preparation of coding categories for the newspaper analysis and adapted to suit the medium being examined, which focused on newspaper news stories only in the Australian newspapers selected. Latent codes were prepared for the newspaper analysis, which included framing codes and the assessment of headline and article tone. The main sources cited or directly quoted in the articles were also recorded.

4.8.1 Selected Australian newspapers

The newspapers selected for the study were the main metropolitan-based daily newspapers within each state, as well as Australia’s national daily newspaper, The Australian. The other national daily, The Australian Financial Review was not selected, given its prioritisation of business and finance issues, rather than broader news stories. With the exception of Melbourne and Sydney, which have competing daily newspapers, all other city-state newspapers are monopolised by a single publisher within their state (Tiffen, 2009: 4).

Table 4-2 lists all the newspapers that were searched for articles, together with circulation rates. National and metropolitan dailies, as well as weekend and Sunday newspapers were included in the category of mainstream newspapers, as this latter category still incorporates news reports, despite the fact these newspapers (particularly the Sunday ones) tend to be dominated by articles from the feature, lifestyle and sport genres.

Articles sourced from these newspapers covered a period of 1 January 2005 to 30 April 2010.
Table 4-1 Newspapers sourced and their circulation rates

(O'Halloran, 2010)

<table>
<thead>
<tr>
<th>Newspaper</th>
<th>Location</th>
<th>Circulation</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>The Australian</em></td>
<td>National</td>
<td>Mon-Fri: 132,690</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sat: 304,548</td>
</tr>
<tr>
<td><em>The Sydney Morning Herald</em></td>
<td>New South Wales</td>
<td>Mon-Fri: 209,508</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sat: 347,299</td>
</tr>
<tr>
<td><em>The Daily Telegraph</em></td>
<td>New South Wales</td>
<td>Mon-Fri: 392,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sat: 340,000</td>
</tr>
<tr>
<td><em>The Sun-Herald</em></td>
<td>Sydney</td>
<td>447,946</td>
</tr>
<tr>
<td><em>The Sunday Telegraph</em></td>
<td>Sydney</td>
<td>720,068</td>
</tr>
<tr>
<td><em>Herald Sun</em></td>
<td>Victoria</td>
<td>Mon-Fri: 514,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sat: 503,000</td>
</tr>
<tr>
<td><em>The Age</em></td>
<td>Victoria</td>
<td>Mon-Fri: 197,500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sat: 279,900</td>
</tr>
<tr>
<td><em>The Sunday Herald-Sun</em></td>
<td>Melbourne</td>
<td>620,000</td>
</tr>
<tr>
<td><em>The Sunday Age</em></td>
<td>Melbourne</td>
<td>224,600</td>
</tr>
<tr>
<td><em>The Advertiser</em></td>
<td>South Australia</td>
<td>Mon-Fri 188,936</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sat: 259,893</td>
</tr>
<tr>
<td><em>Sunday Mail (SA)</em></td>
<td>Adelaide</td>
<td>305,808</td>
</tr>
<tr>
<td><em>The Mercury</em></td>
<td>Tasmania</td>
<td>Mon-Fri: 46,056</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sat: 60,811</td>
</tr>
<tr>
<td><em>The West Australian</em></td>
<td>Western Australia</td>
<td>Mon-Fri: 207,914</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sat: 380,417</td>
</tr>
<tr>
<td><em>Northern Territory News</em></td>
<td>Northern Territory</td>
<td>Mon-Fri: 20,553</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sat: 31,084</td>
</tr>
<tr>
<td><em>Sunday Territorian</em></td>
<td>Northern Territory</td>
<td>21,640</td>
</tr>
<tr>
<td><em>The Courier Mail</em></td>
<td>Queensland</td>
<td>Mon-Fri: 214,468</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sat: 306,798</td>
</tr>
<tr>
<td><em>The Sunday Mail (QLD)</em></td>
<td>Brisbane</td>
<td>589,765</td>
</tr>
<tr>
<td><em>The Canberra Times</em></td>
<td>Australian Capital</td>
<td>Mon-Fri: 36,695</td>
</tr>
<tr>
<td></td>
<td>Territory</td>
<td>Sat: 68,743</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sun: 37,844</td>
</tr>
</tbody>
</table>
4.8.2 Objectives of the newspaper content analysis

Following on from the *MJA* study, the content analysis of over five years of newspaper reports about HM in Australia enables closer scrutiny of how HM issues are being raised and given salience in mainstream media representations, as well as who is participating in the discursive constructions of risk about HM, along with other frames, such as efficacy.

The following section details the specific methods used for the longitudinal media study of news reports about HM in mainstream Australian newspapers.

4.8.3 Methods for content analysis of newspapers

This content analysis combined the methods of manifest analysis employed in the *MJA* study, and introduces latent analysis as a method, in order to gauge more meaning from the text, which is not possible when mentions of only terms or phrases are being counted. Communication is context-dependent, and the latent approach enables the identification of main themes, the ways in which the stories make salient certain aspects of the story being told (framing) and the intonation of the article, which may be positive, negative, neutral, or mixed (Entman et al., 2009: 180; Neuman, 1994: 265). Additionally, the main ‘actors’ or ‘voices’ of the text can be identified and cross-tabulated with framings and intonation. The process used for defining frames is a deductive one rather than inductive, whereby frames were pre-defined as content analytic variables to determine how often they occur in the news articles. An advantage of this approach is that it is replicable and can handle large samples of information (Semetko, 2004: 363).

The second adapted version of Neuendorf’s (2002) content analysis flowchart indicates the approach used for the newspaper study (Figure 4-3). The data for both manifest and latent analyses has been interpreted using a univariate technique (for example, the occurrence of the news frame: ‘HM is effective’) as well as a multivariate technique (for example, the news frame: ‘HM is effective’, whether the story was positive or negative, and the source of the news story).
Figure 4-3  An adaptation of Neuendorf’s Content Analysis Flowchart template for the newspaper content analysis

(Neuendorf, 2002: 50)

1) Theory and rationale

Examining mainstream Australian newspapers. HM usage as pertinent, topical and an issue for health policy. Mixed methods approach, combining focus groups. Interpretivist framework. Hypothesis that risk is prevalent in media representations of HM. What are the frequencies of risk (and other) references and framings? When do these occur, and what are the main sources?

2) Conceptualisation decisions

Content from mainstream Australian newspapers (news stories only) from 1 January 2005 to 30 April 2010.

3) Operationalisation measures

Unit of data collection: Codings by a) topic/utterance (manifest) and b) themes, frames, negative and positive headlines and intonation, and main sources

4) Coding schemes

1) Codebooks

2) Codesheets

5) Sampling

Random sample of subset (5 articles) for pilot, then random sample of subset (20 articles). Final sample: 138 articles.

6) Training and initial reliability

Codebook and codesheets studied by both coders. Pilot coding of 5 articles. Kappas for intercoder agreement were 0.75 for manifest results and 0.60 for latent (indicating substantial agreement)

7) Coding

Two coders were used to establish intercoder reliability. Coding undertaken independently with 14% overlap for reliability test

8) Final reliability

Kappas for intercoder agreement were 0.68 (manifest) and 0.72 (latent).

9) Tabulation and reporting

Final figures were reported using univariate and multivariate techniques.
4.8.4 Sourcing articles

Searches were conducted using both Factiva and Newsbank databases during the period 1 January 2005 until 30 April 2010. The Factiva search used the search terms: ‘herbal medicine’, ‘herbs’, ‘herbalis*’, ‘phytomedicine’, ‘plant research’, ‘phytochemistry’, ‘pharmacognosy’, ‘naturopathy’, and ‘naturopath*’. The latter items of ‘naturopath’ and ‘naturopathy’ were included because HMs are a main therapy used by this practitioner group.

The mainstream Australian newspapers selected for the content analysis are listed in Table 4-2. The initial Factiva search of these newspapers yielded 2,615 hits. When free-text terms in ‘headline’ and ‘lead paragraph’ were sought, this number was reduced to 505 articles. After scanning these articles the following terms were added to the Factiva search: ‘herbal remedies’, ‘herbal remedy’, ‘herbal product*’, ‘herbal therap*’. When free-text terms in ‘headline’ and ‘lead paragraph’ were selected, a total of 72 hits resulted, which was reduced to 42 based on the selection criteria. This restriction to headlines and lead paragraphs ensured the search terms were prominent in the stories retrieved. Whilst the headline functions as an ‘abstraction’ of the lead paragraph (and may not necessarily mention the specific items of relevance), it is the lead paragraph that functions to provide ‘a nucleus of evaluation’ which ‘forms the lens through which the remainder of the story is viewed’ (Bell, 1991: 150-152). In addition to its structural function, the purpose of the lead is also to attract the reader to the news item, which is achieved through tactical use of language and framing (Cotter, 2010: 152). News values are embedded in lead paragraphs – indeed, ‘everything follows from the lead’, as Cotter points out (2010: 152).

A full search using the term ‘herbal medicine’ was carried out on the Fairfax News Store archives, amongst Fairfax publications The Sydney Morning Herald, The Sun-Herald, The Age, The Canberra Times, and The Sunday Age from 1 January 2005 to 1 May 2010. This yielded 185 articles. These resulting articles were compared with the Factiva data and any articles not duplicated with the Factiva results (and meeting the inclusion criteria) were added to the dataset. Similar searches of the News Limited newspapers were not freely available online therefore were not undertaken. However, the subsequent NewsBank search of all newspapers involved in the study sought to address this concern.
A search of the NewsBank database was conducted using the search terms: ‘herbalis*’, ‘herbal medicine’, ‘herbal therap*’, ‘herbal product*’, ‘herbal remed*’. These were adapted after the Factiva and Fairfax searches were undertaken, to restrict the hits to data specifically about HM. The NewsBank search yielded 2391 hits. When this was reduced to references in the lead paragraph, the search yielded 174 articles.

### 4.8.5 Inclusion/exclusion criteria

Only items classified as being from the news genre and which were related to the search terms were included. The news genre has been discussed in Section 3.5. For this analysis, this included brief news items as well as world news stories. Articles from the ‘feature’ and ‘lifestyle’ genres were excluded. For inclusion, articles required one or more of the search terms in the headline or lead paragraph. Duplicates were excluded, and only one edition of the news article from the same newspaper was included (generally the first edition, when it was yielded in the search). The total number of articles sourced was 138 (see Appendix 2 for a list of all articles).

### 4.8.6 Coding categories

Coding categories were developed for both manifest and latent content analyses. The benefits of this combined approach have been discussed in Section 4.6.2.

#### 4.8.6.1 Manifest codes

Manifest coding categories for the newspaper analysis were based on the categories devised for the preliminary *MJA* study discussed in Chapter 6. These categories were revised and adapted for the mixed methods approach, and to ensure relevance to the newspaper genre being explored. Some of the manifest codes from the *MJA* study were transferred to the latent analysis model for this study. These coding categories were tested, then revised again after the pilot and intercoder reliability studies. Multiple categories for ‘risk’ were employed in order to effectively map the nature of the risk references. This is consistent with recommendations by Kitzinger and Reilly (1999) regarding researching risk representations in media reports.

The manifest coding categories consisted of 45 items based on neutral terms (listed in Appendix 5). These items were devised in order to measure their frequency of reference during the period of analysis. The coding categories covered issues of HM risk, benefits,
quality, regulation, research as well as items that were sociocultural and political in nature (for example ‘acknowledges HM in the modern healthcare system’).

4.8.6.2 Latent codes
A coding template for the latent analysis was adapted from Bubela and Caulfield’s study of genetic research reporting (2004: 1405). The original template started with 46 codes that could be tested for intercoder agreement. The template coded for articles by their main theme as well as the frame used. Occasionally, multiple themes or frames occurred within the same article. The theme category coded articles based on the overall topic of the article. The framing category looked at the main frame, or multiple frames, which were used in each article. These covered framings that related to the main themes.

Themes and frames were derived from a priori knowledge gained during the MJA study process as well as initial readings of the total sample of 139 newspaper articles. Some new themes and frames emerged during the pilot study and intercoder reliability process and were discussed between coders then added to the codesheet. The final coding template for the latent analysis can be viewed in Appendix 6.

The latent and manifest codings were largely designed for complementarity in the data analysis. Berg (1998) and Krippendorff (2004) have articulated the benefits of combining these quite distinct methods, and it has become an increasingly popular approach in the fields of social science and health research. Several other content analyses of media and medicine have used this mixed-methods approach (Clarke & Gawley, 2009; Hilton et al., 2010; Lupton & McLean, 1998), including two studies of CAM representations (Clarke et al., 2010; Mercurio & Eliot, 2009).

Codebooks were prepared for both manifest and latent analyses, listing the coding terms and providing an explanation of each code. Codebooks are a crucial tool for content analysis, which must provide clear guidelines of interpretation that are understood by each coder. Without such understanding between coders, there is unlikely to be substantial agreement between coders (David & Sutton, 2004: 51).
4.8.7 Pilot coding study

To assess intercoder reliability, a coding pilot of five articles was undertaken by myself and another coder, a postgraduate student from the University of Newcastle’s Faculty of Medicine, with extensive experience in media content analysis, particularly in relation to health reporting in Australian media. One article was randomly selected from each year for the pilot study. SPSS was used to calculate kappa scores for both manifest and latent codings of these articles. Kappa agreement has a maximum of 1.00 when agreement is perfect and a value of zero indicates no agreement better than chance (Altman, 1991: 404).

For the pilot study, manifest codings had a Cohen’s kappa statistic of 0.75 ($\kappa = 0.75$) and latent codings had $\kappa = 0.60$. A separate analysis of intercoder agreement about media frames alone resulted in $\kappa = 0.70$. These results demonstrate substantial intercoder reliability (Feinstein, 2002: 417) for both manifest and latent codings.

The coders met to discuss the results and to review specific areas of disagreement in the codings. One concern of the second coder was the high number of coding categories for the manifest codesheet, which compounded the likelihood of disagreement. The 61 manifest codes were subsequently reduced to a total of 45, and certain categories were merged to alleviate confusion. For example ‘scientific research needed’ and ‘lack of evidence’ were merged into one code. Some categories were reviewed and deemed less relevant to mainstream newspaper analysis than to the MJA study, therefore they were excluded. The layout of the spreadsheet was also revised to be simpler to read and for better ease of data entry.

The latent analysis codesheet was revised by the coders. Any disagreements were discussed to ensure both coders had a shared interpretation for the coding categories. A particular area of confusion for both coders was distinguishing between the ‘main source of information’ and the ‘main voice’ of the source of information in the articles. As a result, both these codes were merged into one category, which covered both sources of information that may not have had a ‘face’ or actual ‘voice’, as well as sources named and directly quoted. Additionally, it was decided to discard the ‘type of main risk’ and ‘type of main benefit’ categories, as these were often defined quite differently between coders in the pilot study, and were already being addressed in the manifest content analysis.
The codes for ‘framing of story’ were also revised and adjusted for purposes of clarity, as agreed by the coders.

After the pilot study the revised latent coding template had 41 codes.

4.8.8 Intercoder reliability study
A numerical randomisation program at www.randomizer.com was used to randomly select 20 of the 140 articles, for the two coders. To test intercoder reliability, the same random selection (14% of the total) of all articles was rated independently by two coders. This overlap follows the typical procedures recommended by Neuendorf for determining intercoder reliability (2002: 50).

4.8.8.1 Amendments to the coding templates
Both coders anticipated additional coding categories might emerge during the coding process. Any new codes that emerged during this process were noted and forwarded to the other coder. The relevant article number was not included in this communication, and there was 100 percent agreement about the coding of the new categories. Following the intercoder reliability study and the commencement of analysing the 139 articles, the following new codes emerged for the latent analysis. These were:

Themes: ‘Ethical’ and ‘legal’ as separate codes were merged into one theme code because these were typically covered in the same theme (usually regarding court cases). New themes that emerged were ‘HM as alternative to biomedicine’, ‘Efficacy’, ‘New product’, ‘Business’ and ‘Education’.

Frames: New frames that emerged were: vulnerable consumer/s’, ‘business disadvantages by regulation/regulator’, beneficial new product’, ‘lucrative industry’, ‘research funding needed’ and ‘criticism/questioning of regulation/funding’.


No new categories emerged for the manifest analysis.
4.8.8.2 **Intercoder agreement**

The Cohen’s kappa statistic for agreement on the manifest analysis was $\kappa = 0.68$. Intercoder agreement for the latent analysis was $\kappa = 0.72$. These results were not dissimilar to the pilot study outcomes, although the manifest coding result was lower than it was in the pilot study. The latent result was substantially higher than the pilot, possibly as a result of the wide range of different articles from the pilot study. These final results demonstrate intercoder reliability defined by Fleiss as ‘good’ or as ‘substantial’ according to Landis and Koch (in Feinstein, 2002: 417).

The remaining 120 articles were then coded by myself as the primary researcher. Given the rate of intercoder agreement, the results from the previous coding exercises were added to this data for final coding.

The finalised manifest and latent codings were entered into an SPSS database for descriptive data analysis. Articles with one or more references to a code were given a ‘1’ and articles with no reference to a code were given a ‘0’.

Frequency by newspaper, journalist and year were also measured in the analysis.

4.8.9 **Cluster sampling**

For the manifest analysis, clusters were created in SPSS to count items referring to the following categories: risk, action taken regarding risk, benefits, quality issues, regulation, and sociocultural issues.

4.8.10 **Cross-tabulations**

For the latent analysis, each theme and frame was cross-tabulated with headline and article tone as well as source.

The results from the newspaper content analysis are presented and discussed in Chapter 7.
4.9 Conclusions

This chapter presents the methodologies and specific approaches used in the design of the research, which employs an interpretivist framework of analysis, drawing from social constructionism and poststructuralism. Early focus groups with staff from SCU assisted in extrapolating relevant themes for exploration in the literature, which raised the issue of risk perceptions, and led to a more systematic questioning of HM representations. This was the first phase of the research, and the findings from these focus groups are presented and discussed in the next chapter.

The next two phases of the research are next outlined in this chapter, both of which employed the method of content analysis for the primary research. The benefits of content analysis are contended, and the distinctions between exploring manifest and latent characteristics of communication have been explained. It is argued that this mixed methods approach enables more comprehensive investigation of the frequency of issues, ideas and framings in articles about HM in both biomedical and mainstream media. The second phase of the research, which consisted of a content analysis of the MJA over a 42-year period, explored manifest characteristics in the text, whilst the analysis of 18 mainstream Australian newspapers over a 5-year period (the third phase) investigated the way in which the articles were framed in addition to the manifest analytical approach. Both content analyses sought evidence of certain patterns in the media texts, which convey the organisation and interrelation of ideas, and reflect how these may occur, disappear, or even recur, over delineated periods of time.

The specific steps taken in the methods for each of the content analyses have been explained and a rationale provided. Whilst the MJA study was more quantitative in nature, the newspaper analysis added a qualitative approach with the introduction of latent analysis to the primary research. I contend that although both analyses offer quite different approaches, particularly regarding the genres, time-periods and methods applied, they provide a map of the discourse about HM in Australia in two forms of media.

The results and interpretations of the findings are presented in Chapters 6 and 7. The next chapter discusses the findings from the first phase of the research – the focus groups.
5 Focus groups: Mapping the issues

5.1 Introduction
The focus groups represent a preliminary stage in the research, which was an investigation of the issues surrounding HM discourse in an academic environment. The benefits of focus group research and the specific methods applied have been discussed in Section 4.5. This chapter provides some additional background on the first phase of the research and then presents the data collated as a result of the two separate focus group sessions held in July and October 2000. The rationale for selecting two distinct clusters of individuals has been provided in Section 4.5.2. I argue that my awareness of the relevance of risk to the discussion of HM arose from these focus group sessions, which consequently influenced my research design.

5.2 Background
The introduction of a university-based Bachelor of Naturopathy degree program in the School of Natural and Complementary Medicine (NCM) brought together two clusters of people with very different, in some cases quite oppositional, paradigmatic perspectives. The degree program was particularly significant in an historical and professional sense for the naturopathically oriented clinicians, all of whom had the experience of being part of a profession that has been significantly marginalised in Australian society throughout the 20th century. Acceptance into a university environment and establishing links, or an interdiscursivity, between the degree program and laboratory-based scientific research activities seemingly signals the potential mainstreaming of natural medicine practice. However, at the time such interdiscursivity was not occurring on an equal political footing between the two groups. These focus groups were held in 2000. Since this time, successive restructurings of NCM have occurred, which has resulted in a merge of the health sciences at SCU, placing NCM under the leadership of academics with backgrounds in nursing and biomechanics. In 2010 the decision to discontinue the Bachelor of Naturopathy was made at the level of Academic Board, justified by decreasing student numbers, and despite course satisfaction ratings, which were among the highest in the university. Currently, there are attempts to establish clinical naturopathic training via a Masters in Naturopathy. The Centre for Pharmacognosy and Phytotherapy (CPP) has recently received a boost with the
appointment of a high-profile pharmacognosist from the University of London, who will take responsibility for a larger centre which combines the CPP with the significantly larger Centre for Plant Genetics. This series of events can be understood within the broader context of modernised universities being under pressure to function as commercial operations, and which are consequently pressurised to achieve their commercial objectives. The phenomenon of commercialisation in modern university culture has been discussed extensively by Dickson (1988).

5.2.1 Group One
In July 2000 the first focus group session was undertaken with six academic staff members from the School of Natural and Complementary Medicine, all of whom have professional, research and/or teaching backgrounds in natural and complementary medicine, the modalities of which included naturopathy, herbalism, homoeopathy and osteopathy. Two members also had qualifications and experience in a biomedical setting (one a biomedical practitioner and researcher in clinical pharmacology, and one with nursing qualifications). These participants were more sympathetic to the holistic or ‘naturopathic’ approach to healthcare than to the biomedical approach. These philosophical leanings had become prominent at staff meetings, where viewpoints about natural medicine philosophies, practice and foundations would clash between the more naturopathically oriented staff and those staff members teaching orthodox science subjects like anatomy and physiology, and chemistry. The discord between these groups appeared to signify a clash of paradigms, notably that of a traditional scientific, biomedical approach with a ‘naturopathic’ or CAM paradigm which adheres to principles of holism, vitalism and the \textit{vis medicatrix naturae}; the healing power of nature.

These impressions were based on informal observation as well as conversations with a number of staff members from each perceived ‘persuasion’. Given the ‘mapping’ function of the focus groups, the impressions were not measured through quantitative analysis, nor explored in-depth through qualitative research. At the time of undertaking the focus groups, this distinction between paradigms had been extensively discussed in CAM sociological discourse by Coulter (1977), Unschuld (1987a; 1987b), Scheid (1993), and McCabe (2000), literature that also informed the research approach.
5.2.2 Group Two

For the second focus group, participants were selected from more orthodox scientific backgrounds, to gauge responses from people with very different professional and educational orientations, and what had informally been demonstrated to be significantly different philosophical orientations from the first group. Five participants attended the second focus group session in October 2000, all of whom held tertiary qualifications in scientific disciplines, including phytochemistry, pharmacology, pharmacognosy, biomedicine, plant genetics, and anatomy and physiology. A number of participants in Group Two held doctorates, whilst in Group One only one participant had a PhD and one had a Masters degree. This reflects the different levels of academic and research experience between groups at the time, in addition to the disparities between philosophical outlooks about healthcare and HM. Participants in Group Two included two research members and one academic staff member from Southern Cross University’s School of NCM, and a research representative each from the Centre for Phytochemistry (CP) and the Centre for Plant Conservation Genetics (CPCG) at the university. It is important to note both CP and CPCG are research centres, in which plant research is the *raison d’etre*.

5.3 Focus group results

5.3.1 Classification of data

Responses in the sessions were recorded on a whiteboard and transcribed afterwards. My initial analysis of the data resulted in the delineation of seven categories into which the specific distinctions raised by the groups were placed. These were:

- *Biological/biochemical* - those responses framed in relation to the biological or biochemical characteristics of the medicines, i.e. their origins, their constituents.
- *Action/Effect* – responses related to the action of the medicines, in terms of their physiological effect.
- *Manufacturing* – responses based on issues of manufacturing, marketing and costs.
- *Usage* – responses that referred to ways in which the medicines are used.
- *Regulation* – responses regarding issues of regulation and safety.
- *Sociocultural/political* – responses that raised issues of a sociocultural or sociopolitical nature.
Table 5-2 at the end of this chapter shows all of the responses from both groups, listing common themes that arose.

When comparing the distinctions made by each group, it was apparent there was a substantial level of agreement in making herb-drug comparisons, although these were often articulated quite differently. These commonalities occurred across all the categories defined above, although not consistently in each, as Table 5-2 indicates. The highest area of common agreement was in the manufacturing category of definitions, in relation to issues of commercialisation, government funding, R&D costs and quality control. Risk references arose in the categories of biological, action/effect, regulation, and manufacturing. Table 5-1 shows the distinct ways in which each group attributed risk to either HM or pharmaceuticals.

### Table 5-1 The herb-drug interface: Different attributions of risk in focus group sessions

<table>
<thead>
<tr>
<th>Group One</th>
<th>Group Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herbal medicines</td>
<td>Pharmaceuticals</td>
</tr>
<tr>
<td>Less strict quality of manufacture</td>
<td>Unsafe</td>
</tr>
<tr>
<td>Side effects high</td>
<td>Withdrawal syndromes</td>
</tr>
<tr>
<td>High level accidental poisonings</td>
<td>Toxic waste</td>
</tr>
<tr>
<td>Toxic waste</td>
<td>High risk/danger out of cultural context</td>
</tr>
<tr>
<td>Raw materials not consistent</td>
<td>Prescribing guidelines vague, loosely applied</td>
</tr>
</tbody>
</table>

### 5.4 Discussion

Exploring and understanding notions of risk is an important consideration in this research. My interest in focusing on risk definitions was influenced by these initial responses arising from the focus groups. As indicated in Table 5-1, Group One attributed significantly more risks to pharmaceutical medicines whereas Group Two attributed a larger proportion of risks to HM. There are a number of possible explanations as to why this may be the case. The
different perceptions displayed in Table 5-1 below suggest the paradigmatic clash between exponents of scientific research and the paradigm of biomedical science, and those who adhere to the naturopathic clinical paradigm. This does not necessarily mean those from Group One reject science entirely, or that Group Two members necessarily disagree with the precepts of holistic practice. However, it does signify distinct beliefs about risk based on what appears to be a naturopathic philosophy about products that participants may see as antithetical to holistic health care, versus the perception of risk based on lack of scientific knowledge, appropriate regulation, as well as quality control at the levels of primary production and manufacturing. These distinctions demonstrate the subjectivity inherent in the defining of risk. For Group One, ‘risk’ appears to refer to the dangers of self-contamination and the impurities or ‘toxic’ nature of pharmaceuticals. For the second group, however, ‘risk’ seems to be more associated with issues of governance, regulation and commercial practices. Group Two’s responses suggest a view that HM’s safety must first be proven via systematic measurement, in order to validate it as non-risky.

Many of the responses from Group One consistently convey this group’s willingness to map out the dichotomies they believed to exist between the two forms of medicine. This may reflect the fact Group One participants mostly comprised people with backgrounds in naturopathic clinical practice, where HM is not just the noun for a medicinal product, but forms part of a much broader cultural system of natural and holistic medical practice, what may be termed the ‘naturopathic clinical paradigm’.

The majority of members from the second group appeared more likely to respond to the idea of HM and pharmaceutical drugs as medicinal products, rather than crucial tools or philosophies of healthcare. This was due to the fact only one member of this group had biomedical clinical experience, whereas every member of Group One had experience working as a practitioner in a clinical setting. Group Two’s responses were strongly related to the validation scientific knowledge brings.
5.5 Conclusion

The focus groups were a preliminary exercise to map out some of the issues associated with HM with participants who are academic educators and researchers of HM.

A valuable part of conducting this exercise was that it unveiled the ideological differences held by each group in terms of the herb-drug interface. The more explicit distinctions were apparent in relation to the issues of risk identified by the two groups. The issues identified through these means assisted in targeting specific questions for the content analyses. This led to the next level of questioning, that is, to what extent such views were communicated to a broad public via different media forms.

The focus groups revealed reflections from two pre-existing groups of people working in the field of natural and complementary medicine with quite different paradigmatic approaches to HM. The conflicting responses, particularly in relation to risk definitions, led the research to a more formalised and systematic questioning of HM representations in a publication that would reflect contemporary biomedical discourse of HM in Australia – the *Medical Journal of Australia*. The focus groups provided the critical *a priori* base for devising the coding categories for the content analysis of the journal.
Table 5-2  Data from focus groups 2000

<table>
<thead>
<tr>
<th>GROUP 1 CAM/HM professionals</th>
<th>GROUP 1 CAM/HM professionals</th>
<th>GROUP 2 Scientists</th>
<th>GROUP 2 Scientists</th>
</tr>
</thead>
<tbody>
<tr>
<td>HERBS (G1)</td>
<td>DRUGS (G1)</td>
<td>HERBS (G2)</td>
<td>DRUGS (G2)</td>
</tr>
<tr>
<td>Biological</td>
<td>Biological</td>
<td>Biological</td>
<td>Biological</td>
</tr>
<tr>
<td>Multiple constituents</td>
<td>Single constituent</td>
<td>Multiple actives</td>
<td>Single active constituent</td>
</tr>
<tr>
<td>Natural</td>
<td>Synthetic (often)</td>
<td>Publicly defined as ‘natural’</td>
<td>Also natural (origin)</td>
</tr>
<tr>
<td>Arising from nature</td>
<td>Imposed on nature</td>
<td>Dilute</td>
<td>Concentrated</td>
</tr>
<tr>
<td>Compost</td>
<td>Toxic waste</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grow</td>
<td>Fabricated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cellulose</td>
<td>Petrochemical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organoleptic</td>
<td>Bland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainable/renewable</td>
<td>Non-renewable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HERBS (G1)</td>
<td>DRUGS (G1)</td>
<td>HERBS (G2)</td>
<td>DRUGS (G2)</td>
</tr>
<tr>
<td>Action/Effect</td>
<td>Action/Effect</td>
<td>Action/Effect</td>
<td>Action/Effect</td>
</tr>
<tr>
<td>Preventative, curative (general use)</td>
<td>Addresses symptoms, suppressive</td>
<td>Physiological</td>
<td>Therapeutic</td>
</tr>
<tr>
<td>Side effects low, withdrawal symptoms rare</td>
<td>Side effects high, withdrawal syndromes</td>
<td>Ill-defined side-effects</td>
<td>Well-defined side-effects</td>
</tr>
<tr>
<td>Slower, delayed result</td>
<td>Dramatic results – ‘quickfix’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safe</td>
<td>Unsafe</td>
<td>Less toxic</td>
<td>More toxic</td>
</tr>
<tr>
<td>Accidental poisonings rare</td>
<td>High level accidental poisonings</td>
<td>Safety not well-defined</td>
<td>Safety well-defined</td>
</tr>
<tr>
<td>Relatively safe out of cultural context</td>
<td>High risk/danger out of cultural context</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Functional action</td>
<td>Cellular action</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5 – Focus groups: Mapping the issues

<table>
<thead>
<tr>
<th>HERBS (G1)-Manufacturing</th>
<th>DRUGS (G1)-Manufacturing</th>
<th>HERBS (G2)-Manufacturing</th>
<th>DRUGS (G2)-Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generally non-patentable</td>
<td>Patent protected</td>
<td>Non-patentable (although process can be)</td>
<td>Patentable</td>
</tr>
<tr>
<td>Not publicly subsidized</td>
<td>Publicly subsidized</td>
<td>Non-subsidised by government</td>
<td>Subsidised by government</td>
</tr>
<tr>
<td>Inexpensive at retail level</td>
<td>Expensive at retail level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rare herbs are expensive</td>
<td>Synthetic materials are cheap</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GST</td>
<td>No GST</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long market life</td>
<td>Short market life</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheap to develop, less commercially viable</td>
<td>Expensive to develop, commercially viable in capitalist system</td>
<td>Not much money available for R&amp;D and clinical trials and less cost involved</td>
<td>High cost, lots of money available for R&amp;D and clinical trials</td>
</tr>
<tr>
<td>Can become drugs</td>
<td>Cannot become herbs</td>
<td>‘Mother’ of pharmaceutical medications</td>
<td>‘Child’ of plant medicines</td>
</tr>
<tr>
<td>Less strict quality of manufacture</td>
<td>High quality of manufacture/standardized</td>
<td>Raw material not consistent</td>
<td>Highly consistent materials used</td>
</tr>
<tr>
<td>Non-sterile requirement</td>
<td>Sterile requirement</td>
<td>Validity of use-by dates questionable</td>
<td>Clear/valid expiry dates</td>
</tr>
<tr>
<td>Cottage industry</td>
<td>Multinationals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural industry</td>
<td>Manufacturing/chemical industry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-tech production</td>
<td>High-tech production</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No use of genetic engineering (although may be use of genetic selection)</td>
<td>Some use of genetic engineering</td>
</tr>
</tbody>
</table>
### 5 – Focus groups: Mapping the issues

<table>
<thead>
<tr>
<th></th>
<th>HERBS (G1)</th>
<th>DRUGS (G1)</th>
<th>HERBS (G2)</th>
<th>DRUGS (G2)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Usage</strong></td>
<td>Continuum with food</td>
<td>Distinct from food</td>
<td>Nutraceuticals</td>
<td>Pharmaceuticals</td>
</tr>
<tr>
<td></td>
<td>Culinary</td>
<td>Non-culinary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen medicine</td>
<td>Formal medicine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thousands of years of knowledge</td>
<td>Previously unknown</td>
<td>Long history of use</td>
<td>Relatively short history of use</td>
<td></td>
</tr>
<tr>
<td>Evolutionary products</td>
<td>Novel products</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General outcome combined to achieve single outcome</td>
<td>Specific pharmacological outcome</td>
<td>Multiple use, action and application</td>
<td>Defined/singular use, action, application</td>
<td></td>
</tr>
<tr>
<td>Dynamic usage</td>
<td>Static usage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broad applicability</td>
<td>Narrow applicability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-medicated</td>
<td>Prescribed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less convenient</td>
<td>Convenient</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ease of incorporation into lifestyle (e.g. culinary, herbal teas)</td>
<td>Difficult to incorporate into lifestyle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animals use</td>
<td>Animals don’t use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Regulation</strong></td>
<td>Less regulated</td>
<td>More regulated</td>
<td>Little to no guidelines</td>
<td>Strict regulatory guidelines</td>
</tr>
<tr>
<td>Little or no toxicological data Interaction not well defined</td>
<td>Extensive toxicological data</td>
<td>Poorly defined re posting of drug-herb interactions</td>
<td>Defined drug-drug interactions re posting mechanisms (herbs also)</td>
<td></td>
</tr>
<tr>
<td>Wide dosage range</td>
<td>Narrow dosage range</td>
<td>Dose range studies not done</td>
<td>Dose range studies done</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No levels of use</td>
<td>Categorised levels of use (scheduling)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prescribing guidelines vague, loosely applied</td>
<td>Prescribing guidelines defined (ie. MIMS)</td>
<td></td>
</tr>
<tr>
<td>Public perception of safety</td>
<td>Public perception of danger</td>
<td>Low educational standards of practitioners</td>
<td>Higher level of educational standards</td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------</td>
<td>---------------------------------------------</td>
<td>--------------------------------------</td>
<td></td>
</tr>
<tr>
<td>HERBS (G1) DRUGS (G1) HERBS (G2) DRUGS (G2)</td>
<td>Research Research Research Research</td>
<td>Research</td>
<td>Research</td>
<td></td>
</tr>
<tr>
<td>Low evidence required for use</td>
<td>High evidence required for use</td>
<td>Poorly researched</td>
<td>Intensively researched</td>
<td></td>
</tr>
<tr>
<td>Empirical evidence</td>
<td>Quantifiable evidence (statistic-dependent)</td>
<td>Anecdotal evidence accepted by users and marketers</td>
<td>Anecdotal evidence unacceptable</td>
<td></td>
</tr>
<tr>
<td>HERBS (G1) DRUGS (G1) HERBS (G2) DRUGS (G2)</td>
<td>Research</td>
<td>Sociocultural/political Sociocultural/political Sociocultural-political Sociocultural/political</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociocultural/political</td>
<td>Regional McDonaldisation</td>
<td>Less influenced by corporate pressure and corruption</td>
<td>More influenced by corporate pressure and corruption</td>
<td></td>
</tr>
<tr>
<td>Regional</td>
<td>McDonaldisation</td>
<td>Less influenced by corporate pressure and corruption</td>
<td>More influenced by corporate pressure and corruption</td>
<td></td>
</tr>
<tr>
<td>Marginal in West</td>
<td>Dominant/hegemonic in West</td>
<td>Used by poorer people in developing world</td>
<td>Used by wealth people in developing world</td>
<td></td>
</tr>
<tr>
<td>Marginal in West</td>
<td>Dominant/hegemonic in West</td>
<td>Used by poorer people in developing world</td>
<td>Used by wealth people in developing world</td>
<td></td>
</tr>
<tr>
<td>Public knowledge</td>
<td>Expert knowledge</td>
<td>Used by educated, middle-class in developed world</td>
<td>Used by poorer people in the developed world</td>
<td></td>
</tr>
<tr>
<td>Nature</td>
<td>Science and technology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holistic</td>
<td>Reductionist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broad cultural context (i.e. use in non-developing countries)</td>
<td>Limited cultural context (West)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Terminology vague</td>
<td>Precise terminology</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;Remedy&quot;</td>
<td>&quot;Medicine&quot; (needing regulation)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Primary sources are effected by politics (i.e. endangered herbs) and natural events (i.e. floods)</td>
<td>Not affected by either</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>'Quack' stigma</td>
<td>'Reputable'</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perceived as 'natural'</td>
<td>'Chemical' stigma</td>
<td></td>
</tr>
</tbody>
</table>
6 Herbal medicine and risk in the MJA: The Australian biomedical perspective

6.1 Introduction
This chapter provides a brief background of the Medical Journal of Australia (MJA), presenting previous research conveying the pertinence of this publication to Australian biomedical practitioners. The chapter then discusses the objectives of the MJA study, and the findings from the content analysis of the MJA from 1966 to 2008 are presented and interpreted.

Focusing on one of the principal aims of the research, namely, the quantification of references to risk in Australian biomedical media representations, this study highlights a significant increase in the discourse about risk in the MJA over the period of analysis, which corresponds with the increase in articles about HM and CAM generally. Other codings with substantial frequencies, such as efficacy, are also discussed in detail, as well as the genres within the MJA in which these codes are most frequent.

The reasons for the predominance of risk discourse are articulated in the discussion section, in which I take into account the most frequently occurring risk codes, and theorise the reasons for their frequency, as well as the increase in attention to efficacy in the MJA. The dynamic nature of risk constructions, and the idiosyncracies of specific risk codes, are also discussed and contended. Theories for risk constructions are presented, and include issues associated with biomedical dominance, professional legitimisation, and biomedical knowledge, as well as how these phenomena intersect with risk and efficacy, in particular. A model theorising the risk-efficacy interface is also presented, which demonstrates the significant relationship between the acceptance of potency with the belief in both risk and efficacy.

6.2 Context: A brief history of the MJA
The context in which Australia’s first medical board was formed could be described as the ‘outcasting of the enemy’. The signing of a petition against unlicenced or uncredentialled practitioners in Victoria in 1841 led directly to the formation of Australia’s first Medical Board (Brothers, 2009). Four of the 15 medical practitioners who signed the petition
became the new Board’s first representatives. Linked to the practices was the development of reportage on medicine. Gandevia (1952: 184) has commented on the nature of the medical journalism that ensued during the 19th Century:

In the nineteenth century medicine was practised in a most spirited fashion, and medical journalism followed suit – personalities coloured many editorials and bias affected many editorial pens.

The *Australasian Medical Gazette* was founded by Ludwig Bruck in 1881, a medical publisher who had published an accusatory *List of Unregistered Practitioners* as an appendix to *The Australasian Medical Directory and Handbook* in 1886 (Martyr, 2002: 138). The *Australasian Medical Gazette* was purchased by the British Medical Association (NSW) in 1894, which later became the *Medical Journal of Australia* in 1914, coinciding with the start of the Great War (Martyr, 2002: 195). Martyr points out that during this time ‘the British Medical Association was well on its way to dominating the practice of healing in Australia’ (2002: 196). She has also noted, through her historical research, the ‘vigorous campaigns against quackery and patent medicines’ coming from the British Medical Journal during the later part of the 19th century (2002: 194) and which invariably influenced the content of the *Australasian Medical Gazette*.

In contemporary Australia, the *MJA* is the country’s primary peer-reviewed journal reporting on issues associated with the practice, research, policy and education of biomedicine in Australia and beyond. It is the key and ‘elite’ research journal for medical practitioners and researchers, with relevance for many other professionals working in healthcare\(^{25}\). The *MJA*’s online media kit for advertisers boasts one of the strengths of the publication is that it is a ‘newsmaker in health’ and ‘Australia’s most quoted medical publication.’\(^{26}\)

A National Prescribing Service (NPS) survey of general practitioners published in 2008 found the trade journals such as *Medical Observer* and *Australian Doctor* were the most popular sources used for information about CAM (75.5%), followed by the *MIMS* (68.7%), the internet (66.9%), and then peer-reviewed medical journals at 62.3% (NPS, 2008: 9). In this particular survey, peer-reviewed journals were not among the list of those resources described by GPs as ‘moderately to very useful’, who preferred CAM textbooks, specific

\(^{25}\) As Rier (2004: 1542) has pointed out, ‘journal publication is the basic criterion by which academic science allocates reputation, promotion, and other rewards’.

websites, internet searchers, CAM journals and drug information phone services (NPS, 2008: 9). In contrast to this, a national survey of GPs conducted in 2004 indicated GPs preferred ‘medical journals’ as a source of information about CAM, however, this survey did not delineate between those journals that were peer-reviewed (Lin et al., 2005: 221). In Braun’s (2006) study of hospital-based practitioners including surgeons, anaesthetists and medical physicians, peer-reviewed journals were the primary source these practitioners used for information about CAM medicines and therapies, followed by reference texts like the MIMs, the internet and biomedical databases like MEDLINE® (Braun, 2006: 243).

The MJA was selected to gain insight into the way the primary readership has been encouraged or influenced to think about HM and CAM issues over a period of four decades. As the prime ‘stomping-ground’ for biomedical professionals, it is an ideal location for mapping Australian biomedical perspectives, and in the case of my research, for mapping the evolution of an Australian biomedical discourse on HM and CAM.

The MJA is published fortnightly by the Australasian Medical Company and is the official publication of the Australian Medical Association (AMA). It had a prestigious ranking (now defunct) of ‘A’ with the Excellence in Research for Australia (ERA) initiative, which (in 2009-2010) measured ‘quality’ based on peer-ranking and citation analysis (2008).

Published twice a month, it has a print circulation of 27,057. Its open access policy increases its readership and eMJA website visits are at 200,000 per month, with 3.9 million page views per annum. The journal follows the typical structure of a biomedical journal, incorporating original research, case reports, reviews, conference reports, book reviews, editorials, and letters to the editor. The Australasian Medical Journal is another Australian-based peer-reviewed journal, however, it does not have the ranking of the MJA and is more student-focused in scope.

Figure 6-1 below shows the readership demographic of the MJA.

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27 The MJA was published weekly prior to 14 January 1978, after which it became a fortnightly publication.

6.3 Objectives of the study

A longitudinal content analysis of articles from the Medical Journal of Australia (MJA), the journal of the Australian Medical Association, was undertaken to map the nature of the discourse about HM and CAM in the journal from 1966 to 2008. Manifest content analysis was chosen as an appropriate means to measure the main themes that arose in articles, letters and editorials about HM and CAM over a 42-year period. The previous chapter on research design provides a flowchart to indicate the various research steps taken, and which resulted in the MJA study (Figure 4-2). Based on a preliminary study of articles referring to HM and risk in the MJA, discussed in Section 4.7, the primary aim of the overall research was applied to this content analysis: do articles about HM and CAM from the MJA over these decades indicate a prevalence of discourse about risk? Other questions were: What are the most-mentioned aspects of HM and CAM in items appearing in the MJA in this longitudinal

study? Do the number of articles which refer to topics of risk in relation to HM and CAM outweigh articles about benefits?

6.4 Results

The MEDLINE® search resulted in 125 hits for the period 1966-2008. The search on the MJA website resulted in 286 hits for ‘complementary medicine’ and 106 hits for ‘HM’. This resulted in a total of 517 articles. After applying the inclusion and exclusion criteria, and excluding any duplicates, there were a total of 148 articles to code in the final dataset. Printed copies of all 148 articles were obtained (see Appendix 2 for list of articles). The entire list of frequencies for each individual code is presented in Appendix 3.

An article omission was identified after the study was completed. This was an article by Chow et al. (2008) based on a case report of liver failure attributed to the herb black cohosh (Cimicifuga racemosa). This was not retrieved from either of the search terms used in the MEDLINE® search or the MJA archives search, and was discovered after the completion of the content analysis, during an unrelated search of the MJA archives using the search term ‘black cohosh’. The omission of this one article from the dataset does not significantly influence the findings from the study.

6.4.1 Longitudinal frequency of articles

Since 1966, not one year has passed in which the MJA has not published something about HM or CAM. Figure 6-2 plots the frequency of articles about HM or CAM throughout the decades.
The highest proportion of articles about HM or CAM in the journal during the 1970s appeared in 1976 (a total of 5/148 – 3.3%) and during the 1980s the highest number was 9/148 (6%) articles in 1988. The 2000s represented the most intensive concentration of articles about HM or CAM, with a total of 19/148 (12.8%) articles in 2004 and 14/148 (9.5%) in 2006. This coincided with the introduction of the ‘CAM series’ in 2004, a largely editorial and opinion-based series of articles during the year that addressed the social, political and economic issues of CAM usage in the new millennium. It is during this period when items concerned with both risk and benefit were at their highest.

6.4.2 Frequency of articles by type and decade

The frequencies of articles by genre and decade are presented in Table 6-2.

6.4.2.1 Letters

Letters made up 34.5% of all items written about HM or CAM. The highest frequency of letter-writing about HM or CAM occurred during the 2000s (37%). The 1980s were also a busy time for letters (31%), followed by the 1990s (23.5%).
6.4.2.1.1 The relevance of letters to the editor as a genre in biomedical literature

Letters to the editor are an important genre for readers of medical literature. In a study of perspectivism in medical discourse, Ines-A Busch-Lauer (2003) points out the way in which letters to the editor in medical journals provide a forum for discussion and debate about relevant medical issues as well as health policy. Busch-Lauer suggests this genre provides a traditional form of expression of opinion for medical practitioners and researchers, enabling writers to express a less constrained individual point of view that may project agreement, doubt or criticism. Letters to medical journals also enable a broader audience to participate in discussion that may assist in filling the gap between theory and practice. Busch-Lauer found that letters to editors in English-speaking medical journals (in contrast to German language medical journals) have a ‘critical-argumentative pattern’ whereby they are less likely to make recommendations about research gaps and more likely to make a negative evaluation about another’s research (2003: 198).

As a less formal method of communication with fewer of the constraints of scientific rigour demanded from articles such as research reports and reviews, the letters to the editor have over the decades provided an avenue for medical practitioners or researchers to express and publish their concerns about the safety (more so than the efficacy) of HM. This has contributed to the construction of a discourse of risk about HMs and CAM in the MJA, using a less formal genre for expression.

Table 6-1 Frequency of articles by type and decade

<table>
<thead>
<tr>
<th>Article type</th>
<th>Overall frequency of articles from 1966-2008</th>
<th>Decade/s with highest frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letters to the editor</td>
<td>34.5%</td>
<td>2000s (37.3%) 1980s (31.4%) 1990s (23.5%)</td>
</tr>
<tr>
<td>Editorials</td>
<td>18.2%</td>
<td>2000s (66.7%)</td>
</tr>
<tr>
<td>Case/clinical study reports</td>
<td>10.8%</td>
<td>2000s (43.8%) 1990s (31.3%)</td>
</tr>
<tr>
<td>Research reports</td>
<td>10.8%</td>
<td>2000s (62.5%)</td>
</tr>
<tr>
<td>Reviews</td>
<td>8.8%</td>
<td>2000s (69.2%)</td>
</tr>
<tr>
<td>Historical/sociological</td>
<td>9.5%</td>
<td>1966-1979 (50%)</td>
</tr>
<tr>
<td>CAM series</td>
<td>7.4%</td>
<td>2004 (100%)</td>
</tr>
</tbody>
</table>
6.4.2.2 **Editorials**

As shown in Table 5-2 above, editorials constituted 18% of all articles over the period of study. The period from 1966 to the end of the 1970s was devoid of editorials about HM or CAM. Two editorial articles appeared in the 1980s, increasing to seven articles in the 1990s and dramatically rising to a total of 18 articles in the 2000s, representing 66.7% of all editorials.\(^{30}\)

6.4.2.3 **Case/clinical study reports**

A total of 10.8% articles were case studies or clinical reports. Only one of these 16 articles was written during the 1980s. The 1990s and 2000s indicate the highest frequency of these articles with five articles (33.3%) during the 1990s decade and seven articles (43.8%) being published during the 2000s.

6.4.2.4 **Research reports**

Representing 10.8% (16 articles) of all articles in this study, research papers about HM or CAM did not start appearing in the *MJA* until the 1980s. Three out of the 16 articles (18.8%) were written during this period, with the same number in the following decade. The largest proportion of research papers is indicated in the 2000s, with a total of 10 articles, representing 62.5% of all research papers.

6.4.2.5 **Reviews**

The first review paper found about HM during the period of analysis was a review of comfrey in 1988 (Abbott, 1988). The 2000s had the highest frequency of review papers (69.2%).

6.4.2.6 **Historical/sociological**

Half of the historical or sociological articles (14 in total) referring to HM or CAM were written in the 1960s and 1970s. These articles became scant during the 1980s (2 articles) and 1990s (1 article), with no period being as concentrated as the 1960s and 1970s. The frequency of these articles rose again during the 2000s to four articles (28.6%). An article in

\(^{30}\) This number does not include editorials from the CAM series, which were coded separately under ‘CAM series’.
the CAM series by Coulter and Willis (2004) was sociological in nature, but coded as CAM series.

### 6.4.2.7 CAM series

The CAM series was a special series dedicated to CAM issues, featuring a range of authors with research, educational, sociological, legal and regulatory expertise and/or viewpoints about HM or CAM. All 11 articles of this type were published from June to November in 2004 (7.4% of total articles about HM or CAM).

### 6.4.3 Issues most mentioned in MJA

Table 6-3 shows the data obtained from counting the frequency of individual issues being mentioned in the MJA. Those codes with the highest frequencies are listed. ‘Adverse events’ had a high frequency of reference (41.9%) followed by efficacy (32.4%) and ‘general risk of HM/CAM therapy or practitioner’ (29.7%).

<table>
<thead>
<tr>
<th>Issue coded</th>
<th>Frequency of reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adverse events</td>
<td>41.9%</td>
</tr>
<tr>
<td>Efficacy</td>
<td>32.4%</td>
</tr>
<tr>
<td>Risk HM/CAM (general)</td>
<td>29.7%</td>
</tr>
</tbody>
</table>

### 6.4.4 Frequency of individual risk codes

The highest rating risk codings are represented in Table 6-4. The most frequent risk items were ‘adverse events’ (41.9%) and ‘general risk of HM product/practitioner’ (29.7%), ‘toxicity’ (23%) and ‘drug interactions’ (18.2%), followed by ‘discouraging use of

31 The CAM series was introduced in an article by prominent CAM academic researchers and advocates, George Lewith (Senior Research Fellow, University of Southampton, UK) and Alan Bensoussan (Director, Centre for Complementary Medicine Research, University of Western Sydney, Australia), who defined the purpose of the series as follows: ‘Rather than dissecting its various diagnostic and therapeutic modalities, the series aims to take a look behind the scenes at CAM’s place in healthcare, in our ethical and legal frameworks and in society generally. We hope to initiate proper debate on CAM, and to promote better understanding of its current and potential roles in healthcare’ (Lewith & Bensoussan, 2004: 585).

32 This category included generalised references (rather than specific references, such as ‘toxicity’) to herbal medicines or CAMs as being risky as well as references that suggested there were risks associated with CAM (or ‘non-medical’) therapists.
biomedical therapies’ (11.5%), ‘adulteration’ (11.5%) and ‘contamination’ (10.1%). ‘Self-treatment’ (6.8%) and ‘misuse’ (8.8%) were mentioned far less over the period (see Appendix 3) as were the codes ‘doctors lack knowledge’ (5.4%) and ‘risk of manufacturing/advertising’ (4.7%). Figure 6-3 presents the results for these higher frequency risk codes over each decade of the longitudinal period. The findings for those risk codes most commonly referred to are presented in the following sections, including cross-tabulations with article genre.

6.4.4.1 Adverse events

Figure 6-3 indicates a substantial increase over each decade in references to the code ‘adverse events’, a more general category (less specific than the code ‘toxicity’, for example, which indicates the particular cause of the adverse event). A total of 28 of these articles were either case reports, research papers, or systematic reviews. There was an overall frequency of 41.9% for this code. Unsurprisingly, case reports were the dominant non-editorial genre referring to adverse events. Case reports and letters were the main non-editorial genre referring to adverse events throughout the 1970s and much of 1980s, with the first research paper referring to adverse events not appearing until 1988 (Mathews et al., 1988). The majority of research and review papers referring to adverse events of HM or CAM (a total of 12) appeared in the 2000s.

6.4.4.2 General risk HM/CAM

The general risk of a HM/CAM therapy or practitioner was the next most frequently mentioned risk code (29.7%), in which broad references to the overall risks of HM or CAM therapies or practitioners were counted. The first research paper referring to this code appeared in 1985 (Donnelly et al., 1985) and the first review paper occurred in 1998 (Rey & Walter, 1998). Whilst there was very little difference in the overall frequency of references to ‘General risk HM’ during the 1980s and 1990s, the 2000s saw 12 additional articles with this code. Six of these were research papers and review articles, and five were from the CAM series.

33 By ‘non-editorial’ I mean that these were not editorial-based articles or letters to the editor.
6.4.4.3 Toxicity

‘Toxicity’ was a high frequency code (23%), however, as Figure 6-3 indicates, it did not share the preceding items’ rates of escalation over the period of analysis, with the exception of 1966 to the 1980s. The majority of frequencies were based on letters and editorials. Eight case reports referred to toxicity and only five research reports mentioned this issue during the whole period of analysis, the first of which appeared in 1988 (Mathews et al., 1988). Only one review article refers to toxicity during the period of analysis (Moulds & Malani, 2003).

6.4.4.4 Drug interactions

In contrast to references about toxicity, ‘drug interactions’, did show substantial escalation of frequencies over the period (with an overall frequency of 18.2%). The longitudinal chart in figure 6-3 indicates a leap from two articles in the 1980s to seven articles in the 1990s, followed by a jump to 18 articles in the 2000s. The first peer-reviewed research paper about drug interactions does not appear until 1997 (Drew and Myers, 1997), and is only preceded by two letters in 1988. Only two case reports mentioned drug interactions, whilst seven research reports and seven reviews mentioned this code. There was a significant jump from seven references in the 1990s to 18 references in the 2000s.

6.4.4.5 Dosage

The findings showed that this code was mentioned at a frequency of 13.5%. ‘Dosage and preparation of HM or CAM’ is an issue referred to in letters primarily during the 1980s until the first research paper in 1988. This was the Mathews et al. (1988) article about kava. Another research paper mentioning the risk posed by inappropriate dosages of HM appeared later in the same year, on the subject of comfrey (Abbott, 1988). The dosage code is not taken up again in the peer-reviewed genre until Drew and Myers’ review article in 1997. In total there are six review and research papers (one of which is part of the CAM series by Myers and Cheras, 2004) and three case reports referring to the risk associated with incorrect dosages.
6.4.4.6 Discouraging use of biomedical therapies

‘Discouraging use of biomedical therapies’, which refers to the problem or risk of influencing a patient to use HM or CAM instead of biomedical therapies is mentioned at a frequency of 11.5%, and does not appear until 1988, in an editorial about regulation by Moulds and McNeil (1988). Subsequent editorials occur in 1994, 1996 and 1998, the last of which coincides with a review of Hypericum perforatum (St John’s wort) by Rey and Walter (1998). After a research paper in 2000 and a review paper in 2001, this code is not mentioned again until the CAM series in 2004 (in three articles from the CAM series during this year). Research papers refer to it in 2005 and 2006. Including the Myers and Cheras article on safety in the CAM series on 2004, there were seven peer-reviewed articles. There has been a very gradual increase in references to this code since the 1980s, as the chart indicates in Figure 6-3.

6.4.4.7 Adulteration

With a frequency of 11.5%, the risk of HM products being adulterated (by the deliberate and concealed addition of pharmaceutical substances, for example) is first referred to in a case report in 1977 (Brooks & Lowenthal, 1977) regarding a Chinese herbal medicine adulterated with aminopyrine (a crystalline compound formerly used to treat pain and fever) and phenylbutazone (an analgesic and anti-inflammatory drug). Two other case reports appear throughout the period. Review papers referring to this code do not appear until the late 1990s (Drew & Myers, 1997; Rey & Walter, 1998) and the first research paper referring to adulteration of HM products appears in 2006 (MacLennan et al., 2006).

6.4.4.8 Contamination

This code had a frequency of 10.1% and is first mentioned in a case report about lead poisoning from an Ayurvedic herbal product in 1992 (Dunbabin et al., 1992). Two other case reports referring to contamination appear in 2001 (Goudie & Kaye, 2001) and 2002 (Tait et al., 2002). The first review article to refer to contamination is the Myers and Drew article about safety in 1997. Other review articles appear in 1998 and 2004 (the 2004 one is part of the CAM series in an article by Myers and Cheras). Only one research paper refers to this issue during the period of analysis (MacLennan et al., 2006).
Table 6-3  Items of risk most referred to in MJA study 1966-2008

<table>
<thead>
<tr>
<th>Item</th>
<th>Frequency of reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adverse events</td>
<td>41.9%</td>
</tr>
<tr>
<td>General risk of HM/CAM product/practitioner</td>
<td>29.7%</td>
</tr>
<tr>
<td>Toxicity</td>
<td>23%</td>
</tr>
<tr>
<td>Drug interactions</td>
<td>18.2%</td>
</tr>
<tr>
<td>Dosage and preparation</td>
<td>13.5%</td>
</tr>
<tr>
<td>Discouraging use of biomedical therapies</td>
<td>11.5%</td>
</tr>
<tr>
<td>Adulteration</td>
<td>11.5%</td>
</tr>
<tr>
<td>Contamination</td>
<td>10.1%</td>
</tr>
</tbody>
</table>

Figure 6-3  Longitudinal mapping of most frequent risk codes
6.4.5 Results for clustering all risk items

When all items referring to risks of HM and CAM were clustered, there was a frequency of 70% (see Table 6-5).

Figure 6-2 demonstrates how the risk references grew over the decades and plateaued during the 1980s (23 articles - 22.5%) and 1990s (25 articles - 24.5%), then peaking during the 2000s with a total of 47 articles referring to risk (46%).

Table 6-4 Grouping issues about HM/CAM most frequently mentioned in MJA study 1966-2008

<table>
<thead>
<tr>
<th>Cluster sample</th>
<th>Frequency of reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk</td>
<td>70%</td>
</tr>
<tr>
<td>Action needed for risk</td>
<td>52%</td>
</tr>
<tr>
<td>Efficacy</td>
<td>46%</td>
</tr>
<tr>
<td>Action needed re: efficacy</td>
<td>36%</td>
</tr>
<tr>
<td>Quality problems</td>
<td>41%</td>
</tr>
<tr>
<td>Scientific research needed</td>
<td>36%</td>
</tr>
<tr>
<td>Lack of evidence</td>
<td>33%</td>
</tr>
</tbody>
</table>

When the risk items were cross-tabulated with article type (Figure 6-4), the notion of risk about HM and CAM was shown to be most highly articulated in letters to the journal (36 in total – 35.3%), followed by editorials (16 articles – 15.7%), case reports (13 articles – 12.7%), research reports (12 articles – 11.8%) then reviews (10 articles – 9.8%).

The data indicates that each particular genre of article hosts a high number of risk references. Mentions of risk occurred with 81.3% frequency in all case/clinic reports, 76.9% frequency in the review paper genre, 75% frequency in research reports, 70.6% frequency in letters, 63.6% frequency in the CAM series, 59.3% frequency in editorials, and 57.1% frequency in all history/sociological articles (Figure 6-4).
6.4.6 Natural not safe

Sixteen articles (10.8%) referred to the perception that health products may be deemed safe because they are ‘natural’. This usually presented itself in the form of a comment that: ‘natural is not necessarily safe’. This notion was most referred to in the 1990s. This item was included as a code because it has become something of a popular rhetorical phrase in both biomedical discourse and mainstream news reporting. The phrase ‘natural is not necessarily safe’ is a discursive construct typically employed to highlight the dangers of HM/CAM.

6.4.7 References to efficacy and benefits

6.4.7.1 Efficacy

Table 6-6 shows the comparison between the results for individual risk and benefit codes. Thirty-two percent of all articles during the 42-year period acknowledged HM or CAMs were effective or potentially effective. This can be contrasted with the 11.5% of articles in which ‘not effective’ was mentioned in relation to HM or CAM. It must be noted as a method limitation of this study that an article may have been writing broadly about specific herbal medicines or modalities in relation to efficacy – and reference to ‘no effect’ for the HM may have been relating to one herb or modality rather than being a general comment on HMs/CAMs. An article may have included references to both ‘effective’ and ‘no effect’.  

34 It must be noted as a method limitation of this study that an article may have been writing broadly about specific herbal medicines or modalities in relation to efficacy – and reference to ‘no effect’ for the HM may have been relating to one herb or modality rather than being a general comment on HMs/CAMs. An article may have included references to both ‘effective’ and ‘no effect’.
The overall discourse on efficacy – indicated by articles which mentioned both effectiveness and non-effectiveness, as well as other issues such as lack of evidence – occurred in 46% of all articles. Action needed in relation to efficacy was mentioned in 36% of all articles.

Table 6-5 Codes and frequencies for references to risks and benefits of HM or CAM in MJA

<table>
<thead>
<tr>
<th>Risk</th>
<th>Frequency</th>
<th>Benefits</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity</td>
<td>23%</td>
<td>Effective</td>
<td>32%</td>
</tr>
<tr>
<td>Adverse reactions</td>
<td>42%</td>
<td>Benefit outweighs risk</td>
<td>1%</td>
</tr>
<tr>
<td>Drug-interactions</td>
<td>18%</td>
<td>Risk is low</td>
<td>13%</td>
</tr>
<tr>
<td>General risk of HM/CAM therapy or practitioner</td>
<td>30%</td>
<td>HM/CAM risk is lower than biomedical/pharmaceutical risk</td>
<td>2%</td>
</tr>
<tr>
<td>HM/CAM risk (historical articles)</td>
<td>3%</td>
<td>Cost-effective</td>
<td>1%</td>
</tr>
<tr>
<td>Self-treatment</td>
<td>7%</td>
<td>HM/CAM effective (historical articles)</td>
<td>1%</td>
</tr>
<tr>
<td>Misuse</td>
<td>9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dosage/duration</td>
<td>14%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk of manufacturing/advertising</td>
<td>5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contamination</td>
<td>10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Misidentification</td>
<td>3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adulteration</td>
<td>11%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substitution</td>
<td>6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparation/dosage</td>
<td>6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incorrect label</td>
<td>4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inappropriate label</td>
<td>7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor manufacturing/primary production practice</td>
<td>7%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.4.7.2 Benefits

A total of 40.5% of all articles referred to benefits (60 articles). Items acknowledging the benefits of HM or CAM were minimal during the late 1960s and 1970s (5 articles) and 1980s (5 articles) and jumped to 12 articles (8.1%) during the 1990s and then made a significant surge again to 38 articles (25.6%) during the 2000s (Figure 6-2).
When the benefits codings were cross-tabulated with article type (Table 6-6), the most common mentions of benefits occurred in reviews (92.3%), followed by research reports (62.5%) and CAM series (54.5%). Letters were least likely to refer to benefit (19.6%), followed by case/clinic reports (31.3%). History and sociological items had a frequency of 36% in mentioning benefits.

<table>
<thead>
<tr>
<th>Article Type</th>
<th>Frequency of reference within article type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review papers</td>
<td>92.3%</td>
</tr>
<tr>
<td>Research reports</td>
<td>62.5%</td>
</tr>
<tr>
<td>CAM Series</td>
<td>54.5%</td>
</tr>
<tr>
<td>Editorials</td>
<td>44%</td>
</tr>
<tr>
<td>History/sociological</td>
<td>36%</td>
</tr>
<tr>
<td>Case/clinic reports</td>
<td>31%</td>
</tr>
<tr>
<td>Letters</td>
<td>19.6%</td>
</tr>
</tbody>
</table>

### 6.4.8 Discourse about quality

#### 6.4.8.1 Quality problems

Problems associated with quality of HM or CAM were mentioned in 41% of articles (Table 6-5). Suggested action regarding these quality problems was only mentioned in 5% of articles.

The frequency of individual codes referring to quality are presented in Table 6-7 below. References to specific manufacturing, primary production, harvesting or labelling issues regarding quality were typically low. Adulteration (11.5%) and contamination (10.1%) were the most commonly referred to problems of quality concerning HM in particular. These were followed by poor manufacturing practices (6.8%), inappropriate labelling (6.8%) preparation and dosage (6.1%) and substitution (6.1%). The matter of incorrect labelling had a 4.1% frequency of mentions, and the issue of misidentification of HMs had a 3.4% frequency of mentions. These problems also represent extrinsic risks, particularly for medicinal products like HM, homoeopathy and nutritional supplements.
Table 6-7  Frequency of references to issues of quality

<table>
<thead>
<tr>
<th>Item</th>
<th>Frequency of reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research quality</td>
<td>19.6%</td>
</tr>
<tr>
<td>Adulteration</td>
<td>11.5%</td>
</tr>
<tr>
<td>Contamination</td>
<td>10.1%</td>
</tr>
<tr>
<td>Poor manufacturing practices</td>
<td>6.8%</td>
</tr>
<tr>
<td>Inappropriate labelling</td>
<td>6.8%</td>
</tr>
<tr>
<td>Preparation and dosage</td>
<td>6.1%</td>
</tr>
<tr>
<td>Substitution</td>
<td>6.1%</td>
</tr>
<tr>
<td>Incorrect labelling</td>
<td>4.1%</td>
</tr>
<tr>
<td>Misidentification of HM</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

6.4.8.2  Research quality

The issue of research quality occurred with the highest frequency in the quality category. References to problems with the quality of research that is undertaken into HM and CAMs occurred in 19.6% of articles.

6.4.8.3  Barriers to research

Reference to factors hindering research into HM and CAMs, including methodological problems and funding constraints were noted in 9.5% of articles.

6.4.9  The lack of evidence

The lack of scientific research-based evidence in relation to HM and CAM products and therapies was mentioned in 49 out of the total of 148 articles (33.1%). This issue was not addressed at all in the MJA during the 1966 to end 1970s period and first appeared in the 1980s (3 articles). Articles mentioning the lack of evidence dramatically increased during the 1990s (13 articles – 8.8%) and then rose again during the 2000s to 33 articles (22.3%). Editorial dominated the references to lack of evidence (32.7%) followed by review articles, 22.4% of which made reference to lack of evidence. Research reports made reference to this problem 16.3% of the time and letters at 12.2%. Both case/case reports and the CAM series had a frequency of 8.2%.
6.4.10  Education
Articles referring to the problem with the educational standards of HM or CAM practitioners occurred in only five articles (3%). Even fewer articles referred to problems with the educational standards of biomedical practitioners, which was mentioned in only two articles (1%) during the whole period of analysis.

6.4.11  Articles referring to action needed

6.4.11.1  The need for scientific research
The need for undertaking or increasing scientific research into HM and CAM was mentioned in 36% of all articles in this study. The highest coding for these articles appears in the 2000s (62% of this coding category), followed by the 1990s (24.5%). The difference in codings between 1966 to the end of the 1970s period (4 articles – 7.5%) and the 1980s (3 articles – 5.5%) is minimal.

Editorials represented the highest frequency of reference to the ‘need for scientific research’ (32%), followed by review papers (24.5%) then letters to the editor (15%). Research papers had a frequency of 11% and the CAM series 9%.

6.4.11.2  Need for research funding
The issue of funding, or the need for money to fund research into HM and CAMs was mentioned in nine articles (6.1%).

6.4.11.3  The need for pharmacovigilance
A total of 16 articles (11%) referred to the need for pharmacovigilance, which is defined by the WHO as ‘the science and activities relating to the detection, assessment, understanding and prevention of adverse effects or any other drug-related problem’ (2002: 7). In the regulatory environment pharmacovigilance is often used to describe the post-marketing research that needs to be undertaken once approval has been given and a new medicine (including HM and CAM) is released into the wider marketplace. The research that led to the regulatory approval is generally limited in the number of people exposed to the medicine and the concept of pharmacovigilance is to ensure that as the medicine is taken by a larger number of people it continues to remain safe (Ronaldson, 2009: 132).
The notion of pharmacovigilance in relation to HM or CAM was not introduced in the *MJA* until 1988, which is consistent with its introduction into the broader biomedical literature. The following two decades each carried seven articles (43.8%) that referred to pharmacovigilance.

The need for pharmacovigilance was only mentioned once in the CAM series in an article by Myers and Cheras (2004). The only types of article to mention this code on more than one occasion were letters to the editor (6 articles), case/clinic reports (3 articles) and editorials (3 articles).

### 6.4.11.4 **Collaboration**

The need for collaboration between medical practitioners, researchers and CAM therapists was mentioned in 15 articles (10.1%). Collaboration was mentioned once during the 1966-end 1970s period and once during the 1980s. It was mentioned twice during the 1990s and escalated to 11 times during the 2000s. Seven out of the 11 articles (46.7%) were from the CAM series and five of the references were from editorials. No letters referred to the need for collaboration, nor did any case or clinic reports. Research, review and history articles featured one mention within each.

### 6.4.11.5 **Doctors should ask**

This coding category had a frequency of 20.3% during the entire period of analysis, and a frequency of 24.4% during the 2000s alone. A total of thirty articles (20.3%) referred to the need for doctors to ask their patients if they were taking HM or other CAMs, or to discuss with them any CAMs they were taking. This suggested incorporation into the patient consultation first appears in the letter by Talalaj and Czechowicz (1988) and is first referred to in the case report genre in 1992.

### 6.4.11.6 **Need medical supervision**

The suggestion such medicines should be used only under medical supervision was mentioned in just two articles – one was a review of St John’s wort in 1998 (Rey & Walter, 1998), the other a research report in 2000 (Pirotta et al., 2000).\(^{35}\)

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\(^{35}\) It is important to note that the Pirotta et al. article (2000) was an attitudinal survey amongst GPs, and this coding was based on the findings that general practitioners ‘expressed greater confidence in medically trained colleagues who practised these therapies’. In contrast, the article by Rey and Walter (1998) suggested: ‘The
6.4.12 Discourse about regulation

When regulation issues were clustered, results indicated that 20% of all articles mentioned regulation. Seven percent of articles referred to regulation being inadequate and only 1% posed that regulation was adequate. Action needed in relation to regulation was mentioned in 7% of all articles.

The specific issue of HM or CAM product claims was mentioned in 10% of articles. Only two articles (1%) suggested applying the pharmaceutical model of regulation to HMs or CAMs and no mention was made in relation to this model being inappropriate.

Consumer vulnerability, a code categorised within regulation, was referred to in 4% of articles, whilst consumer ignorance was mentioned in 3% of articles. The problem of unscrupulous marketing received mentions in 7% of the total number of articles.

6.4.12.1 Standardisation

Reference to the need for standardisation of HM and other CAM products was mentioned in a total of five articles (3%).

6.4.13 Historical

Historical references about HM or CAM were made with a frequency of 13%.

6.4.14 Other sociocultural issues

6.4.14.1 Consumer attitudes

General reference to consumer attitudes was made in 11% of all articles and doctors’ attitudes were mentioned in 7% of cases. Reference to the public being positive about HMs was made in 3% of cases whilst mentions of public dissatisfaction were made in 2% of cases. This did not include reference to increasing usage but was specifically based on comments that indicated the public was positive about or embracing of HM or CAMs.

current situation in which treatment of depression with SJW is initiated by non-medical persons is fraught with danger’ (1998: 586).
Mentions of positive public attitudes towards the medical profession occurred in 3% of articles whilst dissatisfaction towards doctors was mentioned in 5% of articles.

### 6.4.14.2 Reasons for usage
Reference to reasons for usage occurred in 22% of articles.

### 6.4.14.3 Costs
The matter of costs of HM or CAM (for consumers as well as governments) had a frequency rate of 22%. The subject of costs was first raised by Donnelley in 1985 and again in a review of comfrey by Abbott in 1988, however the topic was not taken up again until the mid-1990s. From 1996 onwards the issue of costs to the public and government was raised in a further 31 articles over the next 12 years. In the 2000s, the issue escalates in frequency. Only four articles addressed the issue of cost-effectiveness for consumers – two of which suggested cost-effectiveness and two of which suggested they were not cost-effective.36

### 6.4.14.4 Disclosure
The problem of people not disclosing information to doctors about their HM or CAM usage was mentioned in 12% of articles. This issue was first raised in 1994 (Sawyer et al., 1994). The majority of the references to the ‘disclosure’ codings occur during the 2000s, and constitute a frequency of 15.4% of all articles about HM during this period.

### 6.4.14.5 Herbal medicine/CAM role in healthcare
When codes about the role of HM and CAM in modern healthcare were clustered, there was a frequency rate of 25%. These codes included those referring to HM/CAM’s place in the healthcare system, cost issues, collaboration and the lucrative industry of HM/CAM.

A total of 29 articles (20%) acknowledged HM has a role in the modern healthcare system in Australia. A category was also created for articles putting forward HM as a different treatment system with a significant role in healthcare. This was only mentioned in two articles (1%).

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36 This issue persists as an important part of healthcare provision and systems in modern capitalist society, and incorporates matters of cost to consumers as well as governments.
Reference to HM and CAM as being part of a lucrative industry was made in 8% of cases.

The notion of cost-effectiveness and of HMs and CAMs not being cost-effective occurred in equal low frequency – 1% of articles.

The general call for collaboration between biomedical and CAM practitioners in relation to the broader healthcare issue received mentions in 8% of all articles.

### 6.4.14.6 Political issues

Political issues incorporated critiques of biomedical culture or theory as well as science culture or theory. Critique of HM and CAM culture or theory was also included in this category, along with the critique of regulation. When clustered, this broad category was mentioned with a frequency of 16%.

Criticism of the culture of biomedicine (particularly regarding the inadequacies of patient care) was mentioned in 9% of articles. This occurred slightly more than criticism of HM or CAM culture (5%).

Scrutiny or critique of the culture of science was made in only one article (rating of 7% frequency). Critique of the culture of regulation was minimal (2% frequency).
6.5 Discussion

Clearly, the new millennium has witnessed the greatest proportion of articles about HM or CAM in the period being studied, indicating this is an increasingly pertinent issue in modern Australian biomedical discourse. The growing relevance to the medical profession is based on the growth in usage in countries like Australia, UK and the USA, countries in which HM has been on the margins of mainstream health care for the past century, as noted in Section 1.4.1. Self-medication has become an important characteristic of CAM usage, notably HMs, nutritional supplements, and homoeopathy (Expert Committee on Complementary Medicines in the Health System 2003: 102; MacLennan et al., 2006: 28; Spence & Ribeaux, 2004: 118), which highlights the extent to which CAM is a consumer-driven movement (Coulter & Willis, 2004, 2007; Sointu, 2006). The following sections will discuss the findings in relation to the references to risk, which had the highest frequency of all coding categories in the MJA over the period 1966-2008, as well as references to benefits as a comparison.

6.5.1 High frequency of risk references

The findings of this study indicate medicinal plant products and CAM are consistently framed in association with risk in the MJA more often than any other topic. Almost 70% of articles referred to risk in relation to HM or CAM. Although this does not necessarily mean this number of articles elaborated on the issue of risk, or had used an overall negative frame, the results from the content analysis indicate that, when clustered, risk items had the highest rate of frequency. This can be compared to items mentioning ‘benefits’ of HM or CAM, which were just above 40%. This overall notion of risk had the highest rate of occurrence in research-oriented articles (case reports, reviews and research reports), but was significant in all genres of article, all of which had frequencies of over 58%. This suggests a notably broad association of risk with HMs and CAMs in Australia’s primary biomedical journal as a discursive strategy.

There may be a range of reasons for the predominance of risk references. In the absence of audience reception analytical data, the reasons can only be inferred, based on various sociocultural factors which particularly impact on the researchers, authors, promoters, and readers of the MJA, and how these each interact with the issue of HM and CAM, as well as the findings from studies like those of Lin et al. (2005) and Braun (2006) about how...
biomedical practitioners perceive risk. These inferences will be explored in the following sections.

6.5.2 Adverse events

The risk of adverse events from using HM or CAM was the most mentioned item in the entire MJA study. The importance of adverse events in relation to medicine-taking is a regulation issue – be it pharmaceuticals, vitamins or herbal supplements – which directly relates to Australia’s National Medicines Policy (2000) and the Quality Use of Medicines as a major objective of this policy. The National Prescribing Service (NPS) is an independent public company that supports the National Medicines Policy (NMP) and includes members from government, as well as peak medical, pharmacy, consumer, nursing, pharmaceutical industry and hospital organisations. The estimated 140,000 hospitalisations per year associated with people taking pharmaceutical medicines (Roughead & Semple, 2002: 17) has been a significant factor in the attention to the problem of adverse events and encouraging ‘quality use’ of medicines by lay people (defined by the NPS as ‘consumers’), health professionals and those who manufacture and market the medicines.

Since the 2003 report from the Expert Committee on Complementary Medicines in the Health System, the NPS has incorporated CAM usage (or what it refers to as ‘Complementary Medicine - CM’ usage) into its research agenda:

to better understand the use of CMs and the information needs and preferences of consumers and health professionals around CMs. The results of this work will underpin the development of strategies to promote the quality use of CMs by addressing gaps in the knowledge and skills of health professionals and provide information to assist decision-making by consumers and health professional about CMs. (NPS, 2008b: 5)

The chance of an adverse event is the leading issue mentioned in articles about HM or CAM in the MJA. It is arguable this rate of frequency is out of proportion with the actual occurrence of adverse events from usage of HM or CAM therapies, particularly in light of the very high rate of hospitalisations caused by pharmaceutical products cited above. The

38 www.nps.org.au
39 This committee was formed by the Federal Government in the wake of the Pan Pharmaceuticals event that resulted in Australia’s largest medicines recall in April 2003.
substantially lower statistical likelihood of an adverse event from HM or CAM has been discussed by Myers and Cheras (2004), although it is argued in the Lin report (by Bensoussan et al., 2005: 54) that the level of risk is likely to be underestimated. Myers and Cheras (2004: 225) urge *MJA* readers to consider the risk in its context, noting that even if the number of recorded adverse events from Chinese medicine over the past 20 years were multiplied by 100, this number would still not be comparable to drug-related adverse events in only one year of medical practice. Braun et al. (2010: 243) have also noted the comparably lower chance of a serious adverse reaction from a HM or CAM product.

The *MJA*’s focus on adverse events is understandable in the context of the National Medicines Policy. However, there are some other issues to be considered in the light of the high rate of references to adverse events in articles about CAM or HM in the *MJA*. Studies of cancer reporting by Weeks, Verhoef and Scott (2007) and Mercurio and Eliott (2009) have found that risks are represented less frequently than benefits in articles about CAM – however, these were studies of the mass media, not of biomedical journals. Recent studies have also suggested a bias towards negative reporting about HM or CAM in comparison to reports about pharmaceutical medicines (Kemper and Hood, 2008; Bubela, Boon and Caulfield, 2008), although it is important to note that positive or negative intonation was not being measured in this content analysis, nor was a comparison being made with articles about biomedical products or therapies. Only the Kemper and Hood study of 2008 considered biomedical publications in its comparative content analysis, therefore there is limited evidence available for this genre in particular.

References to several specific causes of adverse events – toxicity, drug interactions, dosage, adulteration, and contamination – are discussed in the following sections.

Although the potential for toxicity was the most referred to item that could cause an adverse event, these references waned into the 2000s. Drug interactions were the next most common code attributed to adverse events in the discourse, particularly in the 2000s, followed by problems of dosage. Adulteration and contamination were the most frequently mentioned causes of adverse events related to quality control at the manufacturing stage. The inferences from the frequency of references to toxicity and drug-interactions are discussed in the following sections. The dearth of references to self-treatment is also discussed.
6.5.3 Risk of toxicity

References to toxicity outweighed mentions of any other specific risk of taking HM or CAMs, and the frequency of references to this code have the potential to contribute to a view amongst *MJA* readers of a strong link between HM and toxicity. However, it is mentioned far less as an issue in research reports or systematic reviews.

Herbs as potential toxic substances are the primary topic of a letter to the editor by Talalaj and Czechowicz in 1988. The title of the letter ‘Are herbal remedies safe?’ is rhetorical, given the extensive commentary that follows about the risks, using terms such as ‘toxic’, ‘severe poisoning’, ‘liver damage’, ‘carcinogenicity’, ‘lethal’, ‘herbal abuse’ and references to death. (Talalaj & Czechowicz, 1988). The overwhelming message in this letter, which almost functions as an editorial or even a review in its citations of case studies and clinical reports of adverse events, is that herbal products – used as a medicinal therapy – can be fatal. The authors’ main concerns here are the problematic combination of HM’s popularity with the lack of knowledge (by both doctors and consumers) about the potential deleterious effects and toxic nature, as well as the issue of self-treatment. This is the first time the suggestion of pharmacovigilance is made in the journal. No mention is made of herbalists - a matter subsequently taken up by naturopath Jesse Sleeman in a letter in August 1988 (1988: 166).

References to toxicity of HM gather momentum during the 1980s and are at their highest during the 1990s. Letters, case reports and editorials have the highest reference to toxicity. The frequency of toxicity decreases during the 2000s, with the last reference to it during the period of analysis being found in 2006. The earlier representations of toxicity appear to be more hostile towards HM, the later representations appear less so (although a latent analysis which incorporates analysis of framings about HM or CAM is not part of this particular study). The notion of toxicity does not appear to negate the legitimacy of HMs during the 2000s, exemplified in a 2006 editorial in the ‘Viewpoint’ section of the *MJA* by Robotin and Penman:

Some herbal medicines have toxic effects (kava causes hepatotoxicity), interact with prescription drugs (St John’s wort), or cause surgical complications (garlic, gingko, and ginseng may enhance bleeding; ephedra causes cardiovascular instability; and ginseng causes hypoglycaemia) (Robotin & Penman, 2006: 377).
This paragraph occurs in a section titled ‘Efficacy and safety of CAM for cancer patients’ and is noted as ‘specific challenges’ posed by certain herbs. This commentary is preceded by references to CAM’s potential usefulness for people with cancer. Despite the definitive language being used (‘ginseng causes hypoglycaemia’), the overall article acknowledges the role HM may play in health care.

Volume 178, issue 9 (2003) of the *MJA* contains a case report, an editorial and a review of the herb kava (*Piper methysticum*) and toxicity. The case report presented by Gow et al. (2003) documents the case of a 56 year-old woman whose death was attributed to a product containing kava and passionflower (*Passiflora incarnata*). As a result of the case, which was the first Australian case of kava toxicity, and which followed 30 recorded cases of hepatotoxicity in Germany and Switzerland (TGA, 2010), the TGA initiated a voluntary recall of all complementary medicines containing kava extracts on 15 August 2002 (Currie & Clough, 2003: 421). The editorial by Currie and Clough in the same issue considers the cultural context of kava usage and notes the absence of accounts of toxicity in traditional, indigenous contexts, as also noted in the review of kava by Moulds and Malani (2003) in the same issue. This point about HM being safe within its cultural context of usage was raised by Group One in the focus groups findings presented in the previous chapter (Table 5-2). Such discourse reflects a newer, more sophisticated approach to HM and risk in the *MJA*, whereby multiple factors are considered in relation to HM risk, well beyond the ‘natural is not necessarily safe’ rhetoric. A crucial point is made by Moulds and Malani (2003: 453), which reflects this:

> The banning of kava by most Western countries has had a detrimental effect on the economies of Pacific island countries. In addition to this economic imperative, there are important public health reasons for determining whether kava is inherently hepatotoxic. Once this is known, attention can focus on the mechanism of the toxicity. Knowledge of the mechanism of toxicity might then allow a safe preparation to be developed and/or subpopulations identified who should not ingest kava.

Despite the association of toxicity, this discourse on kava does not refute the plant’s validity. Rather, it considers the multifarious factors for its toxicity, and introduces the important sociocultural concept of traditional usage (based on a history of traditional knowledge)

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40 The term ‘kava’ refers both to the plant and to the drink made from the kava plant, which is drunk socially in Pacific island communities (Pollock, 2009: 267).
versus Westernised appropriations of traditional plant medicines like kava, which are manufactured in standardised pillule form. This issue is discussed at length by Pollock (2009), who points out the intricacies of kava production and usage in its traditional and non-traditional contexts. Subsequent to the TGA recall, kava preparations made using an aqueous extraction method, similar to its traditional preparation, were allowed back into the market (TGA, 2010a). This transformation in how the toxicity of herbs has been reported and discussed in the MJA reflects the evolving state of HM in contemporary Australian society. Discourses about toxicity give way to newer discourses about drug interactions in particular at the turn of the century, reflecting the dynamic nature of risk constructions.

6.5.4 Drug interactions
The risk of a HM interacting with a pharmaceutical product does not appear in the period studied until the letter by Talalaj and Czechowicz in 1988. This herb-drug interaction risk issue is not raised in MJA editorials until 1997 (Shenfield et al., 1997). The MJA’s first review article to refer to drug interactions with HMs appears in the same issue (Drew & Myers, 1997). A political problem with the issue of drug interactions is that biomedicine’s main tool of trade becomes subverted by being subjected to the interference of chemical reactions with those foreign to the profession’s repertoire. Notably, in reporting on or discussing drug interactions, biomedical discourse tends to lay blame on the plant-based medication for ‘interfering with’ the orthodox medication (Newell & Sanson-Fisher, 2000: 110). The pharmaceutical product does not receive this treatment, because it is accepted that it has a right to be there. No articles in the MJA elaborate or specifically focus on herb-drug interactions (although Rey’s 1998 review of St John’s wort does give details on the specific problems caused by using this herb and antidepressants concurrently) until a review by Myers and Cheras (2004), both academics, researchers and advocates of HM and CAM, whose writings in the MJA are elaborated on in Section 3.2.4. Theirs is the only article to list the most ‘important herb-drug interactions’, which provides critical information for those prescribing the pharmaceutical medications implicated. In this article, Myers and Cheras also use the scientific tool of calculation to make the political point that if the risk was as

41 The current restrictions for the therapeutic use of kava (Piper methysticum) are detailed in the Therapeutic Goods Regulations 1990, Schedule 4, Part 4, Division 2 (Plant material from which herbal substances may be derived for listable goods that are consistent with certain qualifications), Item 35.

42 A number of factors may be responsible for this attitude. First, pharmaceuticals are subjected to a more stringent process of proving their safety and efficacy, based on randomised controlled trial studies. Second, pharmaceutical medicines are deeply ingrained into the modern biomedical psyche and have, as a result of their positioning in the 20th century, earned the generic term ‘medicine’ at social, political and cultural levels.
high as has been suggested, given the potential severity of the reactions, many thousands of
reports would have been made:

Based on the Australian Bureau of Statistics’ projected estimate of the Australian population of 20.048
million people in February 2004, the number of people potentially at risk of CAM-drug interactions
lies between 1.8 million and 4.07 million. Yet, relatively few reports of interactions are published or
submitted to government agencies such as the Adverse Drug Reactions unit of the Therapeutic Goods
Administration (TGA). There is little doubt that such adverse reactions are under-reported, although
the extent of under-reporting is unknown. It is unlikely, however, that thousands of such reactions
remain unreported in the community (2004: 223).

Knowledge about potential adverse reactions caused by mixing HMs and pharmaceutical
medications is scarce in the literature (Hu et al., 2005: 1268) and has only been articulated in
biomedical publications (albeit sparsely) since the mid-1980s, as a review of the literature by
Hu et al. indicates (2005). This risk has been a cause for concern for medical practitioners
who prescribe drugs like warfarin, digoxin, phenelzine and even paracetamol, which may
interact with herbs such as garlic (Allium sativum), gingko (Gingko biloba), and ginseng
(Panax ginseng).43

Articles in the *MJA* largely refer to the risk of herb-drug interactions but do not elaborate on
it. While this aspect of HM risk is steadily being constructed in the *MJA*, and is conveyed as
representing a significant difficulty facing doctors in modern practice, the *MJA* articles (with
the exception of Myers and Cheras, 2004) rarely seek to educate the readership by providing
more extensive information about this issue. Rather, references to the risk of herb-drug
interactions appear to be utilised in broader commentary supporting a theory of broad,
sweeping risks about HM, instead of the specific risks relevant to practitioners who may
have presenting cases of adverse effects from a herb-drug interaction.

### 6.5.5 Self-treatment

The issue of self-treatment, classified in this study as an extrinsic factor of HM risk, is not
often referred to in the *MJA*, particularly during the 1990s and 2000s, at a time when the
consumerisation of health was becoming increasingly apparent (Coulter & Willis, 2004:
588-89, 2007). Six of the 10 articles referring to the problem of people self-medicating with

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43 For a more detailed account of specific herbs that may alter the pharmacokinetics of a pharmaceutical drug,
see Hu et al. (2005). As these authors point out, pharmacokinetic herb-drug interactions are a result of altered
absorption, metabolism, distribution and excretion of drugs (2005: 1241).
HM or CAM were letters (two were research reports and two were case reports). There were case reports referring to people presenting at hospital with an adverse event, but which did not specify that self-treatment was a factor. This lack of reference to the issue of lay people self-prescribing is surprising, particularly during the 2000s, given the association of HM and CAM usage with self-treatment.\textsuperscript{44} That people taking HM self-medicate may indeed be taken as a given, or it is also possible the notion of lay people self-medicating may be perceptually aligned with their choosing to see a non-medical HM or CAM practitioner. This lack of reference to self-medication is also reflected in the findings from the content analysis of mainstream Australian newspapers, presented in Table 7-2.

### 6.5.6 Consideration of other risk codes

Like drug interactions, the issue of dosage is a potentially important matter for any sort of medicine-taking. However, it is mentioned with substantially lesser frequency than toxicity, and also occurs less often than references to drug interactions. Wardle (2008: 137) has pointed out the more significant risk posed by taking CAM products is related to the ‘injudicious use’ of them, rather than their ‘inherent[ly] harmful nature’. The risks of taking herbal products in high dosages are represented in articles about kava ingestion in a remote Aboriginal community (Mathews et al. 1988) and comfrey (Abbott, 1988). A review article by Jorm et al. in 2004 indicates a turn towards acknowledging herbs as potentially potent substances, which therefore have the potential to be efficacious:

A Cochrane review of 11 RCTs concluded that kava is superior to placebo for treating generalised anxiety. Adverse events reported in these trials were mild, transient and infrequent. Kava is also non-addictive at therapeutic doses. However, there have been reports of rare cases of liver failure in people taking high doses (Jorm et al. 2004: S32).

Dosage as an issue in the \textit{MJA} progresses only gradually from the 1980s into the 2000s, and the discourse shifts (albeit momentarily) when a more rigorous article that reviews all of the existing scholarly literature appears, such as that quoted by Jorm et al. (2004) above.

Another risk represented, that of a patient being discouraged to take biomedical therapies in preference for HM or CAM treatments, or deciding to use them as an alternative, is an issue.

\textsuperscript{44} In their survey published in the \textit{MJA} in 2006, MacLennan and colleagues found amongst respondents a self-prescription rate of 39.2\% for vitamins, 20.6\% for herbal medicines and 13\% for mineral supplements (2006: 28).
which seems to have arisen in the *MJA* only in the last 20 years or so, and then has become mentioned more at the turn of the new century:

Risks associated with the practice of CAM can be either risks of commission or risks of omission. Examples of risks of omission include:

- Removal of appropriate medical therapy (which can lead to loss of the benefit of that therapy, increased morbidity and, in some cases, death) (Myers and Cheras 2004: 224)

An interesting comparison in commentary from two research articles in the mid-2000s can be made, which highlights the distinctions in the way in which this issue may be referred to or discussed. The first, based on a content analysis of 157 letters from members of the public recommending CAM treatments to a prominent politician with lung cancer, highlights the dangers of using CAM as an alternative to biomedical treatments:

Of gravest concern, if CAM methods are used as alternatives to rather than as complementary to evidence-based medical treatments, patients may deny themselves potential benefits and even cure (Lowenthal, 2005: 579).

In 2006, a follow-up study of the much-cited representative population surveys conducted in South Australia, under the direction of medical practitioner Alistair MacLennan, was published. In the past, MacLennan had been more critical of CAM treatments and the public’s acceptance of them. For example, in the first study of 2002 he and his co-authors likened giving children unproven CAM therapies with child abuse (2002: 172). For the results of the most recent survey, published in 2006, a professor in complementary medicine, Stephen Myers, joined the research team. A shift from a broader negativity towards CAM can be perceived in the follow-up research paper of 2006:

Patients offered CAM interventions must not be denied access to standard proven therapies. Equally, as the evidence base for CAM increases, any CAM medicine or intervention with appropriate evidence should be seen as a reasonable alternative to a conventional medical approach (MacLennan et al. 2006: 31).

The potential dangers posed by problems during the manufacturing process are most commonly highlighted in the references to adulteration and contamination of HM products.
References to these codes demonstrate the discourse of risk turning to the context of commercialisation, and the increase in their frequency is a reflection of the commercial growth of HM, as well as its globalisation as a health product. References to quality are common in the *MJA* over the period of analysis, and concerns about risks posed by quality issues are also reflected in the Australian-based government commissioned reports by Bensoussan and Myers (1996) and Lin et al. (2006), as well as an independent report to the Queensland Health Minister by Wardle (2008). Most of the references to the ‘lucrative industry’ associated with HM (see Appendix 3) occurred in the last decade, coinciding with the globalisation phenomenon.

### 6.5.7 The absence of risk associated with lack of knowledge

The association of biomedical ignorance with danger as highlighted by O’Neill (1994) is downplayed in the journal articles. An inference for this could be that its admission poses a major threat to biomedical professional legitimisation. The dearth of reference to doctors’ lack of knowledge about HM – given the contrastingly high proportion of references to adverse effects in particular – is worthy of extrapolation. The term ‘downplayed’ is used, because the key peer-reviewed journal for the Australian Medical Association (AMA) should be the primary location for addressing a problem associated with one of the most socially, politically and historically lauded elements of the biomedical practitioner or researcher, and one of the major bases for patients’ trust in them: their knowledge. The references to the notion that ‘doctors lack knowledge about botanical medicines or CAMs’ are euphemised as ‘gaps’ in knowledge or ‘limited’ knowledge. For example, ‘little is taught in medical schools…’, ‘little understanding of…’, ‘self-identified gaps…’, ‘limited knowledge…’ ‘uninformed about…’ are some of the references to the matter of the CAM knowledge deficiency amongst biomedical practitioners (Ernst, 2001b, 2003; Gorey et al., 1992; Newell & Sanson-Fisher, 2000; Robotin & Penman, 2006; Talalaj & Czechowicz, 1988: 102). There is no reference to such a lack of knowledge being associated with negligence, given the escalating usage of HM and CAMs.

A review of CAM therapies by Ernst (2001b: 88) starts with the following point:

> Complementary and alternative medicine (CAM) is frequently used by cancer patients, and many oncologists have limited knowledge of CAM.
The findings of Ernst’s review of CAM therapies commonly used by people with cancer focuses on the lack of evidence to support their usage, rather than the problem of ‘limited knowledge’ that exists amongst oncologists, and which is introduced at the start of the review. The article provides no recommendations for education of doctors in the ‘Comment’ section concluding his article – rather, the focus is on the lack of evidence and the need to ‘match CAM’s popularity with an evidence base’ (2001b: 92).

The articles analysed since 1966 have a greater tendency to suggest the need for doctors to ask about or discuss HM or CAM usage with their patients, or for action to be taken in relation to the education of medical practitioners. According to Thompson’s ideological modes of operation (1990), this could be perceived as indicative of the legitimation mode. In risk society, and what Giddens (1994) defines as ‘post-traditional’ society, the expertise of biomedical knowledge becomes subjected to doubt, scepticism, suspicion and challenge. In a context where the primacy of the role of doctors in Australian healthcare has been threatened at the level of the state (Willis, 2006: 423-8), doctors are consistently required to legitimate their role – to themselves and to society – as primary healthcare physicians.

The lack of knowledge about HM and CAM products is demonstrated in a 2004 study of four Melbourne hospitals showing that 200 surgeons, physicians and anaesthetists scored an average of 18% in a knowledge test about eleven of the most common HM and CAMs\(^{45}\), some of which are known to react with certain pharmaceutical medications (Braun, 2007: 207).\(^{46}\)

In a report to the Australian Health Minister in 2008, Wardle suggests that a reliance on ‘conventional health providers may not be sufficient in respect to CAM’ and points out ‘conventional healthcare practitioners generally have poor training or knowledge of CAM when compared to CAM practitioners’ (2008: 28). The problems this poses for the professions is rarely addressed in the MJA discourse, as the findings of the content analysis indicate.

It is relevant to note the process of scientisation for HM in particular, which has been discussed in Section 3.3.2, has inevitably been reflected in the MJA discourse, which during

\(^{45}\) These HM and CAM products were: chamomile, coenzyme Q 10, echinacea, ginger, garlic, ginkgo, glucosamine, fish oils, St John’s wort, valerian, vitamin E (Braun, 2006: 207).

\(^{46}\) For example, St John’s wort is known to potentially interact with certain drugs prescribed for cardiac surgery patients, including warfarin, antiplatelet therapy, antihypertensives and digoxin (Braun, 2006: 154).
the 2000s incorporates systematic reviews and the findings of RCTs about HM. Despite this, the association of a lack of knowledge in the context of biomedical practice in particular is an issue about which there appears to be substantial textual silence during the period of analysis. This may be understood in the context of the undermining potential of the concept ‘doctors lack knowledge’, given that knowledge (in theory at least) is supposed to lie at the very heart of biomedical dominance. Instead, the MJA articles focus on ‘doctors should ask’ and the matter of educating doctors. Paradoxically, throughout the decades being analysed, this reflects a construction of knowledge taking place that in effect seeks to redress the very dilemma of deficiency in HM/CAM knowledge, although the risk represented by the biomedical professional lacking knowledge is barely expressed. The association of a lack of knowledge with negligence is a notion that is not articulated at all.

An MJA editorial by Kerridge and McPhee in August 2004 as part of the CAM series provides the only extensive commentary to offer insight into the ethical, philosophical and sociocultural issues at play. The editorial incorporates recommendations for education of medical practitioners with a critique of the limitations of a solely evidence-based focus:

…increasing the evidence base for CAM is unlikely to resolve questions relating to the incorporation of CAM into the medical practitioner’s lexicon of therapy. Literature from the US suggests that most doctors have limited knowledge of CAM therapies, and this may be primarily determined by their beliefs about the legitimacy of the therapies. There is also evidence that many conventional medical practitioners are unaware of the evidence that does already exist for CAM. This suggests that attention to medical education and to bridging the epistemological and linguistic gulf between conventional and complementary medicine is necessary. Overemphasis on evidence, regulation or integration fails to appreciate the substantial differences between allopathic and complementary medicine, including differences in the meaning and context of health and illness; in methods, language and culture; and in the relationship to science (Kerridge & McPhee, 2004: 166).

6.5.8 The fault of the patient - the problem of disclosure
The fact that most of the references to the issue of disclosure occurred in the last decade or so indicates this is a more recent issue in biomedical discourse about HM and CAM. Gabe (1995: 7) points out that when people feel at risk they have a tendency to blame members outside their own group or community rather than focus on ‘the dangers afforded to their community by their own members.’ The problem of patients not disclosing their HM/CAM usage to doctors is frequently articulated in such a way that it places the blame on the patients, if non-disclosure occurs.
The problem with HM and CAM that medical doctors face is not represented in the *MJA* as being associated with the inadequacies of the knowledge base of Australian medical practitioners, over the 42-year period being investigated. The problem of ‘disclosure’ receives proportionally more mentions than the issue that ‘doctor’s lack knowledge’, particularly during the most recent decade. This quandary for medical practitioners in some ways enables a shift of blame to be placed upon the individual patients who do not disclose their usage of HM or CAM products to their doctor. As a result of this dilemma facing doctors, they are advised quite regularly to gain their patients’ confidence and ask them if they are taking any such products:

> If a proportion of patients are going to use alternative therapies, it is important that their doctors are informed: firstly, so that possible interactions and complications can be avoided, and secondly, to enable doctors to provide informed opinion on the alternative choices available (Lowenthal, 1996: 536).

This editorial by Lowenthal, whose writings in the *MJA* have not been entirely welcoming of CAM therapies over the years, is an example of placing the responsibility of disclosure on the patient: ‘it is important that their doctors are informed’, which also assumes doctors will be able to provide ‘informed opinion’ on the alternative choices available. As noted by Braun in her research (2007), evidence about biomedical practitioners’ knowledge of CAM is contrary to this notion.

Authors such as Ashby et al. (1996), Shenfield et al. (1997), and George et al. (2004) do note the sociocultural reasons for the problem of disclosure in a way that confronts medical practitioners with the anticipated ‘negative response’ or judgemental attitude:

> If 50% of Australians are using alternative treatments each year, it is essential that doctors recognise this fact and be prepared to discuss such use with their patients in a non-judgemental manner (Shenfield et al., 1997: 517).

Disclosure entails ‘gaining patients’ confidence’ (Lowenthal 1996: 536). A 1996 editorial by Lowenthal almost desperately bylines: ‘We must let patients know we are on their side and make every effort to ascertain and deliver what it is they seek from treatment’ (1996: 536).
The blaming of patients for not disclosing their HM or CAM usage to their doctor highlights an attitude towards those non-experts or lay people who refuse to respond to expert or biomedical communications on risk, who are routinely positioned as ‘ignorant’, ‘apathetic’ or lacking ‘self-efficacy’ (Lupton, 2000: 206). A letter to The Sydney Morning Herald by a senior lecturer in dermatology at The University of Sydney, commenting on the death of a 9-month old baby whose chronic eczema was not given medical attention, was headlined: ‘It’s neglect when parents distrust modern medicine’ (Fischer, 2009), reinforcing the asocial and individualised approach which Lupton critiques (2000: 206).

A research report in September 2004 based on the usage of and beliefs about CAM by patients with chronic obstructive pulmonary disease points out the reasons given by patients for not disclosing CAM use to their medical practitioner as ‘anticipation of a negative response, belief that CAM use is a patient’s own healthcare issue, and a perception that disclosure of CAM use is not relevant’ (George et al., 2004: 250). In contrast to this, Braun’s (2006) surveys of 136 patients at Frankston Hospital in Victoria based the main reason for non-disclosure on the fact that the patients were ‘not asked’ by the doctors (80.1%). Another significant reason was that they ‘didn’t think it was important’ (40.4%). Only one respondent said that they feared being negatively judged (2006: 267).

Of course this problem of non-disclosure can also arise for HM and CAM practitioners, although it is not yet commonly discussed in the literature of the professions, or in academic literature. A patient may conceal from their CAM practitioner that they are taking a form of therapy that may not be pleasing to their practitioner’s holistic, naturopathic perspective.

As Braun (2006) has noted, even if patients do provide information about their use of HM or CAMs, these practitioners remain largely unfamiliar with them, both in terms of awareness of issues about efficacy or safety. Of particular concern is the finding by Braun that they do not tend to seek further information. ‘As a result,’ Braun points out, ‘the information they can provide is limited to their personal perceptions and biases and is of questionable value’ (2006: 293).

The complexity of the various overlapping discourses operating at once in the MJA are highlighted by the next coding more frequently referred to in the MJA study than either
disclosure or lack of knowledge. That is the notion that ‘doctors should ask’ their patients whether they are using HM or other CAM products.

Disclosure is not the only concern in relation to HM usage. The problem reflected in the failure of practitioners to ask their patients about their HM or CAM usage has been documented by Braun (2006) in her research. Braun points out that problems caused by both doctors not asking patients about their HM or CAM usage, combined with patients not advising doctors of their use, reflects ‘a clear breakdown in communication’ and ‘prevents a therapeutic partnership from developing’ (2006: 293). The issue of doctors asking their patients will be explored in the next section.

6.5.9 Doctors should ask

Reference to the notion that ‘doctors should ask’ patients about their HM usage exceeds that of references to disclosure, and represents an important call to action for the readers of the MJA in the face of the increasing utilisation of HM, particularly in relation to self-prescription.

Rey and Walter’s review of St John’s wort in 1998 refers to the need to ask patients, with a focus on the risk of herb-drug interactions regarding St John’s wort in particular:

We need to routinely ask our patients about their use of [St John’s wort] and other herbal preparations. This is particularly important as concurrent use of SJW and other antidepressant drugs may be harmful (1998: 585).

In an MJA-published study of 173 patients with moderate to severe Chronic Obstructive Pulmonary Disease (COPD), 71 patients (41%) claimed to be using some form of CAM, including multivitamins and mineral supplements as well as HMs (George et al., 2004). The 2004 study noted:

The Expert Committee on Complementary Medicines in the Health System recommends that medical practitioners include questions (in a non-judgmental way) about use of CAM when taking a patient history, and include complementary medicines in adverse drug reaction reports (George et al., 2004: 251).

In Braun’s study of medical physicians, surgeons, anaesthetists and pharmacists at Frankston Hospital (2006) she discovered these practitioners ‘rarely’ or only ‘occasionally’ asked their
patients about their CAM usage. The most common reasons reported by practitioners for not asking patients about use of HM or CAM were that they forgot to ask (43.9%), didn’t think it relevant (37.8%), and/or didn’t have sufficient knowledge about it to ask (33.7%). Fifty-four percent of surgeons stated they didn’t have adequate knowledge or didn’t think it was relevant (45.8%) (2006: 235).

A systematic review of the literature on CAM treatments for depression in children and adolescents conveyed the importance of doctors conducting ‘informed discussion’ with their patients about CAM usage:

An informed discussion about CAM with the patient or guardians can enhance the therapeutic alliance, and provide an opportunity for the clinician to discourage the use of potentially harmful CAM treatments, suggest potentially helpful ones, and monitor effects, both beneficial and harmful (Jorm et al., 2006: 371).

The need for biomedical practitioners to consider the fact that their patients may be using HM has been increasingly referred to in the MJA since the early 1990s. This suggests it is an important issue for biomedical practitioners in relation to HM usage. Like the issue of disclosure and the matter of doctors lacking knowledge, the notion that doctors need to ask their patients about their HM usage is of course based on the belief that, primarily, HMs represent a concern for safety.

6.5.10 Inferences from the findings about risk

There may be a number of reasons for a predominance of risk references. Medical practitioners (in both general practice and hospital settings) are typically the first port of call in the event of significant adverse reactions from HM or CAM, as indicated in research by Braun et al. (2010: 243). Therefore, there is a pragmatic, professional requirement to understand the risks of these medicines, which have become more commonly used. This is by no means exclusive to HM products. As Braun has noted, there is an ‘overwhelming’ amount of published research about safety issues associated with pharmaceutical medicines (2006: 159).47

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47 Braun also notes: ‘It has been estimated that 35% of the primary published literature about medicine-related adverse events appears as formal studies or randomised controlled trials and 30% in anecdotal reports (2006: 159).
Another inference which can be made from the findings is the possible correlation of risk with a therapy that continues to be largely unfamiliar (rather than statistically harmful) for those working in the biomedical professions (Newell & Sanson-Fisher, 2000). This point was discussed in the previous chapter, in relation to the findings from the 2005 government report by Lin et al. This contradicts the findings by Slovic and Fischhoff (1980) referred to in Section 3.2.2, who discovered lay people’s fear of risk was related to uncertainty or unfamiliarity whilst experts considered risk in the context of annual mortality. Biomedical practitioners lose their expertise in the CAM domain, which may account for their association (and construction) of risk in relation to HM.

Consideration must also be given to the way in which risk discourse may serve the dominance of biomedicine in the Australian healthcare system. The construction of risk concepts is a boundary-making exercise to ‘define spaces of safety and danger’ (Carter, 1995: 145). As Carter has argued, this is not a democratic or neutral process (1995: 145).

O’Neill points out that ‘safety and danger are the key terms in disputes between medicines’ (1994: 504). As Willis (1989) has argued in the case of midwifery in Australia, in the process of medicalisation, notions of ‘danger’ are used to legitimate the authority and status of medical professionals. This association of risk has been placed at the centre of the debates about the role of HM in Australia for a number of possible reasons. One explanation is that the construction of a discourse about HM’s potential harmfulness has been perceived as an attempt to de-legitimise this non-biomedical medicine, which represents a form of knowledge which medical doctors do not have access to. It is here we can perceive Thompson’s ‘dissimulation’ mode of operation of ideology at work (Thompson, 1990: 62), in which the strategy of misrepresentation (ie constructing herbs as primarily risky) and occasionally trope (frequently lumping HM in with a whole disparity of CAM therapies, rather than as a distinct modality) are employed in order to reinforce ideological dominance. This tactic is further explored in the discussion of the findings from the newspaper content analysis presented in the following chapter. These tactics operate concurrently with the mode of legitimation (Thompson, 1990: 61), one of the more obvious strategies used in biomedicine’s rise to dominance, in which the tactics of rationalisation, universalisation and narrativisation are employed (see Thompson 1990 for an elaboration on these strategies).
Another possibility for the prevalence of risk references in MJA articles about HM is associated with editorial culture and the issue of publication bias, a matter which has been raised by Caulfield and Debow (2005), Bubela, Caulfield and Boon (2006a, 2006b) and Resch (1997), and in a more recent study by Polich, Dole and Kaptchuk (2010) whereby articles addressing risk and negativity in relation to HM or CAM are given preference in biomedical journals. At the same time it should be acknowledged that research and review papers are designed to measure both risk and benefit in a biomedical framework of meaning, issues which are certainly not exclusive to natural medicine products like HMs, as noted at the start of this section.

Efficacy is another prominent code in the MJA content analysis, although it is certainly not as prominent as risk discourse. The significance and inferences relating to this finding are theorised in the next section.

6.5.11 Comparing discourses: efficacy versus risk
Efficacy was the most highly referred to item of benefit in the MJA since 1966. Far more articles acknowledged the existing or potential efficacy of HM or CAM than those that referred to non-efficacy.

Risk undoubtedly plays an important role in the discourse about HM and CAM, however the frequency of references that demonstrate an increasing discourse of efficacy (the second most mentioned item in this study) indicates a crucial milestone for advocates of complementarity, integration or pluralism of therapies like HM in mainstream Australian healthcare. At the same time, efficacy discourse offers biomedicine an opportunity to harness HM and other medicine-based CAM therapies such as vitamins and mineral supplements, into its tools of trade or pharmacopoeia.

In a sociopolitical sense, a discursive strategy of risk in the MJA in relation to HM or CAM supports the medical doctor’s role as a ‘protector’ of the public, which has been an important aspect of the establishment and maintenance of biomedical dominance in Australia (Martyr, 1993, 2002; Willis, 1989). This is based on the notion that, because doctors have privileged access to elite knowledge, they are ‘guardians of scientific rationality’ (Scheid, 1993). Simultaneously, the construction of a discourse about efficacy may serve to enhance doctors’ roles as the masters of potentially dangerous substances, which only they are ‘equipped to
handle’ (O'Neill, 1994: 500). This is how ideologies of the strength and safety of pharmaceuticals can be ‘sold simultaneously’ (Nichter & Vuckovic, 1994: 1519).

From a perspective of professional legitimisation in biomedicine, it has been argued that efficacy may be regarded as an appropriate correlate to a therapy’s potential for harm. Once herbs became more ‘dangerous’ and entered the realm of formal biomedical risk discourse, their inherent potency (rather than benignity) inevitably had to be acknowledged:

Established [biomedical] practitioners hold that their own actions are often potentially dangerous but effective. What saves them is a virtue that is obtained through extensive scientific training – a mastery of (and indeed the proper title to) redemptive procedures, instruments and substances. The alternative others are believed either to possess things which are intrinsically harmless because devoid of medical meaning (like iridology) but which lead to harm by default or to compound their liability to cause injury by using powerful (and therefore potentially dangerous) remedies which they are not equipped to handle. (O'Neill, 1994: 500)

This acceptance of the potency of HM in addition to its increasing popularity and commodification meant the notion of quackery started to become more untenable and anachronistic. The above point made by O’Neill supports theories about co-option of HM and CAM (Baer, 2008; Coulter & Willis, 2007; Evans, 2008b; Singer & Fisher, 2007) which convey the alarm by the ‘alternative others’ – HM and CAM practitioners – regarding the ‘mainstreaming’ of their therapies or remedies. The pharmacognostic and phytochemical steps towards scientific validation of HMs via the laboratory or clinical trials have resulted in confirmation of ‘active constituents’ that, in a scientised or pharmaceuticalised sense, justify the herb’s potency and effectiveness and suddenly imbue it with ‘medical meaning’. Sociological discussion has criticised this process as a way for biomedical practitioners to not only defend their professional territory, but capture the new CAM market (Coulter & Willis, 2007; Singer & Fisher, 2007; Wearing, 2004).

The proportion of articles acknowledging HM efficacy points towards a waning of the biomedical hostility towards these therapies, which has been discussed in Section 2.7. No longer able to be ignored, they are emerging from the ‘eclipse’ referred to by Bakx (1991: 35). The inevitable correlation between potency and efficacy, discussed above, is reflected in Figure 6-5, which demonstrates the relevance of accepted potency with the acceptance of both risk and efficacy.
Keeping in mind the above contention of a decreasing biomedical hostility, however, it is important to note the virtual absence of references to statements that suggested there is, exclusively or not, a ‘need for medical supervision’ regarding HM and CAM, which was only mentioned in two articles during the period of analysis. Given the scrutiny being applied to the culture of biomedicine since the publication of sociological works by Ehrenreich (1970), Zola (1972), Illich (1976), Krause (1977), Brown (1979), Taylor (1979), Wohl (1984) and Willis (1989), it is likely there is a greater consciousness for MJA writers about using phrases that convey the arrogance or paternalism for which biomedicine has been so heavily criticised historically. At the same time it suggests such attitudes may be gradually phasing out, as influences of older, more orthodox biomedical practitioners wanes, a phenomenon which Kuhn argued is necessary before a ‘scientific revolution’ can occur (1962).

Significantly, and in relation to the previous point, there is no reference to ‘patients should see a naturopath or herbalist who specialises in HM or CAM’ (given the absence of registration of these professions in Australia), but there was an overall 10% frequency of references to the need for collaboration (the majority of which appeared in the 2000s). Despite the virtual inaudibility of the voice of the individual herbalist or CAM practitioner in the MJA (which is in contrast to the findings from the newspaper study presented in Chapter 7), these references to collaboration can be perceived as reconciliatory (in the historical context of marginalisation), and progressive in nature. At the same time, the idea of

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48 This point about the missing voices of herbalists or naturopaths in the MJA needs qualification. CAM practitioners like Myers and Bensoussan contribute to the MJA discourse about HM and CAM, as discussed in Section 3.2.4. However, they are typically represented as senior academics and researchers (both of whom hold professorial positions at universities) rather than as CAM practitioners (Myers is a naturopath and a biomedical practitioner, and Bensoussan is a TCM practitioner).
collaboration between biomedical practitioners and CAM practitioners has become increasingly essential, given the rate of usage by the population. The discourse in the *MJA* reflects (and sometimes laments) a pragmatic acceptance of lay usage – a consequence of the consumerisation of healthcare, a phenomenon in which, as Sointu (2006: 332) points out, healthcare is fused with contemporary consumption practices, and people prefer to be ultimately responsible for their own health.

The lack of reference to ‘need for medical supervision’ may also send the message that doctors simply do not have the knowledge in order to adequately supervise people using HM and CAM products, therefore it would not be astute to suggest it. This point has been referred to earlier in relation to Braun’s attitudinal research of hospital-based practitioners (2006).

### 6.5.11.1 Efficacy as a political goal

Drawing from another perspective, it has been argued that the act of proving efficacy has become a politically charged goal for practitioners and researchers operating in the domain of marginalised forms of medicine (Kim, 2007). In an ethnographic study of Korean Medicine’s encounter with the laboratory, Kim argues that Korean Medicine (KM) has responded to biomedicine’s hegemonic and colonialist attacks on its authenticity (particularly fierce during the 1990s) by adopting a biomedical methodology that focuses on publishing results in journals included in the Science Citation Index (SCI). This has had an effect of ‘globalising’ KM (or one might argue, ‘Westernising’ it) and applying a biomedical epistemology and methodology that does not cohere with ‘the traditional ways of KM practice’ (2007: 868). Kim argues that a critical problem here is the way in which the laboratory becomes a ‘political machine’ to prove KM is efficacious. The laboratory becomes something of an assembly line, ‘where scientists practise the same procedure and skills, alienating themselves from their labour’ (2007: 871). This works to the detriment of KM, Kim argues, whereby proving efficacy is the highest priority. Consequently, innovative research that strives to address the problems of incommensurability between the conflicting KM and biomedical epistemologies (Coulter & Willis, 2007; Evans, 2008b; Singer & Fisher, 2007) simply has no space in which to occur. The Kuhnian ‘scientific revolution’ may still be a long way off (Kuhn, 1962). Although HM and CAM is being increasingly accepted in biomedicine, it must be on the terms biomedicine dictates. This concurs with the point Lash and Wynne (1992) make in their introduction to Beck’s *Risk Society*: whilst other forms of
experience may be allowed into the scientistic, rationalist, modernist frame: ‘they do so only under sufferance and not as meeting with other legitimate forms of life’ (1992: 4).

Ultimately, these risk discourses, ‘despite taking on the trappings of liberal pluralism, remain firmly instrumentalist and reductionist’ (1992: 3-4).

Kim’s contention that proving efficacy is a politically charged goal is very relevant to the world of HM research, and can be recognised in the discourse about efficacy in the *MJA*. In addition to proving authenticity, I would contend that there exists an entire efficacy industry which has emerged with the scientisation of HM and CAM, commercially benefiting research institutions and researchers who compete for research grants and funding, as well as attracting students to their research programs. This can be appreciated in the politico-economic context of evidence-based medicine’s (EBM’s) ascendancy. Jagtenberg and colleagues argue EBM is a cultural movement, which has resulted in:

…the explosion of institutions dedicated to the teaching, researching, and proselytizing of EBM. There are dedicated journals, postgraduate courses and conferences, databases, and Web resources hosted by a plethora of centres and groups (2006: 325).

In the same way, the cultural shift to proving efficacy of HM and CAM has assisted to generate, as well as feed, an industry of research and education, supported by publications which endorse the scientisation movement, like the Journal of Alternative and Complementary Medicine (JACM), BMC Complementary and Alternative Medicine, Journal of Evidence-Based Complementary and Alternative Medicine (JEBCAM), and Alternative Therapies in Medicine, as well as biomedical journals which are increasingly publishing systematic reviews or clinical research papers. Support of the theory of nourishment of an efficacy industry, however, is less obvious in the *MJA* which has a high rate of reference for groupings of ‘need for scientific evidence’ (36%), but a very low pragmatic call to action, with just a 6% rate of mention of the need for funding of research into HM or CAM. The lack of state and corporate funding remains a consistent problem for researchers of HM and CAM in Australia. The deficiencies in public funding for HM and CAM projects are highlighted in the government report by Lin et al. (2005: 199).

Despite the high rate of references to adverse events, suggestions by Caulfield and DeBow (2005) and Eskinazi (1999) that medical journals have a bias towards publishing negative results about CAM therapies do not seem to be valid in the context of *MJA* reporting on HM
and CAM, given the high frequency of references acknowledging a therapy’s effectiveness or potential effectiveness. At the same time it is important to acknowledge a limitation of this study, which did not look at positive or negative intonation or framings.

6.5.12 On closer inspection: the construction of danger in MJA discourse about HM/CAM

The acceptance of potency is followed by more formal political calls for regulation of non-orthodox medicines by the medical profession. The first article retrieved on HMs regulation appears in the MJA in December 1988: ‘Herbal preparations – to regulate or not to regulate?’ (Moulds & McNeil, 1988: 572) and represents the MJA’s first call for regulation of HMs in accordance with the methods of pharmaceutical regulation. Although this editorial comment acknowledges the increasing popularity of HM usage, there is no reference to any benefits of taking herbs. Rather, the possible pharmacological dangers of botanical medicines are highlighted, as well as the need for controlled clinical trials – intrinsic to EBM practice – to determine their safety.

A research paper on the comfrey (Symphytum) species appears in the same journal issue, in which the author demonstrates the dangerous presence of pyrrolizidine alkaloids in comfrey and the reasons for access to the ‘poisonous’ herb being restricted to pharmacists and medical practitioners (Abbott, 1988). Although the author does acknowledge that ‘…it seems likely that at the normally low levels of exposure, the risk [of taking comfrey] would be very small’, this passing reference to dosage appropriateness is lost to the discourse on the dangers of ‘naturally-occurring chemicals which are found in plants’ (Abbott, 1988: 678) – a discourse which employs the languages of pharmacology and phytochemistry to convey the toxicity of pyrrolizidine alkaloids, with only two international cases and one Australian case of actual suspected comfrey poisoning cited in the article. The primary basis for the Abbott (1988) article on comfrey is to support the argument for what has been perceived by herbalists and naturopaths as a drastic regulatory move which prevents prescription of comfrey (and other such toxic plant substances) by HM practitioners or lay usage:

On the basis of the data that are available currently, the small but significant long term risk that is associated with the consumption of comfrey justifies the need to limit its intake. This is being achieved by controls under various state Poisons Acts, but also requires further education on the potential dangers of naturally-occurring chemicals of plant origin (1998: 678).
As Mendel (2001) points out in her research, the ‘promotion of science as the ultimate authority’ is a key rhetorical tool in elite medical discourse in Australia (2001: 71). It is important to note that the nature of this promotion of scientific ideology in relation to HMs in Australian elite medical discourse may not necessarily be in keeping with what is deemed ‘sound’ scientific theory and method according to the principles of EBM. Bone has argued that misinterpretations and exaggerations by biomedical scientists of the therapeutic or physiological effects of HMs are not uncommon in scientific literature based on in vitro data or animal experiments in HM research (1999: 22-24). In 1988, Bone submitted a letter to the MJA refuting claims by Talalaj & Czechowicz (1988: 102) regarding the toxicity of herbal remedies. Bone’s letter was rejected by MJA on the basis that it contained ‘too many references’ (Bone, 1988: 7). The letter was consequently published in the newsletter of the NHAA and expresses its concerns with Talalaj and Czechowicz’s creation of a ‘distorted impression’ based on an ‘uncritical scientific review of the literature’, which Bone seeks to clarify (1988: 7). Bone presents evidence which argues that the article is problematic and misleading because of its presentation of inconclusive evidence to support its claims about toxicity of herbs, which includes citation of scientifically faulty surveys; distortion of facts about adverse effects; lack of knowledge about the epistemology of herbal practice; and the authors’ paucity of scientific information to support their claims of toxicity (Bone, 1988: 7-10). These concerns have also been expressed by Blumenthal (2010: 8) in relation to more recent research published in the Journal of the American College of Cardiology (Tachjian et al., 2010), which in addition to its errors such as lack of critical evaluation of the primary literature, did not even include Latin binomials in referring to the herbs being discussed, making it difficult for readers to identify the actual plant under scrutiny.

The construction of a discourse that labels botanical medicines and other non-orthodox therapies as potentially harmful, despite a lack of scientific evidence to prove their harmfulness, demonstrates the problems of social, cultural and political biases which may affect the individuals and the institutions creating such discourses. As reflected in the observational research of Latour (1986) and Jagtenberg (1983), the culture of scientific research is far from immune to such subjectivities. There is a strong sociocultural subjectivity linked to the individual act of constructing notions of risk, and it also functions to elicit emotive responses from the professional peer-group. The use of risk as a rhetorical device in diverting patients away from using CAM has been discussed by Broom and Adams (2009: 326) in their findings from in-depth interviews with oncologists in two Australian
hospitals. The authors note that despite the oncologists using notions of risk about CAM in relation to adverse effects or drug interactions, the discussions around risk were ‘speculative and based on no actual evidence’ (2009: 326).

In 1998 the first case report appears to acknowledge the range of traditional uses attributed to a particularly popular native American herb, *Echinacea purpurea* and *Echinacea angustifolia* (Mullins, 1998). It also discusses the pharmacognostic possibilities for the herb’s ‘purported’ efficacy. However, as a case report the article’s primary focus is on the potential for anaphylactic reactions to the herb, presenting one case study and citing 11 reports made to the Adverse Drug Reactions Advisory Committee (ADRAC) between 1996-1997. Ultimately, the article does not acknowledge whether there may be any benefits of utilising echinacea, merely that it is popular, and emphasises the potential dangers of ‘complementary medicines’ (rather than ‘herbal medicines’ or simply ‘echinacea’) for ‘patients with atopy [the tendency to develop allergies]’ (Mullins, 1998: 170-171). This delineation of a special ‘risk category’ of users indicates a move towards being more specific (despite the generalising of ‘complementary medicines’ in the article’s abstract and discussion) in relation to accepting idiosyncratic (rather than generalised) circumstances for a herb’s dangerousness. A letter of response to the Mullins (1998) article questioning the validity of the author’s claims about echinacea (Myers & Wohlmuth, 1998) includes a citation which reveals a possibly negligent omission on the part of Mullins – a systematic review (a ‘Level 1a’ type of evidence according to the Oxford Centre for Evidence-Based Medicine as indicated in Figure 3.2 in Chapter 3) of controlled clinical trials in the international peer-reviewed journal, *Phytomedicine*, which concluded ‘echinacea preparations can be efficacious immunomodulators, although further clinical evidence is needed’ (Melchart et al., 1994: 245).

A 2002 article (Whiting et al., 2002) presenting six case studies of severe hepatitis in patients who had been taking ‘black cohosh and other herbal remedies’ is more rigorous in its literature reviews than the Mullins (1998) article, but sticks to the formula that acknowledges popularity in usage but no suggested benefits, and primarily emphasises the potential and broad-sweeping dangers of using HMs. However, since the late nineties, and the increase in scientific research into HM in Australian academic institutions (Wohlmuth et al., 2002), the academic rigour of such articles has come under the scrutiny of scientific and biomedical researchers who have devoted their careers to complementary medicines.
research. In a letter responding to the Whiting article, Vitetta and colleagues point out the ‘failure [of the practitioners] to authenticate the plant compounds in the preparations’ (2003: 411) – which would seem a staggering oversight in terms of the requirements of presenting ‘sound’ scientific evidence in an elite medical journal like *MJA*. A more recent case report by Chow et al. (2008) on the risks of black cohosh (which is not part of the dataset from the content analysis) is less linguistically hostile to HM than the Whiting case reports, and refers to its acknowledged benefits, citing the WHO and The American College of Obstetricians and Gynaecologists (Chow et al., 2008: 421).

The issue of representations of the medicinal plant black cohosh (*Cimicifuga racemosa*) is raised again in Chapter 7, in a discussion of the findings from the mainstream newspaper analysis, which portray a somewhat distinctive approach to reporting on the risks of black cohosh, catering to a lay readership.

### 6.6 Limitations of the *MJA* study

As discussed in the previous chapter on the study methods used, longitudinal content analysis is a methodological approach that can provide, in a systematic way, a broad picture of the messages being conveyed over a period of time, which has been the objective for this study. However, as a method on its own, content analysis does not provide a sense of audience effect, nor can it predict it (Weerakkody, 2009: 160). In content analysis, researchers can only infer the meanings of how and why something may be represented in a certain way, as well as what the possible consequences of it may be (Holsti, 1969: 46; Krippendorff, 2004: 18). A study of how biomedical practitioners and researchers respond to such content would give further insight into the relationship between *MJA* content and its readers. Audience reception studies are particularly needed in HM and CAM research (Weeks & Strudsholm, 2008).

The aim of the study was primarily to map the discourse about HM and CAM over four decades, and to scrutinise the frequency of references to risk as well as other issues. It was not intended as a study of specific media frames, or positive and negative representations, an approach used in the content analysis of mainstream Australian newspapers, presented in Chapter 7. Framing analysis of *MJA* representations of HM is to be considered for another study.
This study was a preliminary mapping exercise, which used two researchers for the potentially subjective process of creating coding categories. Only the author undertook the actual coding process of denotative categories. There is arguably less risk of bias in the coding of denotative meanings that are explicitly stated and require little interpretation for coding purposes, as Krippendorff (2004) has pointed out, however this may be seen as a limitation of the study.

6.7 Conclusions

Without awareness and professional engagement with the CAM phenomenon (Coulter & Willis, 2004; Coulter & Willis, 2007), Australian biomedical practitioners are at a distinct professional disadvantage. Research in Australia shows both hospital-based and private practice physicians rely on medical journals for their primary information about HM or CAM products and therapies (Braun, 2006: 243; Lin et al., 2005: 227). The broad-reaching social and political influence of biomedical journals has been noted by Smith (2006), a former editor of the British Medical Journal.

Risk is the dominant issue that appears in the MJA in relation to HM and CAM. Case reports, reviews, research papers and letters all had risk frequencies of over 70%. Review articles and research papers, the least tolerant platforms for conveying bias, had a high rate of reference to risk and benefit. Review papers were found to have greater reference to benefit than risk. Based on these findings, it is likely the increase in review and research papers about HM and CAM will result in more broad-reaching and sophisticated scholarly representations in the MJA, drawing from rigorous research approaches.

Possible reasons for the prevalence of risk in the findings have been discussed and include: professional requirements of risk awareness for biomedical practitioners who are effectively on the ‘front-line’ of adverse reaction presentations; doctors’ unfamiliarity with HM and CAM; the legitimisation of biomedical dominance; the issue of publication bias; and also the legitimisation of HM/CAM industries, research institutions and professions.

The high rate of references to efficacy in the study have also been discussed, and, it is argued, highlight the casting of doctors as both ‘protectors’ (in the case of risk) of the lay
public and as ‘masters’ of the dangerous therapeutic substances in the case of efficacy. It has been theorised that the acceptance of potency infuses HMs with medical meaning for biomedical practitioners. Accepting efficacy has also posed a commercial opportunity for doctors in terms of capturing a new CAM market. It is argued that the substantial number of references acknowledging efficacy indicates a decreasing hostility towards HM or CAM, and provides evidence that there is a ‘softening of the hubris’ in Western biomedicine regarding these therapies, as di Stefano has articulated (2006: 77). The relationship between potency, efficacy and risk has also been contended, and it is argued that as potency and risk become accepted, efficacy must inevitably be accepted as well. This relationship is conveyed in Figure 6-5.

The problem of efficacy as a political goal has also been presented, drawing comparisons with Kim’s (2007) sociological commentary about Korean Medicine. This also led to the reference to risk society theory, in which ‘other forms of experience’ are allowed into the scientised frame, but must exist on the rationalistic and reductionist terms dictated by orthodox science (Lash & Wynne, 1992: 3-4). This has also been discussed in the context of the EBM movement, which has encouraged a scientised approach to understanding HM, as well as fostering the development of components to a lucrative academic and research industry.

The limitations of the manifest content analysis have been presented, notably the need for audience effects research to be undertaken if discussions are to extend beyond inferences based on the data being presented as well as other relevant literature.

This preliminary analysis of biomedical discourse about HM and CAM in the MJA paves the way for further investigation into how the issues surrounding HM and CAM are being discussed in biomedical literature, and importantly, how these representations may be shaping perceptions and philosophies of their readers and those they influence. The findings from the MJA study inspired subsequent research of a very different medium, which is frequently influenced by the biomedical discourse that occurs in journals like MJA. The main audience for this medium is ‘lay people’, or non-experts and the medium is the news genre of mainstream newspapers.
The following chapter turns the attention to mainstream news reports in Australia. The objectives and results from the content analysis of 138 news reports about HM in Australian mainstream newspapers are presented, and my arguments for the implications of these findings are articulated.
7 HM and risk in Australian newspapers: A content analysis

7.1 Introduction

This chapter presents the results from the longitudinal content analysis of news reports about HM in mainstream Australian newspapers from January 2005 to May 2010, and provides an interpretation of the findings. Unlike the MJA study, this content analysis is restricted to an analysis of articles referring to HM specifically, rather than the broader definition of CAM. The search terms and inclusion and exclusion criteria are defined in Sections 4.8.4 and 4.8.5. The specific methods employed for this study, which is the third phase of the research, have been outlined in Section 4.8 and are represented in the research flowchart in Figure 4-3.

The results indicate that HM as a product or therapy fraught with risk, is by far the most pervasive frame in relation to news reports in mainstream national and metropolitan Australian newspapers over the past five years. There was also a high rate of negativity in headlines and article tone overall.

Corruption, consumer vulnerability and negligent practitioners are the other main frames used in news discourse about HM, frames related to risk. Also prominent are the frames depicting HM as an effective therapy, as well as a product and practice which needs to be regulated for public safety, and as a therapy that is popular with the public.

The main sources and spokespeople referred to in news articles using the risk frame were government, universities (mostly from biomedical research in the risk frames) and hospitals. The most prominent voices across all article frames were the police and courts, universities, and government. HM or CAM practitioners and universities were the most likely sources to be quoted in articles with the efficacy frame. Lay people and celebrities were the least cited group in the analysis, which challenges findings from other content analyses about CAM in the media, both in Australia and further afield. CAM journals were not cited as a source in any of the news articles.
These findings from the newspaper content analysis are linked to news culture, events, timing and the journalist-source interface. The convergence of these elements and how they impact on the news production process has been discussed in Sections 3.5-3.7.

This study highlights the various ways in which risks and other frequent frames such as efficacy and regulation are constructed in mainstream Australian news articles about HM, and challenges other research of HM and CAM representations in the mass media. The mapping of news frames highlights the competing, collaborating and conflicting claims by stakeholders that include government, universities, private industry, health professionals from biomedicine and CAM, and lay audiences. Reasons for the predominance of risk as a discursive construct in news reports about HM are discussed in this chapter. The risk-efficacy relationship, discussed in the previous chapter, is also relevant to the findings from the newspaper analysis.

This research is the first of its kind to consider risk and other representations in relation to HM discourse in Australian news reportage. The interpretation of the findings demonstrates how and why such representations contribute to the construction of HM risk, a discourse that may influence HM usage by lay people, its acceptance by the mainstream health professions and its place in the healthcare system, and the formulation of public policy.

### 7.2 Results

#### 7.2.1 Longitudinal frequency of news articles

Figure 7-1 reflects the longitudinal frequency of news articles from the content analysis. The highest proportion of articles about HM appeared during 2005 (35/139 articles) followed by 2006 (28/139 articles). Twenty-five articles appeared in both the years 2007 and 2008. The lowest proportion of articles (17) was published during 2009. The 2010 period measured only extends to end-April, which was the cut-off point for the data collation, therefore the figure of nine articles only reflects a 4-month period.
7.2.2 Article frequency by newspaper

Of the 18 newspapers reporting on HM, The Daily Telegraph (14.4%) and The Sydney Morning Herald (13.7%) published the most articles referring to HM during the period of analysis. These frequencies were followed by The Australian (10.8%), the Herald-Sun (10.8%) and The Advertiser (10.1%). This suggests a balance of reporting on HM between tabloid and broadsheet newspapers in Australia. The fewest news reports on HM occurred in the Sunday newspapers, followed by these dailies: The Canberra Times (2.2%), The Age (3.6%) and The West Australian (3.6%).

7.2.3 Manifest analysis

Out of 139 articles, and applying 45 codes to the manifest analysis, risk was the most frequently referred to code both as an individual code and when all risk-related codes were clustered. The code ‘Risk HM’ (‘General risk of HM or general/specific risk of HM practitioner’) had the highest single code frequency, being mentioned in 57/139 articles (41%). When all risk codes were combined into a cluster for the manifest analysis, there was a frequency of 67.6%.

Of the ‘Risk HM’ category, which also referred to the risk of HM practitioners either generally or specifically, there were 31/139 articles that referred to two separate court cases.
involving an unqualified practitioner claiming to be a naturopath in Sydney (Jeffrey Dummett), and a Melbourne naturopath who had been accused of sexually assaulting patients (Michael Wilson). These amounted to 22.3% of the 139 articles and comprised over half (54.4%) of the references in the ‘Risk HM’ category. When the Dummett/Wilson articles were excluded, the ‘Risk HM’ category had a much lower frequency of 18.7%. This distinction is reflected in Figure 7-2.

**Figure 7-2 Proportion of Dummett/Wilson articles within ‘Risk HM’ category**

Table 7-2 presents the raw percentages for the most referred to codes during the period of analysis. The proportion of these articles based on the Dummett and Wilson reports are indicated in Table 7-2. ‘Adverse events’ was the second most referred to item occurring in 46 articles (33.1%), followed by ‘HM is effective’ in 39 articles (28.1%). The results of peer-reviewed research were mentioned in 32 articles (23%) and reference to the need for regulation of HM (whether it be the product or the practitioners) occurred in 31 articles (22.3%). ‘Popularity of HM’ and ‘unscrupulous marketing’ each occurred in 26 of the 139 articles (18.7%), followed by ‘consumers are vulnerable’ in 21 articles (15.1%), then ‘costs/expenditure on HM’ (19/139; 10.8%) and ‘drug interactions’ (19/139; 10.8%).
Table 7-1  Individual items most frequently mentioned in news articles 2005-2010

<table>
<thead>
<tr>
<th>Issue coded</th>
<th>Frequency of reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk HM (general risk of HM or general/specific risk of HM practitioner)</td>
<td>41% (57/139)</td>
</tr>
<tr>
<td>Adverse events</td>
<td>33.1% (46/139)</td>
</tr>
<tr>
<td>Effective</td>
<td>28.1% (39/139)</td>
</tr>
<tr>
<td>Research results</td>
<td>23% (32/139)</td>
</tr>
<tr>
<td>Regulation needed</td>
<td>22.3% (31/139)</td>
</tr>
<tr>
<td>Popularity of HM</td>
<td>18.7% (26/139)</td>
</tr>
<tr>
<td>Unscrupulous marketing</td>
<td>18.7% (26/139)</td>
</tr>
<tr>
<td>Consumers are vulnerable</td>
<td>15.1% (21/139)</td>
</tr>
<tr>
<td>Costs/expenditure</td>
<td>13.8% (19/139)</td>
</tr>
<tr>
<td>Drug interactions</td>
<td>10.8% (15/139)</td>
</tr>
</tbody>
</table>

Table 7-2  Raw percentages for all manifest codes

<table>
<thead>
<tr>
<th>Issue coded</th>
<th>Frequency of reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity</td>
<td>7.9% (11/139)</td>
</tr>
<tr>
<td>Adverse events</td>
<td>33.1% (46/139)</td>
</tr>
<tr>
<td>Drug interactions</td>
<td>10.8% (15/139)</td>
</tr>
<tr>
<td>Self-treatment</td>
<td>2.2% (3/139)</td>
</tr>
<tr>
<td>Misuse</td>
<td>0%</td>
</tr>
<tr>
<td>Dosage</td>
<td>2.2% (3/139)</td>
</tr>
<tr>
<td>Risk of HM (general) or HM practitioner/s</td>
<td>41% (57/139)</td>
</tr>
<tr>
<td>Risk of biomedical practitioners or therapy</td>
<td>1.4% (2/139)</td>
</tr>
<tr>
<td>Discouraging use of biomedicine</td>
<td>5% (7/139)</td>
</tr>
<tr>
<td>Doctors lack knowledge/education about HM</td>
<td>2.2% (3/139)</td>
</tr>
<tr>
<td>Risk of HM is low</td>
<td>5% (7/139)</td>
</tr>
<tr>
<td>Risks of HM is lower than pharmaceuticals</td>
<td>2.9% (4/139)</td>
</tr>
<tr>
<td>Lack of scientific evidence / need for scientific research</td>
<td>7.2% (10/139)</td>
</tr>
<tr>
<td>Patients should disclose their HM use to doctors</td>
<td>7.9% (11/139)</td>
</tr>
<tr>
<td>Doctors should ask their patients if they are using HM</td>
<td>3.6% (5/139)</td>
</tr>
<tr>
<td>HM should only be used under medical supervision</td>
<td>0.7% (1/139)</td>
</tr>
<tr>
<td>Doctor education is needed</td>
<td>1.4% (2/139)</td>
</tr>
</tbody>
</table>
Table 7-2 (above) presents the raw percentages for all of the manifest coding categories in the newspaper analysis. These single categories were then put into groupings or ‘clusters’ for further analysis.
7.2.3.1 Code clusters

Code items were put into clusters in the categories of: risk, action taken regarding risk, benefits, quality issues, regulation and sociocultural issues. Table 7-3 presents the findings when these coding categories were combined. When all risk codes were combined, the frequency of risk references was 67.6%. However, 22.3% of these were stories about the manslaughter and sexual assault trials for Dummett and Wilson.

The association of adverse events with taking herbs was by far the most referred to risk issue overall, which was mentioned in 46 articles (33.1%). The specific risks (or causes of adverse reactions) most referred to were drug interactions, occurring in 15 articles (10.8%), followed by toxicity and contamination, which were each individually referred to in 11 articles (7.9%). The risk of adulteration was mentioned in seven articles (5%) and four articles (2.9%) referred to substitution.

The clustered items referring to the benefits of HM had a frequency of 30.9%. The effectiveness of HM was by far the most mentioned individual benefit with 28.1% frequency. The ‘low risk’ of taking herbs was mentioned in seven articles (5%) and reference to HM being safer than pharmaceuticals had a frequency of 2.9% (four articles).

There was little difference between frequencies of coding clusters categorised as ‘sociocultural issues’ and ‘benefits’. Sociocultural issues, including items such as ‘Costs of HM’ or ‘Popularity of HM’ when clustered had a frequency of 30.2% in news reports. This was followed by regulation items (28.1%) and items about quality (15.1%).

The results for the latent analysis will be discussed in the following sections. Where deemed appropriate, some sections present the findings that arose when manifest data was cross-tabulated with variables from the latent analysis (these cross-tabulations are presented in Sections 7.2.4.3 to 7.2.4.5 below).
Table 7-3  Frequency of references to cluster categories

<table>
<thead>
<tr>
<th>Cluster category</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk</td>
<td>67.6%</td>
</tr>
<tr>
<td>Action needed re: risk</td>
<td>15.1%</td>
</tr>
<tr>
<td>Benefits</td>
<td>30.9%</td>
</tr>
<tr>
<td>Quality issues</td>
<td>15.1%</td>
</tr>
<tr>
<td>Regulation</td>
<td>28.1%</td>
</tr>
<tr>
<td>Sociocultural</td>
<td>30.2%</td>
</tr>
</tbody>
</table>

### 7.2.4  Latent analysis

The latent analysis sought to identify recurring themes and frames in the newspaper reports, as well as positive and negative messages, based on headlines and article intonation. The analysis also took into account the main sources as well as voices occurring in the news reports. The benefits of this approach have been presented in Section 4.8.3. The identification of key discursive cues was used to determine the different frames, an approach which is a crucial part of frame analysis (Kitzinger, 2007: 140). The cues included the type of language used, labels and definitions, historical associations, the use of similes and metaphors, and the way in which sources are described and located (Kitzinger, 2007: 142). In the following sections, findings from the latent analysis related to headlines, intonation, tabloids and broadsheets, news themes and frames, and article sources are reported.

#### 7.2.4.1  Headlines and intonation

The latent analysis indicates a high rate of negativity associated with news reports about HM overall (Tables 7-4 and 7-5). Eighty-eight of the 139 news reports carried a negative headline (63.3%), whilst 30 of the articles (21.6%) had a positive headline. Twenty-one (14.4%) of the reports’ headlines were neutral. Whilst the number of positive headlines also matched the frequency of overall positive tone across all articles, 74 articles (53.2%) had a negative tone. Sixteen articles (11.5%) conveyed a neutral tone and mixed tone accounted for 19 of the 139 articles (13.7%).
Table 7-4  Headline frequency of news articles

<table>
<thead>
<tr>
<th>Headline tone</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>30/139 (21.6%)</td>
</tr>
<tr>
<td>Negative</td>
<td>88/139 (63.3%)</td>
</tr>
<tr>
<td>Neutral</td>
<td>21/139 (15.1%)</td>
</tr>
</tbody>
</table>

Table 7-5  Frequency of valuation/tone of news articles

<table>
<thead>
<tr>
<th>Article valuation / tone</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>30/139 (21.6%)</td>
</tr>
<tr>
<td>Negative</td>
<td>74 (53.2%)</td>
</tr>
<tr>
<td>Neutral</td>
<td>16/139 (11.5%)</td>
</tr>
<tr>
<td>Mixed</td>
<td>19/139 (13.7%)</td>
</tr>
</tbody>
</table>

7.2.4.2  Comparing tabloids with broadsheet newspapers

There are four newspapers regarded as ‘broadsheets’ or ‘quality’ newspapers in this study: *The Australian*, *The Sydney Morning Herald*, *The Age*, and *The Sunday Age* (McKinnon, 2008). The remaining 14 newspapers in the analysis are classified as tabloids.\(^{49}\)

The newspapers explored for the content analysis are listed in Table 7-2.

In total, there were 41 news reports published about issues associated with HM in the four broadsheet newspapers, which constitute 29.5% of all articles. Tabloid newspapers published 98 news reports, 70.5% of all articles. It is problematic to compare the extent of coverage between the two newspaper types, given the low number of broadsheets in the total. However, consideration of headline and article intonation within broadsheet and tabloid categories gives a picture of how each of these genres proportionally reports on HM (Table 7-6). When the proportion within the individual genre is taken into account, the greatest difference can be seen in the positive framing of articles. Just over 13 percent more

\(^{49}\) The difference between tabloid and broadsheet newspapers is, in theory, a matter of size, whereby broadsheets are slightly smaller than A2 and tabloids are slightly smaller than A3 (Branston & Stafford 1996). However, the key distinction is that they tend to be differentiated between the ‘serious’, ‘objective’ or ‘quality’ broadsheet genre and the ‘populist’, ‘sensationalist’ and ‘lowbrow’ tabloids. For example, the Brisbane-based Courier-Mail newspaper is the size of a broadsheet, but has more of a tabloid, or ‘conversational’ style of reporting. See Connell (1998) for a discussion on the assumed distinctions between tabloids and broadsheets.
tabloid reports have positive intonation compared with those of broadsheets. Broadsheet news reports have a slightly higher rate of negative headlining and article intonation by just over 7%.

**Table 7-6 Frequency of tone for broadsheets and tabloids**

<table>
<thead>
<tr>
<th>Headline tone</th>
<th>Negative (%)</th>
<th>Neutral (%)</th>
<th>Positive (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadsheet</td>
<td>28 (68.3%)</td>
<td>6 (14.6%)</td>
<td>7 (17.1%)</td>
<td>41/139</td>
</tr>
<tr>
<td>Tabloid</td>
<td>60 (61.2%)</td>
<td>15 (15.3%)</td>
<td>23 (23.5%)</td>
<td>98/139</td>
</tr>
<tr>
<td>Article tone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broadsheet</td>
<td>24 (58.4%)</td>
<td>4 (9.5%)</td>
<td>5 (12.2%)</td>
<td>41/139</td>
</tr>
<tr>
<td>Tabloid</td>
<td>50 (51%)</td>
<td>12 (12.2%)</td>
<td>25 (25.5%)</td>
<td>98/139</td>
</tr>
</tbody>
</table>

Table 7-7 shows the frequencies for positive and negative reports in each newspaper. Of those newspapers with over 10 articles published about HM over the January 2005 to May 2010 period, the national daily broadsheet, *The Australian*, and the Victorian metropolitan tabloid, the *Herald-Sun* showed the highest number of negative headlines and article tone compared with positive ones. *The Daily Telegraph*, which had the highest frequency of reports overall, had substantially higher frequencies for negative headlines and intonation. Sunday newspapers had a low frequency of news stories about HM overall, with a slightly greater tendency towards negative headlining and reporting.

The daily tabloids from Tasmania and Western Australia, *The (Hobart) Mercury*, and *The West Australian*, and NSW metropolitan Sunday tabloid *The Sunday Telegraph*, were the only newspapers where positive tone slightly outweighed negative tone – albeit by just one article in the Mercury’s case, and by two articles in *The Sunday Telegraph* and *The West Australian*. 
Table 7-7 Positive versus negative reports by newspaper (percentages based on proportions of headlines and tone from each newspaper)

<table>
<thead>
<tr>
<th>Newspaper</th>
<th>HL Positive</th>
<th>HL Negative</th>
<th>Tone Positive</th>
<th>Tone Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Australian</td>
<td>2/15 (13.3%)</td>
<td>12/15 (80%)</td>
<td>2/15 (13.3%)</td>
<td>10/15 (66.7%)</td>
</tr>
<tr>
<td>The Age</td>
<td>0%</td>
<td>4/5 (80%)</td>
<td>0%</td>
<td>3/5 (60%)</td>
</tr>
<tr>
<td>Herald Sun</td>
<td>1/15 (6.6%)</td>
<td>12/15 (80%)</td>
<td>2/15 (13.3%)</td>
<td>11/15 (73.3%)</td>
</tr>
<tr>
<td>Sydney Morning Herald</td>
<td>4/19 (21.1%)</td>
<td>11/19 (57.9%)</td>
<td>3/19 (15.8%)</td>
<td>10/19 (52.6%)</td>
</tr>
<tr>
<td>Daily Telegraph</td>
<td>4/20 (20%)</td>
<td>13/20 (65%)</td>
<td>4/20 (40%)</td>
<td>12/20 (60%)</td>
</tr>
<tr>
<td>The Courier-Mail</td>
<td>1/6 (16.7%)</td>
<td>3/6 (50%)</td>
<td>1/6 (16.7%)</td>
<td>2/6 (33.3%)</td>
</tr>
<tr>
<td>The Advertiser</td>
<td>2/14 (14.3%)</td>
<td>8/14 (57.1%)</td>
<td>2/14 (14.3%)</td>
<td>7/14 (50%)</td>
</tr>
<tr>
<td>NT News</td>
<td>1/6 (16.7%)</td>
<td>5/6 (83.3%)</td>
<td>2/6 (33.3%)</td>
<td>3/6 (50%)</td>
</tr>
<tr>
<td>Hobart Mercury</td>
<td>3/6 (50%)</td>
<td>2/6 (33.3%)</td>
<td>3/6 (50%)</td>
<td>2/6 (33.3%)</td>
</tr>
<tr>
<td>Canberra Times</td>
<td>2/3 (66.7%)</td>
<td>1/3 (33.3%)</td>
<td>1/3 (33.3%)</td>
<td>2/3 (66.7%)</td>
</tr>
<tr>
<td>West Australian</td>
<td>2/5 (40%)</td>
<td>2/5 (40%)</td>
<td>2/5 (40%)</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Sunday Newspapers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Sunday Age</td>
<td>2/3 (66.7%)</td>
<td>1/3 (33.3%)</td>
<td>0%</td>
<td>2/3 (66.7%)</td>
</tr>
<tr>
<td>Sunday Herald Sun</td>
<td>1/3 (33.3%)</td>
<td>2/3 (66.7%)</td>
<td>1/3 (33.3%)</td>
<td>1/3 (33.3%)</td>
</tr>
<tr>
<td>Sun-Herald</td>
<td>2/4 (50%)</td>
<td>2/4 (50%)</td>
<td>2/4 (50%)</td>
<td>0%</td>
</tr>
<tr>
<td>Sunday Telegraph</td>
<td>3/5 (60%)</td>
<td>1/5 (20%)</td>
<td>3/5 (60%)</td>
<td>1/5 (20%)</td>
</tr>
<tr>
<td>The Sunday Mail (QLD)</td>
<td>2/5 (40%)</td>
<td>3/5 (60%)</td>
<td>2/5 (40%)</td>
<td>3/5 (60%)</td>
</tr>
<tr>
<td>Sunday Mail (SA)</td>
<td>0%</td>
<td>3/3 (100%)</td>
<td>0%</td>
<td>3/3 (100%)</td>
</tr>
<tr>
<td>Sunday Tasmanian</td>
<td>1/2 (50%)</td>
<td>1/2 (50%)</td>
<td>0%</td>
<td>2/2 (100%)</td>
</tr>
</tbody>
</table>

7.2.4.3 News themes

Table 7-8 identifies all of the news themes in order of their frequency. The most frequent themes about HM during the period of analysis were based on ethics and legality, and then risk. The ‘Ethical/legal’ theme occurred in 43 of the 139 articles (30.9%), followed by ‘Risk’ (35/139) and then ‘Regulation’ (27/139) and ‘Research’ (27/139). Table 7-8 indicates that the above themes are the predominant ones in the last five years of news reports about HM. The other themes, which had emerged during the coding process, did not have a frequency rating above 4.3%. The theme of ‘HM as an alternative’ only occurred in six
(4.3%) articles during the period of analysis. The themes of ‘Education’ (2/139) and ‘New product’ (1/139) occurred with the lowest frequency.

Table 7-8 Frequency of news themes

<table>
<thead>
<tr>
<th>Theme</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethical/legal</td>
<td>30.9% (43/139)</td>
</tr>
<tr>
<td>Risk</td>
<td>25.2% (35/139)</td>
</tr>
<tr>
<td>Regulation</td>
<td>19.4% (27/139)</td>
</tr>
<tr>
<td>Research</td>
<td>19.4% (27/139)</td>
</tr>
<tr>
<td>HM as alternative</td>
<td>4.3% (6/139)</td>
</tr>
<tr>
<td>Efficacy</td>
<td>3.6% (5/139)</td>
</tr>
<tr>
<td>Business</td>
<td>2.2% (3/139)</td>
</tr>
<tr>
<td>Education</td>
<td>1.4% (2/139)</td>
</tr>
<tr>
<td>New product</td>
<td>0.7% (1/139)</td>
</tr>
</tbody>
</table>

Table 7-9 presents the findings for headline and article intonation in relation to themes. Not surprisingly, articles with the ‘risk’ theme carried predominantly negative headlines (33/35) and intonation (29/35), as indicated in Table 7-9. Headlines for news reports about ‘regulation’ had a 70.4% frequency of negativity also (19/27) although article tone regarding regulation had equal frequencies of negativity and mixed tone (10/27 or 37%). Neutral tone occurred in five articles (18.5%) about regulation.

News articles about the research theme – whether it was research findings, the announcement of new research ventures or preliminary research activity – were more positive than negative. Out of 27 articles with the research theme, 17 carried both positive headlines and intonation (63%). Negative headlines occurred in just six articles (22.2%) and only four articles under the research theme had an overall negative tone.

As most of the articles coming under the theme of ‘ethical/legal’ were crime-related and typically involved court cases, the high rate of negative headlines (35/43) and intonation (35/43) was expected. However it is also pertinent these reports had a higher rate of neutrality than the ‘risk’ theme articles. The reports were typically court reporters’ accounts of court cases, which follow a specific journalistic convention devised for court reporting.
Out of the six articles under the theme of ‘HM as an alternative’, four had a positive headline and five had a positive tone overall. One article was negative in tone. Only five articles were categorised under the ‘efficacy’ theme. Four of these articles had a positive headline and all of them carried a positive tone.

Table 7-9  Headline and article tone for themes

<table>
<thead>
<tr>
<th>Theme</th>
<th>HL neg (%)</th>
<th>HL pos (%)</th>
<th>HL neutral (%)</th>
<th>Article tone neg (%)</th>
<th>Article tone pos (%)</th>
<th>Article tone neutral (%)</th>
<th>Article tone mixed (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk</td>
<td>94.3% (33/35)</td>
<td>2.9% (1/35)</td>
<td>0% (1/35)</td>
<td>82.9% (29/35)</td>
<td>0% (1/35)</td>
<td>2.9% (1/35)</td>
<td>11.4% (4/35)</td>
</tr>
<tr>
<td>Regulation</td>
<td>70.4% (10/27)</td>
<td>3.7% (1/27)</td>
<td>22.2% (6/27)</td>
<td>37% (10/27)</td>
<td>3.7% (1/27)</td>
<td>18.5% (5/27)</td>
<td>37% (10/27)</td>
</tr>
<tr>
<td>Research</td>
<td>22.2% (6/27)</td>
<td>63% (17/27)</td>
<td>14.8% (4/27)</td>
<td>14.8% (4/27)</td>
<td>63% (17/27)</td>
<td>11.1% (3/27)</td>
<td>11.1% (3/27)</td>
</tr>
<tr>
<td>Ethical/Legal</td>
<td>81.4% (35/43)</td>
<td>0% (1/35)</td>
<td>18.6% (8/43)</td>
<td>81.4% (35/43)</td>
<td>0% (1/35)</td>
<td>14% (5/35)</td>
<td>4.7% (2/35)</td>
</tr>
<tr>
<td>HM as alternative</td>
<td></td>
<td></td>
<td>16.7% (16/96)</td>
<td></td>
<td>16.7% (16/96)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficacy</td>
<td>20% (2/10)</td>
<td>80% (8/10)</td>
<td>0% (0/10)</td>
<td>0% (0/10)</td>
<td>100% (10/10)</td>
<td>0% (0/10)</td>
<td>0% (0/10)</td>
</tr>
<tr>
<td>New product* (only 1 article)</td>
<td>0% (0/1)</td>
<td>100% (1/1)</td>
<td>0% (0/1)</td>
<td>0% (0/1)</td>
<td>100% (1/1)</td>
<td>0% (0/1)</td>
<td>0% (0/1)</td>
</tr>
<tr>
<td>Business</td>
<td>% (1/1)</td>
<td>66.6% (1/1)</td>
<td>33.3% (1/3)</td>
<td>0% (0/3)</td>
<td>66.7% (1/1)</td>
<td>33.3% (1/3)</td>
<td>0% (0/3)</td>
</tr>
<tr>
<td>Education</td>
<td>0% (0/1)</td>
<td>100% (1/1)</td>
<td>0% (0/1)</td>
<td>50% (5/10)</td>
<td>50% (5/10)</td>
<td>0% (0/10)</td>
<td>0% (0/10)</td>
</tr>
</tbody>
</table>

7.2.4.4  News frames

The high frequency of risk references gauged in the manifest analysis is reinforced by the data in the framing analysis. ‘Risk’ – the framing of risk or safety concern issues in HM products, therapy or practice – is the most frequent frame, occurring in 54 of the 139 stories (38.8%). As expected, these stories carried predominantly negative headlines and article intonation. The results for the frequency of framings appear in Table 7-10. The results for headline and article intonation in relation to article frames appear in Table 7-11.
Table 7-10  Frequency of news frames

<table>
<thead>
<tr>
<th>Frame</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk</td>
<td>38.8% (54/139)</td>
</tr>
<tr>
<td>Corruption</td>
<td>25.9% (36/139)</td>
</tr>
<tr>
<td>Vulnerable consumer</td>
<td>25.2% (35/139)</td>
</tr>
<tr>
<td>HM is effective</td>
<td>20.9% (29/139)</td>
</tr>
<tr>
<td>Negligent practitioner</td>
<td>15.1% (21/139)</td>
</tr>
<tr>
<td>Regulation is necessary for public safety</td>
<td>14.4% (20/139)</td>
</tr>
<tr>
<td>Popular HM</td>
<td>12.2% (17/139)</td>
</tr>
<tr>
<td>Critique of funding/regulation</td>
<td>10.8% (15/139)</td>
</tr>
<tr>
<td>Positive scientific research</td>
<td>8.6% (12/139)</td>
</tr>
<tr>
<td>Negative scientific research</td>
<td>7.9% (11/139)</td>
</tr>
<tr>
<td>HM is not effective</td>
<td>5% (7/139)</td>
</tr>
<tr>
<td>Hope of new research</td>
<td>6.5% (9/139)</td>
</tr>
<tr>
<td>HM becoming mainstream</td>
<td>3.6% (5/139)</td>
</tr>
<tr>
<td>HM more effective/safer than biomedicine/pharmaceuticals</td>
<td>3.6% (5/139)</td>
</tr>
<tr>
<td>Business disadvantaged by regulation</td>
<td>3.6% (5/139)</td>
</tr>
<tr>
<td>Lucrative industry</td>
<td>2.9% (4/139)</td>
</tr>
<tr>
<td>Collaboration</td>
<td>2.9% (4/139)</td>
</tr>
<tr>
<td>Beneficial new product</td>
<td>0.7% (1/139)</td>
</tr>
<tr>
<td>Research funds needed</td>
<td>0%</td>
</tr>
</tbody>
</table>
Table 7-11  Headline and article tone for frames

<table>
<thead>
<tr>
<th>Frame</th>
<th>HL neg</th>
<th>HL pos</th>
<th>HL neutral</th>
<th>Positive tone</th>
<th>Negative tone</th>
<th>Mixed tone</th>
<th>Neutral tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk</td>
<td>87% (47/54)</td>
<td>3.7% (2/54)</td>
<td>7.4% (4/54)</td>
<td>0%</td>
<td>83.3% (45/54)</td>
<td>11.1% (6/54)</td>
<td>3.7% (2/54)</td>
</tr>
<tr>
<td>HM is effective</td>
<td>10.3% (3/29)</td>
<td>82.8% (24/29)</td>
<td>6.9% (2/29)</td>
<td>93.1% (27/29)</td>
<td>0%</td>
<td>6.9% (2/29)</td>
<td>0%</td>
</tr>
<tr>
<td>HM is not effective</td>
<td>71.4% (5/7)</td>
<td>0%</td>
<td>28.6% (2/7)</td>
<td>0%</td>
<td>71.4% (5/7)</td>
<td>14.3% (1/7)</td>
<td>14.3% (1/7)</td>
</tr>
<tr>
<td>Regulation necessary</td>
<td>75% (15/20)</td>
<td>5% (1/20)</td>
<td>15% (3/20)</td>
<td>0%</td>
<td>60% (12/20)</td>
<td>30% (6/20)</td>
<td>5% (1/20)</td>
</tr>
<tr>
<td>Hope of new research</td>
<td>0%</td>
<td>100% (9/9)</td>
<td>0%</td>
<td>88.9% (8/9)</td>
<td>0%</td>
<td>0%</td>
<td>11.1% (1/9)</td>
</tr>
<tr>
<td>Positive scientific research</td>
<td>8.3% (1/12)</td>
<td>91.7% (11/12)</td>
<td>0%</td>
<td>100% (12/12)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Negative scientific research</td>
<td>81.8% (9/11)</td>
<td>0%</td>
<td>18.2% (2/11)</td>
<td>0%</td>
<td>81.8% (9/11)</td>
<td>18.2% (2/11)</td>
<td>0%</td>
</tr>
<tr>
<td>Corruption</td>
<td>91.7% (33/36)</td>
<td>0%</td>
<td>8.3% (3/33)</td>
<td>0%</td>
<td>91.7% (33/36)</td>
<td>2.8% (1/36)</td>
<td>5.6% (2/36)</td>
</tr>
<tr>
<td>Negligent practitioner</td>
<td>76.2% (16/21)</td>
<td>0%</td>
<td>23.8% (5/21)</td>
<td>0%</td>
<td>76.2% (16/21)</td>
<td>4.8% (1/21)</td>
<td>19% (4/21)</td>
</tr>
<tr>
<td>Popular HM</td>
<td>35.3% (6/17)</td>
<td>47.1% (8/17)</td>
<td>17.6% (3/17)</td>
<td>47.1% (8/17)</td>
<td>23.5% (4/17)</td>
<td>23.5% (4/17)</td>
<td>5.9% (1/17)</td>
</tr>
<tr>
<td>HM becoming mainstream</td>
<td>20% (1/5)</td>
<td>80% (4/5)</td>
<td>0%</td>
<td>100% (5/5)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>HM more effective/safer</td>
<td>40% (2/5)</td>
<td>60% (3/5)</td>
<td>0%</td>
<td>80% (4/5)</td>
<td>0%</td>
<td>20% (1/5)</td>
<td>0%</td>
</tr>
<tr>
<td>Collaboration</td>
<td>0%</td>
<td>75% (3/4)</td>
<td>25% (1/4)</td>
<td>100% (4/4)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Vulnerable consumer/s</td>
<td>85.7% (30/35)</td>
<td>0%</td>
<td>11.4% (4/35)</td>
<td>0%</td>
<td>88.6% (31/35)</td>
<td>5.7% (2/35)</td>
<td>2.9% (1/35)</td>
</tr>
<tr>
<td>Business disadvantaged by regulation</td>
<td>80% (4/5)</td>
<td>0%</td>
<td>20% (1/5)</td>
<td>0%</td>
<td>60% (3/5)</td>
<td>40% (2/5)</td>
<td>0%</td>
</tr>
<tr>
<td>Beneficial new product</td>
<td>0%</td>
<td>100% (1/1)</td>
<td>0%</td>
<td>100% (1/1)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Lucrative industry</td>
<td>75% (3/4)</td>
<td>0%</td>
<td>25% (1/4)</td>
<td>0%</td>
<td>75% (3/4)</td>
<td>0%</td>
<td>25% (1/4)</td>
</tr>
<tr>
<td>Research funds needed</td>
<td>62.6%</td>
<td>21.6%</td>
<td>14.4%</td>
<td>21.6%</td>
<td>52.5%</td>
<td>12.9%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Criticism or questioning of regulation or funding</td>
<td>73.3% (11/15)</td>
<td>6.7% (1/15)</td>
<td>20% (3/15)</td>
<td>0%</td>
<td>40% (6/15)</td>
<td>40% (6/15)</td>
<td>20% (3/15)</td>
</tr>
</tbody>
</table>

‘Corruption’ was a frame established to compare with the frequency of the ‘unscrupulous marketing’ items from the manifest analysis. It also accounted for the high reference in media reports to a number of court cases based on primarily ‘corrupt’ naturopathic or Traditional Chinese Medicine (TCM) practitioners as well as several articles about corrupt business practices in private industry. The corruption frame was the second most commonly occurring frame, appearing in 36 articles (25.9%). Understandably, a high rating of negative
headlines and intonation appeared in relation to corruption. These frequencies of the corruption frame were followed by the ‘consumer vulnerability’ frame, which occurred in 35 articles (25.2%) and also carried the expected pattern of negative headlines and article tone.

The ‘Negligent practitioner’ frame occurred in 21 articles (15.1%) and although still dominated by negative headlines and tone, this frame had a higher rate of neutrality associated with it. As with the ‘ethical/legal’ theme, these articles were largely court reports giving an account of the case and the outcomes of the day in court. Court reports are typically more likely to be subjected to legal scrutiny, given the risks of defamation, for example.

Twenty-nine articles (20.9%) framed HM as an effective product or therapy, with largely positive headlines and intonation. Three of the headlines (10.3%) for those articles with an efficacy frame were negative and two (6.9%) had a mixed tone. In contrast, only seven articles (5%) framed HM as not effective. The ‘not effective’ frames carried no positive headlines or intonation. Two articles (28.6%) had a neutral headline.

Although articles with the ‘research’ theme had a high frequency of positive headlines and tone, the number of frames for ‘positive scientific research’ (12/139) and ‘negative scientific research’ (11/139) differed by only one article. Positive scientific research frames had no negativity, however, two of the articles with negative research frames had both a neutral headline and tone. In all, there does not appear to be a pattern of news reports favouring the reporting of research outcomes that are either negative or positive. Nine articles carried a ‘hope of new research’ frame and most of these were positive, with the exception of one article, which had a neutral tone.

Twenty articles (14.4%) framed the regulation of HM as necessary for public safety. Negative headlines and intonation were dominant for this frame. Six out of the 20 articles carried a mixed tone. Of the 15 articles with a ‘critique of funding or regulation’ frame, 11 (73.3%) had a negative headline and three (20%) had a neutral headline. Six articles (40%) had a positive tone, six had a mixed tone and three articles (20%) were neutral. The framing of business as being disadvantaged by regulation occurred in only five articles (3.6%). These framing frequencies support the manifest analysis findings regarding reference to regulation.
The framing of HM as a therapy popular with the public occurred in 17 articles (12.2%). Articles using this frame were quite evenly spread in terms of headlines. Negative headlines accounted for six of the articles (35.3%) with the ‘Popular HM’ frame and eight articles (47.1%) had positive headlines. Three headlines were neutral (17.6%). More articles about the popularity of HM had positive intonation (8/17). Negative and mixed tone occurred in four articles each (23.5%). This framing of HM as popular correlates with the frequencies from the manifest analysis.

The framing of the mainstreaming of HM into Australian healthcare and/or research occurred in five articles (3.6%). This result correlates with the manifest analysis that counted the number of references to ‘acknowledges HM in modern healthcare system’ (Table 7-2).

Only five articles (3.6%) framed HM as a safer or more efficacious option than biomedical therapies, with largely positive tone. The framing of the collaboration or integration of HM and mainstream medicine within clinics, hospitals or other mainstream healthcare systems and research institutions occurred in just four articles. No negative headlines or articles occurred for this frame, with mostly positive headlines (3/4) and intonation (4/4).

Four articles framed HM as a ‘lucrative industry’. Of these articles, three had positive headlines and article tone and one article carried a neutral headline and intonation.

7.2.4.5 **Main voices and sources of information**

This section will present the results for the key sources of information which have been used in the news-making process, under the headings of police/courts, universities, government, HM/CAM practitioners, biomedical journals, professional CAM bodies, private industry, hospitals, professional medical bodies, biomedical practitioners, and lay people and celebrities. Figure 7-5 presents the frequencies of sources providing the main voice in the article. Table 7-12 indicates the results when the frequencies for sources were cross-tabulated with those for themes, frames and manifest codings.
Table 7-12  Cross-tabulation of sources with highest frequency themes, frames and manifest codes

<table>
<thead>
<tr>
<th>Source/voice</th>
<th>Theme</th>
<th>Frequency.</th>
<th>Frame</th>
<th>Frequency</th>
<th>Manifest codes</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police/courts</td>
<td>Ethical/legal</td>
<td>38/41</td>
<td>Corruption</td>
<td>24/41</td>
<td>Risk HM</td>
<td>29/41</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Negligent practitioner</td>
<td>21/41</td>
<td>Unscrupulous marketing</td>
<td>18/41</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Consumers vulnerable</td>
<td>18/41</td>
<td>Adverse events</td>
<td>14/41</td>
</tr>
<tr>
<td>Universities</td>
<td>Research</td>
<td>13/36</td>
<td>Risk</td>
<td>14/36</td>
<td>Peer-rev research results</td>
<td>16/36</td>
</tr>
<tr>
<td></td>
<td>Regulation</td>
<td>12/36</td>
<td>HM is effective</td>
<td>11/36</td>
<td>HM effective</td>
<td>16/36</td>
</tr>
<tr>
<td></td>
<td>Risk</td>
<td>9/36</td>
<td></td>
<td></td>
<td>Risk HM</td>
<td>13/36</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Adverse events</td>
<td>12/36</td>
</tr>
<tr>
<td>Government</td>
<td>Regulation</td>
<td>14/29</td>
<td>Risk</td>
<td>14/29</td>
<td>Regulation</td>
<td>13/29</td>
</tr>
<tr>
<td></td>
<td>Risk</td>
<td>13/29</td>
<td>Regulation needed</td>
<td>10/29</td>
<td>Adverse events</td>
<td>10/29</td>
</tr>
<tr>
<td>HM Practitioners</td>
<td>Ethical/legal</td>
<td>9/24</td>
<td>HM is effective</td>
<td>10/24</td>
<td>HM effective</td>
<td>12/24</td>
</tr>
<tr>
<td></td>
<td>Research</td>
<td>6/24</td>
<td>Risk</td>
<td>6/24</td>
<td>Risk HM</td>
<td>10/24</td>
</tr>
<tr>
<td>Medical journals</td>
<td>Research</td>
<td>8/14</td>
<td>Risk</td>
<td>6/14</td>
<td>Peer-rev research results</td>
<td>10/14</td>
</tr>
<tr>
<td></td>
<td>Risk</td>
<td>5/14</td>
<td>Negative scientific research</td>
<td>6/14</td>
<td>Adverse events</td>
<td>6/14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HM is effective</td>
<td>5/14</td>
<td>HM effective</td>
<td>6/14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HM not effective</td>
<td>5/14</td>
</tr>
<tr>
<td>Prof CAM bodies</td>
<td>Risk</td>
<td>6/13</td>
<td>Risk</td>
<td>7/13</td>
<td>Risk HM</td>
<td>7/13</td>
</tr>
<tr>
<td></td>
<td>Research</td>
<td>4/13</td>
<td>Consumer vulnerability</td>
<td>6/13</td>
<td>Adverse events</td>
<td>6/13</td>
</tr>
<tr>
<td></td>
<td>Ethical/legal</td>
<td>3/13</td>
<td>Regulation needed</td>
<td>5/13</td>
<td>Drug interactions</td>
<td>5/13</td>
</tr>
<tr>
<td>Private industry</td>
<td>Regulation</td>
<td>3/13</td>
<td>HM is effective</td>
<td>5/13</td>
<td>HM effective</td>
<td>5/13</td>
</tr>
<tr>
<td></td>
<td>Research</td>
<td>3/13</td>
<td>Popular HM</td>
<td>4/13</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Business</td>
<td>3/13</td>
<td>Critical of funding/regulation</td>
<td>3/13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospitals</td>
<td>Risk</td>
<td>10/12</td>
<td>Risk</td>
<td>10/12</td>
<td>Adverse events</td>
<td>10/12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Risk HM</td>
<td></td>
</tr>
<tr>
<td>Prof med bodies</td>
<td>Research</td>
<td>4/11</td>
<td>Risk</td>
<td>5/11</td>
<td>Peer-rev research results</td>
<td>5/11</td>
</tr>
<tr>
<td></td>
<td>Risk</td>
<td>3/11</td>
<td>HM is effective</td>
<td>4/11</td>
<td>HM effective</td>
<td>5/11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Positive scientific research</td>
<td>4/11</td>
<td>Adverse events</td>
<td>4/11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Consumer vulnerability</td>
<td>4/11</td>
<td>Risk</td>
<td>3/11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Negligent practitioner</td>
<td>4/9</td>
<td>Costs</td>
<td>3/9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Consumer vulnerability</td>
<td>4/9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lay people</td>
<td>HM as alternative</td>
<td>3/7</td>
<td>HM is effective</td>
<td>5/7</td>
<td>HM effective</td>
<td>6/7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Popular HM</td>
<td>3/7</td>
<td>Popular HM</td>
<td>4/7</td>
</tr>
</tbody>
</table>
7.2.4.5.1 Police/courts

The large number of articles under the theme of ‘ethical/legal’ resulted in high frequencies for the police and/or the courts as the main source and/or voice for information in news reports. This occurred across 41 articles, constituting 29.5% of all articles. Reports where police and/or courts were cited as a source or voice were never positive in terms of headline and intonation and were predominantly negative (headlines had a rate of 33/41 and intonation was negative in 32/41 reports).

The prevalent theme for articles citing or quoting the police and/or courts was the ethical/legal theme. These reports most frequently used the frames of corruption (24/41), negligent practitioner (21/41), consumer vulnerability (18/41) and risk (16/41).

Cross-tabulation with manifest research findings shows the highest reference to ‘risk HM’ (29/41) which is understandable given the frequency of negligent practitioner frames in those articles from the police/courts citations category. The frequency of references to the ‘unscrupulous marketing’ code (16/41) also corroborate the high rate of framings about corruption in this source category. ‘Adverse events’ was another manifest code that occurred frequently in the police/courts source category (14/41).

7.2.4.5.2 Universities

Universities were the second most common source of information for news reports, with 36 articles (25.9%) citing university research or quoting spokespersons. Headlines from these articles were more often negative (17/36) than positive (12/36), and article tone was slightly more negative in nature (14/36) compared with positive tone (11/36). Section 7.2.4.5.3 compares results between biomedical research and HM/CAM research sectors in university sources cited.

Sources or voices from biomedical research departments in universities dominated news reports (17/139 – 45.9%), with 11 articles (29.7%) coming from CAM research departments. Nine additional articles (24.4%) were unclear as to whether the department or division was biomedical or CAM based or, alternatively, was not from either. In contrast, private CAM colleges are a particular rarity in news reports on
HM, with only one report featuring a spokesperson from a private college as a main voice in the article. CAM private colleges in Australia do not have a strong research culture, therefore lack the assumed voice of legitimacy and expertise (scientific and otherwise) which journalists tend to use more commonly from university spokespeople.

Research (13/36) is the most common theme university sources refer to, followed by regulation (12/36), then risk (9/36).

Overall more university sources were cited in articles where negative research findings about HM were framed (8/36) compared with positive research findings (6/36). The ‘hope of new research’ frame occurred in 4/36 articles from the category of university sources. All of these were from CAM research centre sources based at universities.

Articles citing or quoting university sources tend to employ the risk frame more often than other frames (14/36 articles – 38.9%). The next most frequent frame within the university-cited category is that of efficacy (11/36). Ineffectiveness of HM only occurs in two of the 36 articles.

Nine out of 36 articles that included university sources framed HM as a popular therapy. The same number also used the frame of consumer vulnerability. Seven out of 36 articles using a university source used a frame that was critical of regulation or of funding for HM research.

When the university sources were cross-tabulated with the manifest analysis findings, the codes most frequently mentioned in the 36 articles that cited university sources were ‘peer-reviewed research results’ and ‘HM is effective’ (16/36 each). The main risk categories mentioned were ‘risk HM’ (13/36), ‘adverse events’ (12/36), ‘drug-interactions’ (8/36) and ‘contamination’ (7/36). ‘Popular HM’ was mentioned in 13 articles and ‘regulation’ references occurred in 12 articles. The ‘lack of evidence/need for scientific research’ was mentioned in six articles, as was ‘quality control’.
Figure 7-3 conveys the distinctions between biomedical research and CAM research sources cited in news articles, which are provided in the following section.

### 7.2.4.5.3 Comparing university sources: biomedical research versus CAM research

When the results were distinguished between biomedical and CAM sources in universities, the biomedical research sources were prevalent in articles with a negative tone (8/17 – 47.1%) compared with CAM research (3/11 – 27.2%). In contrast, 3/17 (17.6%) articles citing biomedical research sources were positive in tone, compared with 6/11 (54.5%) articles citing CAM research sources within a university.

Articles themed and framed about HM risk were more likely to cite or quote biomedical research sources or spokespeople (7/17) than CAM ones, which did not occur in any articles with a risk theme, and occurred in 3/11 articles with a risk frame. When latent results were cross-tabulated with those from the manifest analysis, ‘risk HM’ was a prevalent item mentioned in 9/17 articles (52.9%) citing biomedical research sources from universities. ‘Risk HM’ was mentioned 3/11 times (27.3%) in CAM research sources at universities. Reference to other risk codes occurred at a higher rate in articles citing biomedical research sources at universities. These included adverse events (7/17), drug interactions (7/17), contamination (7/17) and toxicity (4/17). None of these items rated higher than 18.2% frequency in the articles citing CAM research sources.
Biomedical research sources were more likely to be represented in articles with a negative scientific research frame (8/17 – 47.1%) than a positive one. No articles citing CAM research sources used the negative scientific research frame. Biomedical research sources were cited in 2/17 articles (11.8%) with the positive research frame and CAM research sources were cited in 2/11 of this frame (18.1%).

CAM research sources in universities were more likely to have an efficacy frame about HM (6/11 – 54.5%) than biomedical ones (3/17 – 17.6%). Cross-tabulation of sources with the results from the manifest analysis show that efficacy was mentioned in 8/11 (72.7%) articles citing CAM university sources and in 6/17 reports (35.3%) where biomedical university sources were cited. Both CAM and biomedical university sources had a low frequency of reference to the code ‘HM is not effective’.

Proportionally more articles with the ‘regulation is necessary’ frame cited CAM research sources (3/11 - 27.2% compared with 3/17 – 17.6%). The regulation theme was also more prevalent in articles that cited CAM research sources in universities.
No articles citing biomedical university sources referred to the manifest code ‘acknowledges HM as part of healthcare system’. In articles citing or quoting CAM university sources, this occurred with a frequency of 36.4% (4/11 articles).

**7.2.4.5.4 Government**

Government sources were the next most frequent source of information in all news reports about HM, with 29 articles citing them as the main source (20.9% of all articles). This typically involved government reports (from state or federal health departments) or spokespeople from the federally funded TGA. Negative headlines (21/29) for articles citing government sources by far outweighed reports with positive headlines (3/29). Article tone tended to be negative (13/29) rather than positive (3/29) with 5/29 articles coded as neutral and 8/29 articles rated as mixed tone.

Prevalent themes of reports citing government sources or spokespeople were, unsurprisingly, regulation (14/29) and risk (13/29). The primary frame in which government sources appeared was the risk frame (14/29) followed by framing of the need for regulation (10/29). Articles with framing that criticised funding or regulation quoted government sources in 6/29 articles. Government sources were cited in 5/29 articles with the consumer vulnerability frame and in 4/29 articles with the corruption frame.

Cross-tabulation with manifest codings shows a high frequency of references to regulation in articles where government sources were cited (13/29 – 44.8%). Adverse events also have a high rate of reference (10/29), followed by ‘risk HM’ (8/29). Of the articles where government sources were cited or quoted, 6/29 referred to the issue of HM costs or expenditure.

**7.2.4.5.5 HM/CAM practitioners**

HM or CAM practitioners had unexpectedly high frequencies of citation in media reports, with a total of 24 articles (17.4%). They were the dominant practitioner voice in articles about HM, contrasting with biomedical practitioners who had a frequency of just 6.5% (9 articles). Articles citing HM/CAM practitioners were more likely to be positive (10/24) than negative (7/24), with evenly spread headline tone (10/24 each). The main themes occurring where HM/CAM practitioners were cited were
ethical/legal (9/24), research (6/24), regulation (5/24) and HM as an alternative to biomedicine (4/24). The main frames were efficacy (10/24), risk (6/24), positive scientific research (5/24), negligent practitioner (5/24) and corruption (4/24).

Cross-tabulation with manifest codings show a substantial reference to HM effectiveness (12/24) in the HM practitioner source category. Broad reference to HM risk and HM practitioner risk was also significant (10/24). Adverse events were another risk category mentioned in 7/24 articles. Articles mentioning peer-reviewed research results and regulation had frequencies of 7/24 and 6/24 respectively, in the HM practitioner source category.

### 7.2.4.5.6 Biomedical journals

Peer-reviewed biomedical journals are the main publications journalists use in referring to research (Entwistle, 1995; van Trigt et al., 1995; van Trigt et al., 1994). Biomedical journals provided 10.1% (14 articles) of source information about HM for news stories. This can be contrasted with CAM journals, which were not cited at all during the period of analysis. In articles where biomedical journals were cited as a main source, the majority had negative headlines and article tone (8/14). Positive headlines and intonation occurred in 4/14 articles.

Understandably, research was the main theme in which biomedical journals were cited as a main source (8/14 articles). The next most common theme was risk, which occurred in 5/14 articles citing these journals. The most frequent frames were risk (6/14) and negative scientific research (6/14), followed by HM is effective (5/14). However, there was only a difference in effective and non-effective frames by one article. Positive scientific research occurred in 4/14 articles and the hope of new research frame cited a biomedical journal source in only one article.

The main manifest codings for articles in which medical journal sources were cited included peer-reviewed research results (10/14), efficacy (6/13) and adverse events (6/14). Non-efficacy was mentioned in 5/14 articles. Toxicity, drug interactions, overall risk of HM and HM practitioners, lack of evidence/scientific research needed, disclosure and popular HM were each mentioned in 3/14 articles.
7.2.4.5.7 Professional CAM bodies
Professional CAM bodies such as the National Herbalists Association of Australia (NHAA), the Australian Traditional Medicine Society and the CAM industry organisation, the Complementary Healthcare Council (CHC) were cited more frequently (9.4%) than professional biomedical organisations (7.9%), notably the Australian Medical Association (AMA), which has traditionally been a powerful voice in media representations of health issues (Lupton & McLean, 1998: 952). The main themes occurring where professional CAM bodies were cited were risk (6/13), research (4/12) and ethical/legal (3/13). The most frequent frames were risk (7/13), consumer vulnerability (6/13), the need for regulation (5/13), the mainstreaming of HM (4/13), and also negative scientific research (4/13), where the CHC in particular has been vigilant to respond publicly to negative research findings about CAM products. Headlines for reports where CAM professional bodies were cited were significantly more negative (8/13) than positive (2/13) and tone was more likely to be negative (6/13) than positive (2/13).

Cross-tabulation of this source with the manifest codings shows substantial reference to risk codings, notably ‘risk HM’ (7/13) and ‘adverse events’ (6/13). Other risk categories mentioned in more than three articles were drug interactions (5/13) and contamination (4/13). References to the need for regulation in articles where professional CAM bodies were cited as sources occurred in 7/13 articles. Consumer vulnerability was mentioned in 5/13 articles citing this source.

7.2.4.5.8 Private industry
Private industry, most often representatives from the CAM industry or organisations with CAM markets, is cited at the same frequency as professional CAM bodies. Citations in articles with regulation, research and business themes predominated in the 13 articles where journalists cited private industry sources or voices. The most common frames where private industry was cited or quoted were those of efficacy (5/13), HM popularity (4/13) and criticism of funding or regulation (3/13). Article intonation tended to be more positive (6/13) than negative (3/13) in relation to HM.
Cross-tabulation with manifest codings shows efficacy as the most mentioned item out of all private industry citations (5/13).

7.2.4.5.9 Hospitals
Hospitals also provide a small proportion of primary information and commentary for journalists, with 12 articles citing them as a main source or voice (8.6%). The majority of articles citing hospitals as a source were negative, with a prevalence of the risk theme and frame (10/12 – 83.3% for both theme and frame). Cross-tabulation with manifest codes indicates adverse events are prevalent in articles citing hospital sources (10/12), followed by ‘risk HM’ (6/12).

7.2.4.5.10 Professional medical bodies
There was no significant distinction between positive and negative headlining and intonation in articles that cited sources or quoted people from professional biomedical organisations like the Australian Medical Association (AMA). In the eleven news reports where professional medical bodies were cited as sources, the main themes were research (4/11) and risk (3/11). The main frames where this group was cited or quoted were risk (5/11), HM is effective (4/11), positive scientific research (4/11) and consumer vulnerability (4/11). The main manifest codes from this source were articles that mentioned peer-reviewed research (5/11) and articles in which efficacy or potential efficacy was mentioned (5/11). The main risk code referred to was adverse events (4/11). ‘Risk HM’ and the lack of scientific evidence/research were each referred to in 3/11 news reports.

7.2.4.5.11 Biomedical practitioners
Of the nine articles in which biomedical practitioners were used as a source or voice, there was a higher rate of negative headlines (6/9) compared with positive ones (3/9) and there were more articles with negative tone (5/9) than positive tone (3/9). Ethical/legal was the dominant theme (4/9) in which biomedical practitioners appeared as sources or spokespeople. Of the frames in which biomedical practitioners were used as a main source, there was an even spread of frequency between risk, negligent practitioner and vulnerable consumer framings (4/9 each).
The main manifest codes for articles with biomedical practitioners as main sources/voices were HM is effective (3/9) and costs (3/9).

### 7.2.4.5.12 Lay people and celebrities

Surprisingly, the voices of lay people – classified as consumers, patients or parents – constituted a small number of news reports in only seven articles (5%). The data indicates the lay voice is not typical in news articles about HM, which contradicts other CAM media analyses which find personal anecdotes as a significant source of information in print media (Mercurio & Eliott, 2009; Weeks & Strudsholm, 2008).

Where lay sources were quoted (as a ‘voice’ rather than ‘source’) headlines were positive by only one article and the article tone was slightly more positive in nature (5/7 positive reports compared with 2/7 negative reports). Articles quoting lay people tend to focus on efficacy. The main themes of articles quoting lay people was HM as an alternative (3/7) followed by efficacy (2/7). The most frequent frames were HM is effective (5/7) and HM popularity (3/7).

The main manifest codings occurring in articles from the lay source category were acknowledgement of HM efficacy or potential efficacy (6/7) and HM popularity (4/7).

In addition to the ‘lay’ category, celebrities were only cited in two articles, which were positive (with one article neutral for tone) and occurred in reports using the risk and efficacy themes and frames.

Table 7-13 and Figure 7-5 convey the results when risk frames were cross-tabulated with main sources. These findings will be expanded upon in the following section.
Figure 7-4 Frequency of main source/voice for news articles

Table 7-13 Sources with highest proportion of risk frames

<table>
<thead>
<tr>
<th>Source</th>
<th>No. articles</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals</td>
<td>10/12</td>
<td>83.3%</td>
</tr>
<tr>
<td>Professional CAM bodies</td>
<td>7/13</td>
<td>53.9%</td>
</tr>
<tr>
<td>Government</td>
<td>14/29</td>
<td>48.3%</td>
</tr>
<tr>
<td>Professional medical bodies</td>
<td>5/11</td>
<td>45.5%</td>
</tr>
<tr>
<td>Biomedical practitioners</td>
<td>4/9</td>
<td>44.4%</td>
</tr>
<tr>
<td>Biomedical journals</td>
<td>6/14</td>
<td>42.9%</td>
</tr>
<tr>
<td>Universities</td>
<td>14/36</td>
<td>38.9%</td>
</tr>
<tr>
<td>HM practitioner</td>
<td>6/24</td>
<td>25%</td>
</tr>
</tbody>
</table>
7.2.4.6 Who is reporting on HM risk?

Health journalists tend to write risk-based stories in relation to HM. Health journalists contributed to 17.4% of all articles about HM and 62.5% of these articles were risk-based (Figure 7-6). This reflects a leaning towards risk-based discourse about HM in Australian news reporting by health journalists specifically.

Figure 7-6 Proportion of journalists for risk based articles

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Risk frame sources

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage of articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals</td>
<td>90.00%</td>
</tr>
<tr>
<td>Professional CAM bodies</td>
<td>80.00%</td>
</tr>
<tr>
<td>Government</td>
<td>70.00%</td>
</tr>
<tr>
<td>Professional medical bodies</td>
<td>60.00%</td>
</tr>
<tr>
<td>Biomedical practitioners</td>
<td>50.00%</td>
</tr>
<tr>
<td>Biomedical journals</td>
<td>40.00%</td>
</tr>
<tr>
<td>Universities</td>
<td>30.00%</td>
</tr>
<tr>
<td>HM practitioners</td>
<td>20.00%</td>
</tr>
<tr>
<td>Health journalists</td>
<td>10.00%</td>
</tr>
</tbody>
</table>

---
7.3 Discussion: Dominant Risk Items, Themes and Framings

The results from the manifest and latent analyses show the limitations of content analysis in terms of merely seeking positive versus negative messages in media representations. This study indicates a more comprehensive perspective can be gained by incorporating media framing into the analysis, as well as information sources. With the two types of data from both manifest and latent analyses, I was able to compare the frequency of references to 45 denotative codes covering the topics of risk, quality, regulation, efficacy and sociopolitical issues about HM, with the frequency of a selection of nine themes as well as the 19 media frames, which give salience to a particular issue in relation to HM. Primary information sources or voices were also included. This mixed methods approach of combining manifest and latent approaches in media content analyses has also been used by Clarke and Everest (2006), Mercurio and Elliott (2009), Clarke and Gawley (2009), and Clarke et al. (2010). This approach enables consideration to be given to those critical questions for research into media risk reporting put forward by Kitzinger regarding which risks attract attention, and in what ways they are being conveyed and framed (1999: 62). The responses to these considerations are elaborated on in the following sections.

This study also draws attention to the benefits of a research approach that scrutinises specific therapies that come under the very broad disparity – or miscellaneity – of ‘CAM’, rather than considering the CAM therapies in a context that assumes they are one unified system. This has been a limitation of previous content analyses, which have been referred to in the background literature (Sections 3.4.3, 3.4.5 and 3.4.7) and are discussed in the following chapter (Section 8.3).

The focus on the news genre also challenges the results of other CAM content analyses, which were not restricted to the news articles, or did not isolate news specifically as a variable in the analysis. These other studies will be considered and compared in the following chapter.

The primary theme in relation to HM media discourse since 2005 has been that of questionable ethical conduct, largely from practitioners (qualified or unqualified) who
use HM or CAM therapies. The consistency of media attention to this theme is also supported by the results for the corruption and negligent practitioner frames also. References to ‘unscrupulous marketing’ in the manifest analysis also reinforce evidence of media attention to this theme, although this code was also associated with unscrupulous marketing practices from CAM or HM companies, not just practitioners.

By taking into account the main sources and voices journalists draw upon for their news articles, the research findings have charted the role these sources play in the various framings, themes and intonation in news stories.

Police/courts as a main source of information are attributed to the frequency of court cases involving practitioners in particular. These invariably carry risk attributes and framings associated with corruption, negligence and consumer vulnerability.

This section will consider those prominent risk-based manifest codes and latent themes, framings and sources revealed in the results, and which have contributed to the overall prevalence of risk discourse discovered in the news reports. These include adverse event and drug interactions as the most frequent risk items from the manifest codings.

7.3.1 Risk: Most frequent individual risk codes for manifest analysis

News reports pay particular attention to risk in relation to their discourse about HM. The framing of HM as a product or therapy fraught with risk is by far the most pervasive frame in relation to news reports in mainstream national and metropolitan Australian newspapers over the past five years. As outlined in the historical contextualisation presented in Chapter 2 (Section 2.8), the issue of risk in association with CAM products was given unprecedented and intense media attention in 2003 with the Pan Pharmaceuticals event. Although likely to be influential, it would be simplistic to suggest the Pan event alone has resulted in an increase in risk frames about HM. It is also the case that more people are using HM products and therapies, therefore they have become a more relevant topic for news-makers. Research into HM is increasing, therefore more research results are likely to be documented, with a greater likelihood of being picked up by media, particularly if the results are
controversial or provide a positive finding about risk, characteristics which Kitzinger points out are typical of risk reporting (1999: 63). There is also the phenomenon of efficacy to consider in relation to risk reporting. As acceptance for efficacy of HM increases over time (based primarily on scientific research activities – whether or not they end up being reported in the media), so too does the perception or association of risk about HM. As pointed out in the review of the literature in Chapter 3 (Section 3.2.2) this association has been documented in research amongst Australian GPs who use HM and other CAM therapies. This risk-efficacy interface is elaborated further in the next chapter (Section 8.2).

The risk of HM as a main theme in news reports also has a high rate of frequency, second only to ethical conduct, which by its very nature is typically a theme with risk connotations, and certainly negativity. This high frequency of the risk frame is also supported by the results from the manifest analysis, which showed a high reference to risk codes which, when clustered, had a frequency of almost 70% - far higher than other clustered categories such as benefits, quality, or regulation. This concept of risk is constructed through references (via sources and claims-makers) to adverse events caused by drug interactions, toxicity of the medicine, and contamination problems in particular. From the latent analysis, negligent and corrupt naturopathic practitioners are also conveyed as a dangerous factor in the usage – or as one journalist from The Daily Telegraph suggested somewhat derisively, the ‘dabbling’ – of CAM use by the Australian populace (Masters, 2008: 19). This concern about practitioner risk was also frequent in the manifest codings (‘Risk HM’), as Table 7-2 shows.

### 7.3.1 Adverse events

If the references to the Dummett and Wilson court cases are excluded from the ‘Risk HM’ category from the manifest codings (see Figure 7-2), overall, the news articles most commonly refer to the risk of an adverse event from HM rather than the broad risk of HM or the risk of a practitioner. Adverse events from taking HMs was also the most frequently mentioned manifest code in the MJA study presented in Chapter 6.
As Table 7-12 indicates, adverse events were most frequently mentioned in articles that cited information or spokespeople from public institutions. These institutions included the police or the courts, universities, hospitals, and government. HM/CAM practitioners were the most frequently mentioned non-governmental group.

The significance of understanding adverse events in the context of regulation and healthcare practice has been discussed in Section 6.5.2. The statistical likelihood of the occurrence of an adverse event from taking a HM product is drastically lower than that expected for a pharmaceutical medication.\(^{50}\) The voice of the Complementary Healthcare Council (CHC), credited as an ‘expert’ voice in an article by health writer Cathy O’Leary from *The West Australian* on 3 February 2005, made this low risk claim (providing a ‘rationalist risk perspective’) as a counter-argument in an article framed about HM risk, with a focus on adverse events: ‘But alternative medicine experts said yesterday that reactions to herbal preparations were extremely rare and the drug agency’s bulletins could unnecessarily scare people off them’ (2005a: 34).

However, across all articles over the 5-year period, this point about comparative risk was only mentioned in 2.9% of all news articles (4/139) and the overall ‘low risk’ associated with HM products was mentioned in 5% of articles (7/139).

The framing of HM as either more effective or safer than pharmaceuticals was rare (Table 7-10). Whilst the issue of comparability between HM and pharmaceuticals (and the issue of cost-effectiveness) has been largely neglected in news frames about HM, reference to HM’s effectiveness in its own right is far from neglected, and is mentioned with only 5% less frequency than adverse events.

A number of the articles referring to HM adverse events functioned specifically as health warnings about risk, such as the articles from *The Daily Telegraph* (‘Echinacea can be life-threatening’, 9/7/05) and Adelaide’s *Sunday Mail* (‘Natural therapy warning’, 10/7/05) regarding the dangers of echinacea for hay fever sufferers. The main voice in these articles was an immunologist at the Royal North Shore Hospital in Sydney who referred to the ‘life-threatening reactions’ that could be caused by

\(^{50}\) Wardle (2008: 137) argues that whilst these risks are low, they are nevertheless ‘sufficient… in their own right to warrant regulation’.
taking echinacea without ‘medical advice’. Whilst the ‘culprit’ in the narrative was echinacea, the general use of HM by hay fever sufferers was quoted by the immunologist as being akin to ‘playing Russian roulette with [one’s] health’ and ‘alternative therapy’ in general was ‘dangerous for people with certain types of hay fever’ (Unattributed, 2005a: 19; Unattributed, 2005c: 14). The privileging of this voice is indicative of what Briggs and Hallin (2007) refer to as the biomedical authority model, in which the biomedical voice addresses the audience (2007: 51). Briggs and Hallin also argue this authoritative voice no longer has the prominence it previously enjoyed in health communication or what they refer to as ‘biocommunicability’, a point which is reflected in the findings of my content analysis, in which biomedical practitioners and professional biomedical bodies are not privileged sources in news reports about HM.\textsuperscript{51} Briggs’ and Hallin’s other models of biocommunicability are outlined in Section 7.3.3 below.

It is important to be aware of the distinction between what is referred to further on as ‘sweeping’ risk stories, which incorporate generalisations about the dangers of HM or CAM products, and ‘specific’ risk stories, which identify particular HM products believed to have caused adverse reactions. These distinctions highlight the complexity of risk reporting about HM. The sweeping stories are typically more negative towards HMs overall, whilst the specific risk stories, as in the case of the black cohosh articles discussed in Section 7.3.4.1 below, tend to direct the negativity towards the one herb or herb product in particular, rather than all HMs. These risk frame distinctions are elaborated on in Section 7.3.3.

\textbf{7.3.1.2 Other risk codes from the manifest analysis}

The specific risks associated with HM usage were not referred to with a high level of frequency in the news articles. Whilst adverse events were mentioned far more than other risk items, the actual reasons for the adverse events were less likely to be mentioned. This may be due to the ‘simplicity’ rule in news gathering, whereby journalists may be constrained in terms of editorial restrictions on space and detail.

\textsuperscript{51} At the same time, biomedical principles are still deeply embedded and reinforced in media representations that prioritise biomedical sources beyond individual practitioners. This is reflected in the uses of biomedical sources that are affiliated with universities or hospitals, in particular.
Stallings (1990) has pointed out journalists’ preference for ‘monocausal explanations’ for this reason of simplicity as well as the fact such an approach ‘suit[s] the needs of contributors to media discourse’ (1990: 90).

At the same time, it is pertinent that the general ‘risk of HM’ category, which coded for both practitioner risk and general HM risk references, is the most frequent risk item. Clearly, there is a pattern of news narratives mentioning the dangers of HM or CAM practitioners or sweeping HM risk more often than those narratives that consider specific risk attributes of HM products.

Drug interactions with herbs or herbal products were the most mentioned specific cause, or risk, of adverse events, and articles referring to these are sparse until 2010. Contamination is also noticeably brought into the discourse during 2010. It is possible the increasing prevalence of references to these risk elements may over time result in a broader awareness of risk attributes for journalists (particularly health journalists), who may consider particularities such as adulteration, substitution and contamination when writing future risk stories.

Overall, however, when HM risk is being talked about in news discourse, it would appear that intrinsic and extrinsic causes are not as significant or valuable to the news story as are practitioner risks or unscrupulous marketing practices.

7.3.2 Risk themes
The most commonly occurring theme about HM and naturopathy in articles over the past five years is largely the issue of ethical misconduct and/or legal proceedings or court cases (see Figure 7-7 for an example). Only five of these articles were not about the unethical conduct of HM/CAM practitioners. These non-practitioner based news stories were reports on price-fixing, false advertising, a class action by a naturopath against the TGA and the selling of ‘suspect diet pills’ by a supermarket chain. Therefore, it can be concluded the questionable ethics of HM practitioners is the most prevalent theme found in the study over the period of analysis. This frequent association of HM practitioners in the news with the theme of questionable ethics or court cases contributes to the construction of risk in connection with those natural therapists who practise herbalism, or naturopathy, a therapy within which HM is
prominent. The apparent discursive construct is that HM practitioners may be either corrupt or negligent (see Figure 7-8).^52

This concept harks back to the justification by the Chief Medical Officer from the British Ministry of Health in 1923 for denying the Medical Herbalists Bill^53 on the grounds that it was ‘doubtful whether a trained herbalist is any less dangerous than an untrained one’ (Larkin, 1992: 117).

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^52 Whether or not the practitioner actually has qualifications is less important. In the Jeffrey Dummett articles, his ‘naturopathic’ status was consistently confirmed in headlines and in the text, despite the fact that he had no naturopathic qualifications. This matter in itself is a ‘risk’ issue, which has been an argument of the recently established Australian Register of Naturopaths and Herbalists (ARONAH), a group of naturopaths and herbalists who are in the process of forming a Board to implement a register for the profession in Australia.

^53 The Medical Herbalists Bill would have given herbalists statutory recognition as a profession, equal to that of biomedical practitioners.
Wahlberg (2007) documents the ways in which the HM practitioner as ‘quack’ has changed in contemporary times. Drawing from British history, he suggests the efforts of UK health authorities to build up a system of contained regulation of CAM practice indicates an acceptance at the level of public policy making ‘that there is in fact such a thing as a competent, skilled and responsible CAM practitioner’ (2007: 2311). However, I would argue the prevalence of risk frames in which HM practitioners are negatively depicted as corrupt or negligent does nevertheless indicate a bias in newspaper news towards such framings. This bias has to be appreciated in the
broader context of news culture, which, as has been discussed already, typically tends to focus on conflict, negativity and drama; themes very suited to ‘dodgy practitioner’ framings. This frame is an equally popular theme in news reports about ‘dodgy’ biomedical practitioners (Entwistle & Sheldon, 1999: 121), although such framings do not dominate all news about biomedical practitioners or biomedicine (Lupton & McLean, 1998). The ‘dodgy practitioner’ or quack archetype has also been utilised in media representations by HM advocates who are lobbying for practitioner registration, as evidenced by organisations like the Australian Register of Naturopaths and Herbalists (ARONAH). An article titled ‘Register to hit shonks – Alternative medicine to clean up its act’ (Browne and Singer, Sun-Herald, 14/6/09: 38) was a response to a media release disseminated by ARONAH (a group of naturopaths, herbalists and CAM researchers), who were promoting the advantages of registration to naturopaths throughout Australia, as well as to other health professionals, policymakers, and lay users of naturopathic and herbalist services. The article (shown in Figure 7-8) used ‘registration is necessary for public safety’ and ‘HM is effective’ framings rather than a risk one, and opened with: ‘Naturopaths and other alternative therapists hope a new national register will separate the qualified practitioners from the shonks’. The main voice was an ARONAH spokesperson, Jon Wardle, who was quoted as follows:

“We are making sure that when the public sees a naturopath they have training, act ethically and if something goes wrong, there is a complaints procedure”, he said (Browne & Singer, 2009: 38).

Wahlberg (2007: 2315) suggests there has been a broader cultural shift in the attitudes towards the contemporary concept of quackery, which in modernity is less relevant to the type of therapy being used and more about issues like ethical conduct and competency:

While a practitioner may in the past have been a quack for the mere fact of practising or even associating with a non-biomedical therapy, today’s ‘dangerous practitioner’ is more one who is deemed to be practising medicine (whether complementary, alternative or modern) irresponsibly, incompetently or unscrupulously to the detriment of the public.
It would be misleading to suggest there is a broader ‘anti-HM practitioner’ agenda evident, as HM practitioners are awarded more space as a source or voice in articles than biomedical practitioners or professional associations, a point which is discussed further on in Section 7.3.4.9. Whilst this content analysis focuses on the news genre, it is also relevant this ‘dodgy practitioner’ frame may be consistently (and more frequently) counterposed in the context of the very different (and more likely positive) framings that occur in lifestyle articles about HM, many of which feature naturopaths and herbalists as a main source. However, a comparative analysis between news and other genres is beyond the scope of this particular study.
The ‘dodgy practitioner’ theme exemplifies what Gans (2003: 94) calls a ‘watchdog story’, in which the journalist’s function is to highlight immorality and reinforce the preservation of moral norms and standards. The article from *The Australian*, featured in Figure 7-7, reflects this.

After unethical conduct – particularly concerning HM practitioners or naturopaths – the risks of ingesting HM products is the next most prominent theme in news reports over the past five years in Australian mainstream newspaper news. Articles with the risk theme include stories about the broad, ‘sweeping’ risks of HM products: ‘Caution prescribed for herbal medicine users’ (Miller, 2008: 3); as well as warnings about specific HM products such as black cohosh: ‘Menopause herb linked to liver failure’ (Crouch, 2007c: 2); ‘Alert on herbal remedy’ (AAP, 2008: 5); ‘Health risk in a giggle pill that can kill’ (Jones & Miles, 2009: 2); and ‘Herbal medicines can kill’ (Miller, 2010a: 2).

### 7.3.3 Risk frames

The importance of news framing has been discussed in Sections 3.4 and 3.5. The salience being given to risk discourse is obvious from the frequency of risk frames in HM reports. In this study, risk frames are shown typically to carry a broad warning regarding the potential dangers of HM usage, as exemplified in the following articles:

> The National Prescribing Service research found complementary medicine was taken by 67% of Australians – a 2004 survey found that half the population did. But many were unaware of risks such as side effects, toxicity and allergies (Miller, 2008: 3).

> Some popular herbal medicines can be dangerous, even lethal, contrary to the perception that they are a safe alternative to conventional medicine, a University of Adelaide researcher has warned (Miller, 2010b: 3).

> More than half the nation’s children are using alternative therapies such as vitamins and herbal treatments – most without expert advice, research shows. Doctors yesterday warned parents they were risking serious adverse reactions if their children were using both herbal remedies and conventional medicines (Dunlevy, 2005: 15).
The Victorian Cancer Council has declared war on “cancer quacks” by urging patients to rigorously question “miracle cures” such as macrobiotic diets and herbal remedies, and to talk to their doctors about them (Medew, 2009: 3).

In an article by Suellen Hinde in *The Sunday Herald Sun* on 13 August 2008, an overall risk frame about ‘alternative therapies’ was presented, along with the newspaper’s own ‘laboratory tests’ on some Chinese herbs purchased from two Melbourne retail stores:

The move [to regulate CAM] comes as many alternative therapies are being revealed as, at best, useless and in some cases dangerous…Laboratory tests commissioned by the Sunday Herald Sun this week found Chinese herbs bought from two Melbourne outlets contained rat faeces and potentially harmful bacteria (Hinde, 2006: 11).

This particular group of risk stories can be defined as ‘sweeping’ risk stories, which have a tendency to generalise either about HMs as a whole (rather than concerns about specific, individually identified HM practitioners or products) or about the highly ambiguous and disparate category of ‘CAM’ products and/or therapies. Sweeping risk stories carry an ambiguity in their synecdochic references to HM, which enables the issue of risk to reach a broad range of audiences (Johnson-Cartee, 2005: 65). An example is illustrated in Figure 7-9.

**Figure 7-9** The sweeping risk frame: *The Age*, 24 April 2009, p. 3
These sweeping risk stories do not tend to privilege voices that counter the prevalent risk frame – rather, they are restricted to ‘experts’ who are biomedical researchers, government regulators, or policy-makers. In the majority of cases, the main voices heard in both sweeping and specific product-based risk frames come from government, universities (from biomedical rather than CAM research areas) and hospital sources. A common ‘treatment recommendation’ (Weaver, 2007: 143) in these articles, (that is, a suggested way of dealing with the problem which is part of the risk frame) is for more stringent regulatory controls of HM products. In other articles using the sweeping risk frame, the suggested action is for readers using these therapies to simply beware and be sure they ‘talk to their doctors’. This last treatment recommendation is a more modern and less paternalistic alternative to the ‘use only under medical supervision’ message, which rarely appears in mainstream news articles about HM (see Table 7-2). At the same time it projects the hierarchical importance of the biomedical practitioner in health care, which is typically expressed by a biomedical source. This is indicative of what Briggs and Hallin (2007: 51) call the biomedical authority model of biocommunicability, which assumes a paradigm that embraces a ‘biomedical authority/passive patient reception’:

In characterising people as biocommunicable outsiders, reporters extend logics that justify health disparities by suggesting that targeted populations fail even to acquire the knowledge that would permit them to fashion themselves as biomedical citizens.

There are exceptions to the negativity accompanying the sweeping risk stories. The aforementioned article by Cathy O’Leary, medical writer of The West Australian, provides information from an Adverse Drug Reactions Advisory Committee (ADRAC) bulletin, employing the discursive ‘natural is not necessarily safe’ strategy highlighted in the sentence: ‘despite the belief herbal medicines were always safe’ (O’Leary, 2005a: 34). This was a recurring theme in the MJA study findings discussed in Chapter 5, and appears regularly in numerous articles with risk frames. Unlike many of the other sweeping risk articles, this article provides the specific concerns of the TGA in relation to some of the adverse events caused by certain herbs, including allergic reactions, drug interactions and toxicity. The voice of the CHC director, Dr Tony Lewis, offers a counter-claim to the risk frame, arguing the case for the ‘small number of adverse reactions’ from HMs, as well as articulating the
need for ‘more doctors to be trained in complementary medicines’. The specific problem of incorrect dosage, a much-neglected cause of adverse events in the newspaper reports, is also represented in the quotes from the CHC director (O'Leary, 2005a: 34).

The above news article from The West Australian is an example of what Briggs and Hallin (2010) refer to as a ‘public sphere model’ of biocommunicability, in which the audience are imagined ‘citizens’ rather than ‘consumers’ or ‘patients’, as in the consumer-patient model discussed further on (2010: 152). This information is useful in the ‘public interest’, and embraces ‘open debate’ and ‘conflicting voices’ – as provided in the example of the ADRAC report and the CHC response. It is important to note that these voices are nevertheless restricted to the ‘legitimate’ voices of ‘scientific training, clinical experience and peer review’. Representation is not open to non-experts (Dr Tony Lewis’s title suggests he is more than just a representative of private industry), and the egalitarian ‘assumptions’ implicit in biocommunications which work within the public sphere model are not independent of the hierarchical assumptions that privilege the authority of science and the state (Briggs & Hallin, 2010: 160).

In contrast to the sweeping risk frames, there were many specific risk frames used in articles about individual HM products, in which the dangers of the products being reported were toxicity, adulteration and unsafe dosages:

Common over-the-counter herbal remedies used by hundreds of women to relieve symptoms of menopause have been linked to at least four cases of liver failure requiring transplants (Crouch, 2007b: 12).

The nation’s drug watchdog is being asked to ban the sale of a herbal weight-loss product on the grounds that it could harm or even kill people, amid claims an active ingredient has been linked to cases of heart complaints overseas (Cresswell, 2009: 3).

Malaysia has banned a local herbal medicine after it was found to contain chemicals used in the anti-impotency drug Viagra…the purported herbal medicine, whose manufacturers claimed it promoted general health, was found to be mixed with tadalaflil and sildenafil – chemicals that went into making Viagra (Unattributed, 2006a: 34).
They are called “Giggle” – but these pills are anything but a laughing matter with a man hospitalised after taking just one of the latest over-the-counter highs that packs the punch of 20 coffees (Jones & Miles, 2009: 2).

These specific product-based risk frames follow the patient-consumer model put forward by Briggs and Hallin (2007, 2010), whereby lay audiences are cast ‘as individuals who make choices in the absence of their physicians and the presence of the media’ (2007: 52). The particular social function of these specific product-based framings is to assist the lay audience, as actively responsible, information-seeking and self-regulating consumers, to avoid these particular products, based on information or events that suggest their dangerousness. The journalist’s role here does not function to help medical authorities communicate to a vulnerable or ignorant public, but rather, to give health consumers a range of options for maximising their own health and wellbeing (Briggs & Hallin, 2007: 53; Briggs & Hallin 2010: 152) – and exercising self-governance. This coincides with filtering warning messages from the TGA about adverse events or recalled HM products.

Articles alerting lay audiences to specific product risks read quite differently from sweeping risk frames about the dangers of HM usage, which are less likely to offer alternative viewpoints from the risk frame, and more likely to present consumers as vulnerable or ignorant. This distinction between common risk stories highlights the intricacies in understanding media representations of risk, which may operate on a number of different, often conflicting, levels. In this sense, risk discourse about HM carries the ambiguity for which a ‘risk society’ is notorious.

The mapping of main sources and voices in the news framings provides critical information that gives insight into the mechanisms involved in risk constructions, as well as the different agenda-setting of claims-makers. This next section discusses the inferences and implications from the findings of the study in relation to the most prominent voices in risk discourse about HM in newspaper reports.
7.3.4 Sources in risk discourse

Access to communication is one of the key measures of power and equality in modern democracies (Bennett & Entman, 2001: 2).

This section will discuss the eight main news sources with a significant correlation to risk codings identified from the study. These are: government, universities, hospitals, professional HM/CAM bodies, biomedical journals, professional biomedical bodies, biomedical practitioners, and HM/CAM practitioners.

The relevance of understanding news sources has been pointed out by Stallings (1990: 91):

Focusing solely on the recipient of news accounts ignores the effect of organisational decisions (such as those affecting the access of risk definers to media discourse) on the social construction of risk. Furthermore, rather than blaming the media for distorted, alarmist and unnecessarily convoluted reporting, a sociological view of media discourse on risk suggests that any contradictions, alarm, and complexity in news accounts reflect by and large what journalists hear from various claims-makers, stakeholders, and other expert news sources.

Citing Tuchman (1978) and Gans (2003), Stallings has suggested ‘a variety of cultural, structural, and technological variables characterising the media as work organisations influences the selection of sources’ (1990: 87). By taking into account the main sources and voices journalists draw upon for their news articles, my research findings have provided a map of the role these sources play in the various framings, themes and intonation in news stories. Understanding these voices – or what Kitzinger refers to as ‘source activity’ – is integral to understanding the discursive constructs about HM, as Kitzinger points out in relation to comprehending risk reporting in general (1999: 64). This section considers those voices that contribute to the media construction of risk about HM, and which often compete, conflict and even collaborate discursively. Stallings has referred to the way in which ‘risk definers’ in particular, who are drawn into media discourse are ‘keenly aware’ of the positions and statements of their claims-making competitors (1990: 82).
7.3.4.1 Government sources – mediated political communication

The predominance of government as a main source in the news risk frames about HM over the period of analysis has been highlighted in the results section (Figure 7-5). This conveys the prominent role government plays in discursive risk strategies about HM and the subsequent construction of risk. The main government sources journalists draw upon regarding HM articles are federal and state health department ministers or other officials, and the TGA.

The TGA officially defines its role in managing risks associated with therapeutic goods as:

- identifying, analysing and evaluating the risks posed by a product before it can be approved for supply in Australia (pre-market product assessment or evaluation);
- identifying, analysing and evaluating the risks posed by manufacturing processes before a manufacturer is issued with a licence to manufacture therapeutic goods (licensing of manufacturers); and
- identifying, analysing and evaluating any risks that may arise following approval of the product and licensing of the manufacturer (post market surveillance) (TGA, 2004: 10).

Ensuring the ‘benefit-risk balance’ is defined by the TGA as the responsibility of ‘all participants in the development and delivery of therapeutic goods’, who:

have a role to play in maintaining a benefit-risk balance by making sure that products are developed, tested, manufactured, labelled, prescribed, dispensed and used in a way that maximises benefit and minimises risk, when used as intended (TGA, 2004: 9).

In Australia HM products are, by their very definition as ‘Listed Medicines’ on the Australian Register of Therapeutic Goods (ARTG), deemed to be of low risk at the regulatory level.

In a number of the risk stories analysed, the government role being represented is that of a watchdog, reinforcing the TGA’s official raison d’être:

- to provide a national framework for the regulation of therapeutic goods in Australia, so as to ensure their quality, safety, efficacy and timely availability (TGA, 2004: 4).
Although this study did not measure whether sources appeared to be based on media releases disseminated by the sources, there were numerous articles obviously based on either media releases or bulletins from the TGA. As already discussed in Section 3.6, the source-journalist interface is a crucial component of the news production process. Media releases are an important tool used by claims-makers or groups promoting their products, their politics or their opinions with a mind to persuading journalists – and media audiences – to adopt their particular frame as it is provided in the information they give to the journalist or news editor.

The TGA website, which provides archives of its media releases and ADRAC bulletins, was available to be checked to corroborate this. These articles were typically framed as ‘top-down’ health warnings about specific herbal products, such as those referring to black cohosh (*Cimicifuga racemosa*), a herb used for treating menopause, which had been linked to a number of cases of liver failure. Headlines included: ‘Herb link to liver diseases’ (Crouch, 2007a: 14), ‘Herb warning: Liver failure link to natural remedy’ (Crouch, 2007b: 12), and ‘Menopause health alert – Herb remedy can hurt liver’ (Dunlevy, 2006: 8). The main message via the government sources in these first two stories under the risk frame was primarily a health warning from the TGA and an urging from the South Australian Liver Transplant Unit director for women who had been taking products containing black cohosh to have a liver test. One article named a specific product called *Remifemin*, which had been taken by a patient who had experienced liver failure and was taking the herbal supplement. The article by health writer Sue Dunlevy from *The Daily Telegraph* almost a year earlier in April 2006 also functioned as a health warning primarily, noting 49 cases of liver toxicity linked to black cohosh usage throughout the world. This article also provided a message for doctors to ascertain patient usage, as well as promoting pharmacovigilance to a broader audience:

> The TGA asked doctors who had patients with liver problems to ask them about their use of alternative medicines.

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54 Risk communication was originally regarded as a method for governments to communicate environmental health risks to the public – therefore the messages of risk were communicated from the ‘top’ level of government ‘down’ to the public (Hillier, 2006: 48).
The Australian Drug Reactions Advisory Committee asks that any cases suspected of being caused by black cohosh (or any other medicine) be reported…(Dunlevy, 2006: 8).

Scrutiny of online TGA safety information bulletins reveals the official government stance ultimately portrays black cohosh as a low risk product, a message that was not part of the actual black cohosh news article frame:

The expert group concluded that there appears to be an association between the use of Black cohosh and liver damage, but that it is very rare (TGA, 2007).

Informing the community of possible or known adverse effects in relation to a therapeutic good is the responsibility of the TGA. In the case of the black cohosh stories, the association of the risk of liver damage was made, however, it was also qualified in the ADRAC bulletin summary by a comment that clarified the risk magnitude, which was that the specific adverse effect was ‘very rare’. However, the TGA’s stance, when combined with a human interest component and a victim – a woman who had needed a liver transplant, which was associated with her taking black cohosh (by Flinders Medical Centre in South Australia) – became blended into a different news frame assembled by the journalist, Brad Crouch, in which risk became amplified:

Common over-the-counter herbal remedies used by hundreds of women to relieve symptoms of menopause have been linked to at least four cases of liver failure.

The latest case, an Adelaide woman, has undergone a second transplant following complications with the first (Crouch, 2007c: 2).

South Australian Liver Transplant Unit director Dr John Chen this week urged women using the herb – black cohosh – to see their GP for a liver test (Crouch, 2007b: 12).

In an international study of differing Western journalistic cultures, the investigation of government claims was rated as very or extremely important by Australian journalists, who were surveyed as part of a broader cross-cultural research project of news cultures amongst Dutch, German, British, Australian and US journalists (Deuze, 2002: 141). This was only 7% less than British journalists and 14% more than US

Dutch and German journalists rated this as a substantially less important role in their work. This cultural consideration is relevant because whilst journalists may frequently rely on government sources as leading information in assembling stories about HM or other health-related issues, they may at the same time have less trust in the government policy-makers and regulators who are providing the information, given this news culture of government scrutiny and suspicion. This is an inevitable symptom of the increasingly sophisticated Australian PR state, which has introduced public relations tactics into the realm of government communication with its citizens (Ward, 2007). This is not to suggest the risk amplification in the example above was necessarily a result of the journalist’s distrust of government. Other factors were potentially at play, including those trends in the media culture of risk reporting which include the attractiveness of ‘unusual risks’ (herbs are not typically expected to cause liver failure), having a ‘human face’ of risk, and actual ‘victims’ of risk (Kitzinger, 1999a: 62), and suspicion of companies which unscrupulously market ‘toxic’ products (in an inappropriately regulated marketplace), capitalising on the allure of the ‘natural’. It is possible each of these factors impacted on the news production process in the black cohosh articles of 2006 and 2007 – each of which are more journalistically appealing (from the perspective of having good news value) than simply filtering the TGA’s comparatively mundane bulletin about the new labelling requirements for black cohosh.

The same could be said for the 2006 article by Suellen Hinde in the Sunday Herald-Sun (13/8/06: 11) titled ‘Herbal potions to be regulated’, which referred to the Lin report (2005), funded by the Victorian Government’s Department of Human Services and co-authored by a collaborating team of CAM academics, researchers, and practitioners. At the forefront of the article was the mention of the government’s intent to regulate, which had ‘been sparked by deaths linked to herbal therapies and concerns about public safety’ (Hinde, 2006: 11). The risk frame also incorporated information from negative reports in New Scientist (a popular science magazine) about antioxidants and echinacea, and laboratory tests commissioned by the Sunday Herald-Sun itself, which tested Chinese herbs bought from Melbourne stores which ‘contained rat faeces and potentially harmful bacteria’. These elements that have been added to the more mundane government report assist in the risk amplification process. The treatment recommendation was that of regulation, supported by the
report and then reinforced by a spokesperson from the Australian Medical Association (AMA) – one of the few stories featuring an AMA voice.

The high frequencies of government sources in risk stories reflect the importance journalists attribute to government regulators and policy-makers as a source. Government regulatory activities, their media releases about health warnings or published reports and speeches by health ministers each become part of the dynamic process of risk construction, which Stallings argues occurs in and through the process of discourse, rather than simply being the outcome of it (1990: 82). In many cases, the journalist absorbs the information into their own meaning-making process of news construction, which relies on adhering to their culture of news values in order to make an interesting, ‘sellable’ news item that will please the journalist’s editors and peers, and interest (and possibly inform) their audience.

Croucher (2009: 13) points out that ‘government communication in contemporary liberal democracy is often a confluence of information provision, self-promotion and image management’. An organisation like the TGA has a responsibility to keep the community informed about any risks associated with increasingly popular HM products and the media is the best way of communicating this information. At the same time, the TGA also needs to convey to its publics that as a government organisation it is ‘on the ball’ regarding any health risk issues associated with medicines. As Gans has noted:

> the news media cannot control their audience and may not even be able to attract their attention to political news, but public officials must nevertheless act as if an audience is paying attention (2003: 98).

Poor quality of government communication (in liberal democracies) has been blamed for people’s mistrust in politicians and government (Young, 2007: xxvi). Therefore, mediated political communication is more important than ever, and as Bennett and Entman argue, has become ‘central to politics and public life in contemporary democracies’ (2001: 1). Indeed, Entwistle and Sheldon have drawn attention to the way in which media can be the double-edged sword for government:
By imbuing the media with importance as a political arena, politicians give the media power that can in turn influence policy and the fate of politicians (1999: 132).

7.3.4.2 University sources – a site for risk research

Risk is a predominant frame in news articles citing university sources. The frames in which this source is cited primarily featured sweeping risk and practitioner risk items, as well as risks caused by adverse events, drug-interactions and contamination issues.

In considering the presence of the university source in risk frames, the agenda-setting from different claims-makers becomes evident. There are three main university spokespeople who are most prominent in the risk-framed stories and are sourced from media releases or other information provided to journalists. These spokespeople are Jon Wardle, Dr Ken Harvey, and Professor Roger Byard.

Jon Wardle, a naturopath and researcher at the University of Queensland whose appropriation of the risk frame in relation to HM and naturopathic practice has already been discussed in Section 3.2.4, is quoted in four articles during the period of analysis. Only two of these, however, used the risk frame. The first relates to a report written by Wardle (2008a) for the Federal Parliamentary Secretary of Health regarding the need for regulation of HM and other CAM products and practices. The news article was by William Birnbauer and published in *The Sunday Age* (20/6/08: 5):

**Herbal medicine chaos a recipe for risk: naturopath**

Millions of Australian consumers who buy natural health products to relieve ailments including arthritis, depression, stress and fatigue may be unwittingly buying inferior and ineffective substitutes, which are a waste of money. A lack of universal regulations in the alternative and complementary medicine sector – an industry that generates up to $3 billion a year – means that consumers are at risk of unscrupulous marketing by companies and from rogue or unqualified practitioners, the Federal Government has been warned.

….In a report to federal parliamentary health secretary Senator Jan McLucas, Mr Wardle says “consumers may be purchasing ineffective and poor-quality products whilst under the impression they are … a legitimate product” (Birnbauer, 2008: 5).
Wardle’s report findings and recommendations dominate the news frame. This suggests his appropriation of the risk agenda, which legitimises the knowledge of trained and qualified naturopaths, as well as their role in the healthcare system, was successful at the media level. So too was the framing of the need for regulation and the popularity of HM. An article titled ‘Call for registration of alternative therapists’ published in the *Courier-Mail* (13/6/09: 42) the following year also used the risk frame, as well as regulation and HM popularity framings:

“One in six people use complementary therapists as their primary healthcare practitioner and yet currently anyone can hang up a shingle and begin practising without any qualifications at all,” [Wardle] said. “This is a major public health issue” (Unattributed, 2009a: 42).

This article and two others that did not use the risk frame, were press-released by ARONAH (2009), an organisation referred to earlier in Section 7.3.3. The purpose of the media release was to promote the need for registration of naturopaths and herbalists, and to indicate the professional support for it within the CAM professional field. The first two spokespersons quoted in the ARONAH media release came from universities, one of whom was a professor. Such university endorsement assists to portray an association of ‘expert’ endorsement, a notion taken up in the *Courier-Mail* news article:

One in six Australians visit a complementary therapist as their primary health carer but experts fear many do so without being aware of the possible risks (Unattributed, 2009a: 42).

The second voice coming from a university in the risk frame articles from this analysis is that of Dr Ken Harvey, a biomedical practitioner and Senior Research Fellow at La Trobe University’s School of Public Health with a history of formulating and implementing drug policy in Australia and in developing countries. Dr Harvey was cited in four articles, once in July 2008, in the same article from *The Sunday Age* in which Wardle was also a main source, and the other three citations occurred in 2009. One article in *The Australian* (8/4/09) prominently displayed on page three, concerning a specific complaint Dr Harvey had made to the TGA regarding a ‘slimming’ supplement containing the ingredient bitter orange (*Citrus aurantium*). This appears to be what was intended as a claims-making exercise to ensure the TGA
took the particular complaint seriously (at the end of the article a TGA spokeswoman said the complaint ‘was being examined’), as well as a lobbying effort to highlight the inadequacies of Australia’s regulatory requirements for HM and CAM products and consequently put pressure on the TGA for regulation reform:

Dr Harvey told The Australian the case reinforced the need for the TGA to “get their act together” on listed weight-loss products.

“Their laissez-faire attitude is putting consumers at risk and their current draft guidelines are a joke,” he said (Cresswell, 2009: 3).

Pressure on the TGA appears to be the main objective of the claims-making process in those articles where Dr Harvey is cited. His position on CAM is presented in a podcast on La Trobe University’s website and his clear concern expressed there is directed towards the inadequate evaluation process by the TGA and the ease with which companies manufacturing and marketing the products can have their (often questionable) products listed.

The use of risk as a discourse does not always result in a risk framing. As I pointed out earlier, some of the articles regarding Wardle and Harvey’s claims-making mediations use regulation framings rather than risk ones. However, they use risk to make their main argument. This is not surprising, given that ensuring safety in medicines is a priority and government responsibility, and these sources are advocating legislation to improve safety.

The third university voice comes from Professor Roger Byard, and will be discussed in the next section.

7.3.4.3 The Byard articles – an example of media peak activity

Hornik and Kelly (2007) make an important point about the influences of intense media exposure or ‘saturation’ coverage:

...heavy exposure of a message is critical to increase the likelihood of audience reception, make the message appear credible, facilitate the message’s diffusion through social networks, and give the impression to policy-makers that the message is of great public interest (Hornik & Kelly 2007, cited in Gollust & Lantz, 2009: 1097).

The most intensive period of risk coverage in which a university source was cited during the period of analysis occurred in February 2010, coinciding with the publication of his systematic review of potential HM risks in the *Journal of Forensic Sciences* by forensic pathologist at the University of Adelaide, Professor Roger Byard. After being press-released by the University of Adelaide on 8 February 2010, this research and risk story caused a flurry of dramatic headlines of the sweeping risk calibre the following day: ‘Herbal medicines can kill: researcher’ (Miller, 2010a: 2); “’Natural” remedies can prove lethal: research (Miller, 2010b: 3); ‘Deadly remedies’ (Unattributed, 2010a: 9); ‘Herbal mix can be lethal’ (Watson, 2010: 5); ‘Herbal cures “a toxic mix”’ (Cresswell, 2010: 7); ‘Herbs lethal if misused’ (Unattributed, 2010b: 18). Professor Byard also published an article explaining his findings in *Australasian Science* (2010b), a popular science magazine, which was taken up as a news story by The Daily Telegraph’s Edith Bevin almost three months later, headlined: ‘Watch out for herbs that kill: Academic attacks natural remedies’ (2010: 26).

Byard’s review article provided an unusual and ‘novel’ edge to the herb-risk frame, with a lead-in reference regarding the difficulties facing forensic pathologists testing for toxicity caused by HMs in autopsies. Drug interaction risks featured prominently, as did contamination, which had only been mentioned in four articles over the previous years. Determining toxicity is of course a focus of forensic science endeavours, which concentrate on those elements of risk that could be responsible for a person’s death. The human interest component satisfied news values with case studies of lead and arsenic poisoning of children in particular.
The Byard articles exemplify a risk reporting process which combines items of newsworthiness — such as risk, negativity, human interest, victims, and stories contrary to ‘popular’ belief – with the authoritative and legitimising voice of biomedical scientific expertise, made particularly reliable by the association with...
peer-review. This may explain the broad up-take of the story by five mainstream newspapers in February as well as radio and television news and current affairs programs.

With the exception of the headlines, there is no evidence of sensationalism or exaggeration in the media reports about Professor Byard’s review article in *Journal of Forensic Sciences* (2010a). As indicated in a separate study that I conducted about reports on antioxidants and mortality (Lewis et al. 2010), health journalists in Australia appear to be careful to attribute opinions to sources, as well as being faithful to truth-claims presented in the press release (rather than the actual journal article itself, which, in the case of research reports or reviews from biomedical journals, they do not seem to pay much attention to).

The University of Adelaide media release clearly provided the pathway for the way in which the Byard news stories have been framed. This appropriation of the media release frame is evident in terms of the quotations used, as well as the key points made in the media release which coincide with those used in each of the articles published about Professor Byard’s review. Schanne and Meier (1992) make the point that news that is more alarming than reassuring is usually related to official announcements and press releases (cited in Kitzinger, 1999a: 64). Additionally, Byard’s findings, as a peer-reviewed systematic review, which constitutes a Level 1 category of evidence-based medicine (EBM), satisfy the media’s hunger for definitive findings:

Scientific uncertainty per se, is not attractive to journalists – it is new and apparently definitive findings and controversy that draws media attention (Eldridge & Reilly, 2003: 139-140).

Some additional voices emerge within three of the news texts about Byard’s findings, which challenge the dominant frame in terms of risk magnitude, relevance to Australia, and relevance to the practice of naturopathy and Western HM. These counter-claims, discussed below, highlight the discursive strategies used by competing claims-makers in the face of risk constructions. At the same time, they meet the requirements of news interest – particularly in relation to risk reports – by
providing a conflicting opinion. This opinion, however, is given a subordinated position to the main sweeping risk frame, in which the research findings, as they are articulated by Professor Byard, dominate.

The article from *The Australian* by health writer Adam Cresswell presents an additional, conflicting university voice of a Professor of Complementary Medicine at RMIT University, Marc Cohen. Professor Cohen’s quote gives a ‘rationalist risk perspective’ analogy within the Byard risk frame, a discursive strategy I have theorised in Section 6.5.2 in relation to the MJA content analysis findings:

‘If you looked at the number of food poisoning cases, and the number of toxins in food, you wouldn’t go near it,’ Professor Cohen said. ‘Everyone needs to be careful with anything they put in their mouth … Herbal medicines are safe, and are relatively well-regulated in Australia’ (Cresswell, 2010: 7).

The other two counter-claims came from the NHAA president John Baxter and a former Dean of a private CAM college, Alison Johnson. The NHAA voice is presented in *The Advertiser* (SA) by lifestyle reporter Callie Watson and refutes the relevance to the Australian marketplace and reinforces the message about herb-drug interactions being a problem of disclosure to health practitioners as well as that of doctors not asking their patients about HM usage in consultations:

‘You’re talking about products purchased in America, which has a totally different regulatory system to that here,’ he said. ‘The chances of buying something with lead or arsenic here is highly improbable and injecting is not allowed. The fact that herbal medicines are frequently mixed with prescription drugs is spot on. However, people don’t tend to tell their doctor what they’re on and some doctors tend not to ask’ (Watson, 2010: 5).

In the article from *The Daily Telegraph* almost three months later (based on the article by Professor Byard in *Australasian Science*) two voices countering the risk claims by Byard are presented. The first comes from former Dean of the Australasian College of Natural Therapies (one of the few articles to cite a CAM private college representative or associate) and counters the ‘sweeping’ risk frame by distinguishing the herbs of naturopathic practice from the herbs of Traditional Chinese Medicine
(TCM) practice, which are the subject of Byard’s review, as well as reinforcing the regulation process in Australia is effective:

Alison Johnson, former Dean of the Australasian College of Natural Therapies said that there needed to be a clear distinction between Western traditional medicine and Chinese herbal medicine.
Ms Johnson said most naturopaths in Australia used Western traditional medicine and that all the drugs were monitored and passed by the Therapeutic Goods Administration (Bevin, 2010: 26).

A final and brief comment in the last sentence of the article is also provided by an ATMS spokesperson, Bill Pearson, who said he had ‘not heard of any deaths caused by Chinese herbs’.

As the discourse analysis and audience reception study by Deacon, Fenton and Bryman (1999) conveys, the ‘preferred reading’ of a text may not be created by the journalist, but rather, by the ‘source given the most privileged access’. Journalists ‘select’ material from ‘an already tightly crafted message’ and may add on ‘a brief and unelaborated counterpoint from a second critical source’. This suggests a process of debate being ‘constricted’ rather than ‘constructed’ (1999: 25). Whilst a conflicting opinion may be presented (typically based on refutations of risk magnitude as demonstrated above), as indicated in the articles discussed above, there is less sense of there being a substantial ‘risk controversy’. Voices counter to the primary risk frame are allowed to enter the discourse, but without the prioritised positioning within the text and proportion of the article that is being provided to the article’s primary information source.

University status is a powerful asset for claims-makers about HM generally, as well as those defining risk in particular. What is significant here is that whilst biomedical professional organisations and practitioners are not prominent in any discourse about HM, including risk, those biomedical researchers (who are typically qualified biomedical practitioners like Dr Harvey and Professor Byard) who conduct research in a university environment appear to hold privileged status, along with government officials, as experts whose discursive strategies are given dominance.
On this final point, it must be noted that it is articles referring to biomedical research where risk frames are the most prevalent, not those citing university-based CAM research departments or centres. CAM research people or activities tend to be cited in articles about efficacy, or addressing the need for better regulation, as well as those articles acknowledging HM as part of the healthcare system.

### 7.3.4.4 Hospital sources – at the frontline for risk events

Overall, hospitals play a small role as a source in HM news over the period of analysis. However, as a source category, hospitals have the highest concentration of risk frames. This is to be expected, given their role as first port of call in cases of serious adverse events. As revealed in the results (Section 7.2.4.5.9), adverse events feature prominently in articles citing hospital sources, as well as the broader HM risk category. The ‘echinacea’ articles have already been referred to earlier in Section 7.3.1.1, in which the head of the allergy department at Royal North Shore Hospital uses the symbol of ‘playing Russian roulette’ to highlight the dangers of hay fever sufferers using ‘alternative’ therapies like echinacea to address their condition. This authoritative biomedical voice de-credits HM and promotes the ‘established (pharmaceutical) therapies’, attempting to persuade an audience assumed (by the spokesperson crafting her message for the media) to be hostile to anti-histamine medications. This is particularly evident in a quote used in the *Sunday Mail* (SA) article: ‘There’s nothing that doctors give for hay fever that I wouldn’t take myself or give to my children’, she said (Unattributed, 2005c: 14). It is noteworthy that the sweeping risk frame overarched the specific product frame, as the main claim from the source appeared to be that echinacea could cause serious allergic reactions for hay fever sufferers. The immunologist’s political positioning on CAM is made clear in her sweeping statements about the dangers of ‘alternative therapy’ for ‘people with certain types of hay fever’ and the advocacy of ‘effective treatment’ that is depicted as posing far less risk. This is one of the more obvious examples of a source engaging in othering as a discursive strategy to exemplify HM risk and provide a message that ‘established pharmaceutical medications for hay fever are much safer’. Whilst the principal aim appears to act as a warning, it is also the provision of a broader political message about CAM as a whole ‘other’ entity.
The main role of the hospital voice in the black cohosh stories was to urge women using it to have a liver test. An article in The Australian nine and half months later followed the publication in the MJA of a case report of liver failure in a woman taking black cohosh (AAP, 2008: 5). The quotes from the treating physician at the hospital communicate the need for ‘tighter regulations’, ‘randomised-controlled trials’, and ‘new guidelines’ for women taking black cohosh. The message about having a liver function test is presented upfront, and reinforced again by the hospital source towards the end of the article. Interestingly, despite the risk frame being presented here, the validity of black cohosh as a therapy is not questioned. Despite the framing of risk, the legitimacy of black cohosh is established at the very start of the article in The Australian, with reference to ‘thousands of Australian women and millions worldwide’ who take black cohosh for relief of menopausal symptoms, as well as its traditional use by indigenous North Americans (AAP, 2008: 5). These concurrent representations of risk, traditional usage and legitimacy characterise a significant attitudinal shift towards HM, whereby a product like black cohosh remains a valid medicine, despite its potential toxicity.

The ‘Giggle’ pill stories of September 2009 brought in government, police and hospital sources. The main message of the ‘significant health risk’ associated with these recreational pills based on ‘guarana, geranium extract, calcium, magnesium and tableting aids’ – came from two chairs in emergency medicine in the newspaper reports after a young man was hospitalised presenting with dizziness and heart palpitations:

‘It’s not uncommon for us to see people coming in with symptoms of excessive caffeine ingestion and irregular palpitations, heart arrhythmias,’ [Emergency Medicine Queensland chairman David Rosengren] said (Jones & Miles, 2009: 2).

The hospital’s emergency medicine director, Alan O’Connor, said taking a Giggle pill was the equivalent of drinking 20 cups of coffee in one hit (Miles & Elsworth, 2009: 7).

These hospital sources offer an authentic voice from the ‘coalface’ of emergency medicine, which validates the need for the government’s ‘urgent investigation’ combined with the police’s ‘seizure’ of the Giggle recreational products. The Giggle
pill risk stories represent agreement and collaboration at the level of government,
policing, and the emergency ward.

7.3.4.5 Professional CAM bodies
Risk was the most common theme and frame where professional CAM bodies were
cited. In the case of the Byard risk articles, the National Herbalists Association
(NHAA) was the only professional CAM body cited. NHAA president John Baxter’s
counter response to the Byard review findings has already been highlighted in Section
7.3.4.3. In the other two Byard articles by health editor Nick Miller in Fairfax
publications The Age and The Sydney Morning Herald, in which the NHAA was used
as a source, the main message conveyed the organisation’s lobbying efforts (which
are aligned with those of ARONAH):

The National Herbalists Association of Australia is lobbying for a registration scheme, which
would cement uniform standards of training and education across the country (Miller, 2010a: 2).

The key messages about risk in the Byard articles posed a significant threat to
manufacturers and marketers of HM products in Australia. The organisation
representing the interests of Australian private industry, the Complementary
Healthcare Council (CHC), prepared a detailed ‘response’ media release titled ‘Herbal
remedies scare report: let’s get the facts straight’, which was disseminated on 12
February 2010, three days after the six news reports appeared in mainstream
Australian newspapers:

Setting the record straight on the recent scare report on herbal medicines by a South
Australian academic, the Complementary HealthCare Council of Australia (CHC) said today
that much of the report was ill-informed, misleading and irresponsible — and most
importantly, not relevant to complementary medicine products sold in Australia, which are
among the most tightly regulated in the world (CHC, 2010).

This attempt by the CHC to gain a share of the media coverage from articles based on
the Byard review was unsuccessful in newspaper articles, simply because it was too
late. Timing is an all-important element of the news production process. By the time
the CHC media release reached those news writers or editors (as well as the radio and
television news journalists) who covered the Byard story, it was “old news”. ABC Television’s 7.30 Report did run a story on the review a week after the newspaper reports, but it was the NHAA president (in the setting of his own private clinical practice) who they turned to for the televised ‘alternative’ viewpoint, not someone from the CHC. However, the 7.30 Report website did include a CHC link (as well as a TGA one), which ran the organisation’s entire 3-page media release.

The CHC is vigilant in its media responses to risk issues about CAM that become public, which is indicated by the media releases listed on its website. The CHC prepared a media release to coincide with the release of 2004 survey results by the National Prescribing Service. The NPS survey is the topic of an article on page two by health editor Nick Miller in The Age (21/11/08) and was press-released by the NPS on 19 November 2008. The risk framing of the NPS media release was adopted by Nick Miller in The Age article, in which the key messages about the risks of ‘complementary medicines’ were conveyed, which included ‘side effects, toxicity and allergies’ as well as drug interactions. The prominent role of GPs and pharmacists in healthcare is assumed in the NPS media release:

“It’s certainly encouraging that people are trying to take control of their health by using preventative and holistic measures, but complementary medicines are still medicines. Though they are generally lower risk, they can have side effects and interactions with other medicines.”

“It’s important people realise this and seek out evidence-based information and professional advice. This may include talking to their GP or pharmacist, or calling the NPS Medicines Line before taking a complementary medicine,” she said (NPS, 2008a).

The framing of the hierarchical importance of biomedical practitioners and pharmacists is also adopted by parliamentary secretary to the Minister of Health, Senator Jan McLucas who spoke about the survey results at a conference during the same week. This framing is then used in the article by Nick Miller:

Senator Jan McLucas, parliamentary secretary to the Minister for Health told a conference this week the preliminary findings were of ‘great interest’.

‘Many consumers believe complementary medicines are safer than conventional medicines but are unaware that some have potential risks,’ she said. ‘GPs and pharmacists are not
always proactive in inquiring about their patients’ complementary medicine use – just as patients often do not report what they are taking to their GP’ (Miller, 2008: 3).

However, the CHC voice is also incorporated into the news frame as it was represented in the organisation’s media release, but Morrow’s voice is granted only a few lines:

The Complementary Healthcare Council yesterday criticised the NPS for not reflecting the low risk posed by most complementary medicines.

‘Questions need to be asked about why the survey failed to interview health care professionals who were not GPs and pharmacists,’ said CHC executive director Dr Wendy Morrow (Miller, 2008: 3).

This is because the template for the risk frame is typically adhered to in the same way: the main story of risk is conveyed along with the key messages (in this case, via the NPS report), followed by the endorsement from a key authority or expert figure (Senator Lucas), followed by a conflicting argument which colours the story but does not detract from the main risk frame (see Figure 7-11).

**Figure 7-11  Risk news story template (as used in NPS article)**
In their responses to risk framings, the CHC appears to be the more vigilant (but not necessarily successful) organisation in terms of disseminating media releases. Their approach tends to use defensive commentary, directly challenging or questioning research methods and conclusions they argue are neither rigorous nor rational, as well as raising the issue of the need to educate doctors and other health professionals about CAM products.

Notably, the practitioner organisations such as ARONAH, NHAA and AIMA have a tendency to pragmatically cater to the risk frame, rather than resist it, and attempt to use less conflicting discursive strategies than the CHC in their claims-making. The approach of these practitioner organisations may partly explain a media preference for using them as sources, in addition to the fact they are practitioners representing the profession, rather than private industry with commercial interests.

7.3.4.6 Biomedical Journals

According to the findings of this analysis, very few news stories about HM in Australian mainstream newspapers appear to be generated as a result of the publication or promotion of research findings from peer-reviewed biomedical or science journals. A surprising result was that only 10.1% (14 articles) of all articles about HM included biomedical journals as a main source of information. The complete absence of CAM journals being cited in any news reports from the analysis was particularly surprising (given the number of clinical trials being published annually). Most CAM journals are published overseas and do not yet have the same level of resources to put into media communication as those of the well-established biomedical journals which have incomparable advertising revenues, derived from their pharmaceutical corporate sponsors.

The research theme and negativity dominated stories in which biomedical journals are cited (Table 7-12). Consideration needs to be given to the balance between risk and negative scientific research frames with those frames based on efficacy and ineffectiveness. This contradicts research undertaken by Bubela, Caulfield and Boon (2008) and is discussed further in Section 8.3 in the following chapter which explores
the comparisons between these primary findings and other, similar studies that involved media content analysis.

The higher rate of negativity can be attributed to those articles with risk framings, as well as those framing HM as ineffective. It is notable there was twice the number of negative articles to positive ones in articles where biomedical journals are cited. Only two more articles referred to actual negative research findings than positive ones.

One article was about liver toxicity caused by black cohosh, the first of which cited a case report from the *MJA* in April 2008. Four of the risk-framed articles in which biomedical journals were cited as a main source were from news reports regarding the findings of the Byard study published in the *Journal of Forensic Sciences*. All of these occurred in 2010.

Another article in the sweeping risk style appearing in *The Australian*, also in 2010, titled ‘Herbal remedies devastating’ was sourced from *The Times* in London and was based on a report from the Journal of the American College of Cardiology, with the leading paragraph reporting:

> LONDON: Herbal remedies taken by millions of people can pose a serious risk to health by interfering with medicines commonly prescribed for heart disease, doctors say.

> Warnings that supplements such as St John’s wort, gingko biloba and garlic can diminish the effectiveness of drugs or cause dangerous side-effects have been restated by researchers in the US (2010: 7).

The specific concerns of needing to understand herb-drug interactions, patients’ disclosure to doctors and the lay person’s vulnerability framed in the ‘misconception’ that ‘natural is not necessarily safe’ dominate this article. The research was conducted in the US, where HM products – known in the US as ‘botanical dietary supplements’ are not subjected to the same stringent regulatory guidelines as in Australia. The article, sourced from London, refers to the British Heart Foundation recommendations for users to ‘check with their doctor before taking them’, reinforcing the biomedically dominant hierarchy in the health system, a discursive strategy which is not exclusive to Australia. The second last paragraph of the article
from London’s *The Times* also refers to the change in European laws, which will require the sales of HM products to be licensed by the government (as they are in Australia).

Scrutiny of the actual peer-reviewed article by Tachjian, Maria and Jahangir (2010: 515) reveals the authors’ concerns go beyond the question of risk. As the rationale for the study, they refer to the lay public’s out-of-pocket expenditure (US$30 billion), the popularity of HM or high-dose vitamins ‘despite the paucity of scientific evidence’ regarding safety and efficacy and the concerns with promotion in popular media and unsubstantiated health claims. The articulation of such concerns beyond the specific matter of risk itself have become a characteristic of both medical and mainstream media representations, which highlight the push by various groups for government intervention in the form of regulation, as well as the need to scrutinise private industry. The inextricability of risk constructions from political and social influences, as Miller (1999: 1252) has identified in his content analysis of media representations of bovine spongiform encephalopathy (BSE, also known as ‘mad cow disease’) in the UK is exemplified here. Allan (2002) too makes a similar point:

> How scientists choose to communicate their calculations of risk is not only a question of rigour and accuracy, but also one of politics (2002: 72).

### 7.3.4.7 Professional biomedical bodies

Framings of both risk and efficacy were similar in articles citing professional biomedical bodies. At the same time, this was not a highly cited source (7.9% of all articles).

The 2005 article in *The Daily Telegraph* by health writer Sue Dunlevy (2005: 15), based on the findings of a survey about CAM usage by the Royal Children’s Hospital in Melbourne is one of the few articles to feature the Australian Medical Association (AMA) as a main source in relation to a risk frame. Although the survey was undertaken by the hospital, and a hospital spokesperson involved in the research is represented, the story is framed as a warning from the AMA:
Doctors yesterday warned parents they were risking serious adverse reactions if their children were using both herbal remedies and conventional medicines.

The Australian Medical Association said parents could even be masking symptoms of serious diseases if they fed their children multi-vitamins that hid anaemia (2005: 15).

The AMA Victorian State President was also used as a source in December 2006, in one article in the Herald-Sun, the Melbourne-based tabloid newspaper to cover the Wilson trial. However, their quote followed, rather than preceded, that of a spokesperson from the Australian Naturopathic Practitioners Association (ANPA).

It was anticipated the majority of voices from this source category would be spokespersons from the AMA. However, it appears the AMA has become just one of the many claims-makers in news reports associated with HM. This concurs with the findings of another media study in Australia that measured the frequency of source categories used in articles during the Pan Pharmaceutical event, in which commentary from the AMA was found to be scarce (Croucher, 2009: 8).

The AMA is still a very powerful elite and political force in Australia. Explanations for the noticeable decline in journalists’ referencing of AMA representatives in relation to HM, along with the references from biomedical practitioners, must factor in the concomitance of a weakening of biomedicine’s political power (or more specifically, the particular power of biomedical practitioners and their principal professional organisation) along with the growth of the consumer movement, a phenomenon that has been pointed out by Coulter and Willis (2007: 218). Both the AMA and biomedical practitioners no longer hold the exclusivity this group enjoyed as a principal voice in news stories during the 21st century in terms of all health issues. The privileged voices of HM and CAM discourse in Australian media and the most consistently represented voices in this study are those of senior university researchers, government regulators and health ministers, with the most prevalent practitioner voice belonging to herbalists or naturopaths.

Despite the apparent waning popularity of the AMA and individual biomedical practitioners as sources about HM or CAM for journalists, biomedical risk
constructions have been found to be a highly significant component in discursive strategies of risk in Australian mainstream newspaper representations. However, these constructions are most likely to occur at the level of senior academic peer-reviewed research that is university-based. Therefore, the scientisation of HM, a phenomenon that has been more fully discussed in the review of the literature in Chapter 3, plays an important role in the construction of risk about HM. Scientisation is a process in which universities play an integral role due to their cultural, political and economic position at the very ‘front-line’ of scientific research activities. It is also inextricably linked to the cultural and political values of the revised contemporary biomedical paradigm, in which evidence-based medicine (EBM) is a priority (White & Willis, 2002).

7.3.4.8 Biomedical practitioners

As the least-cited practitioner group in the study, only four articles with the risk frame cited biomedical practitioners. Two of these concerned evidence being given by a renal specialist in April 2005 and two pathologists in July 2005, in the Dummett coronial inquiry.

Prominent Australian medical identity, Dr Kerryn Phelps, a known advocate of CAM usage and former AMA president, is quoted in an article in April 2006 by health writer Sue Dunlevy regarding the TGA’s warnings about black cohosh (2006: 8). In this article, Dr Phelps provides a response drawing attention to the actual low risk of black cohosh, in comparison with the far higher health risks for women associated with taking HRT. As an experienced politician (having previously been at the federal helm of the AMA for three years) Dr Phelps participates in the risk discourse, however, her commentary steers it in a direction of statistical logic, which encourages news readers to proportionally weigh the ‘risks against the benefits’:

‘What we need to do is balance hepatotoxicity in 40 people out of the 50 million who have used black cohosh worldwide versus the real and significant increase in heart attacks and clots in women taking HRT,’ she told The Daily Telegraph.

The US Women’s Health study found for every 10,000 women using HRT, 37 had a heart attack compared with just 30 women per 10,000 not using HRT.
Twenty nine out of every 10,000 women on HRT had a stroke compared with 21 out of every 10,000 women not on HRT.
And 34 of every 10,000 women using HRT developed blood clots compared to just 16 of those not using HRT, she said (Dunlevy, 2006: 8).

Dr Phelps contributes to the discursive strategies of other medical practitioners whose commentary is used in the media framing of risk. These include Professors Marc Cohen from RMIT and Stephen Myers (also a naturopath) from Southern Cross University – however, their voices come under the university category, given their academic involvement in CAM research and education. The strategy of defining risk through presenting statistical data as a ‘counter-scientific mediation’ (Beck, 1992: 162) has been discussed in relation to MJA representations in Chapter 6. The approach used by Dr Phelps in the above example, in which she also cited a prominent US Women’s Health Study funded by the US National Institute for Health (NIH) demonstrates the very opposite to risk amplification in discourse. Rather, it conveys a risk reduction approach, which contributes to the discourse about the risks of HM but in effect downplays the risk by offering a ‘rational logic perspective’ approach, which draws on statistical information that is difficult to refute – particularly within the very strict confines of the newspaper news genre.

With the exception of the above example, commentary from biomedical practitioners who are not affiliated with a university or hospital is not frequent in contemporary Australian mainstream newspaper representations, including those referring to risk.

7.3.4.9 HM/CAM practitioner sources
HM practitioners have an obvious role in participating in and constructing risk discourses about HM, as Table 7-13 and Figure 7-6 show. Their voices are heard in slightly more articles with risk frames than the voices of biomedical practitioners as well as articles mentioning the manifest codes of ‘risk HM’ and adverse events. One third of the articles citing this group were based on court trials involving corruption or negligent practitioner frames.57

57 In most of these court-based articles, the voice of the HM practitioner whose ethical conduct was under legal consideration was cited as a main voice in the article.
With the advent of a growing number of HM naturopathic education programs at tertiary level, and the increasing involvement of HM/CAM practitioners in clinical and laboratory research, this group is able to harness risk for their own agenda-setting purposes, or at least they are able to claim some media terrain by providing commentary about risk that is taken seriously and given credibility or validation by news journalists and health reporters. In an article in *The Age* by health editor Nick Miller regarding Professor Roger Byard’s findings, the naturopathic voice is heard:

Naturopaths agree that there are dangers in herbal medicines for people who self-diagnose and then “treat” themselves with off-the-shelf products. However, they say the industry is generally well-regulated (2010b: 3).

The direct quote of a naturopath and herbalist is cited further on in the article, just after the findings from the risk study are reported. Melbourne-based naturopath Natalie Cook is quoted as saying:

‘…herbal medicine could be dangerous and the risk comes when people self-diagnose, self-treat and buy supplements off the shelf of a supermarket’ (Miller, 2010b: 3).

The power of herbs as ‘pharmacological agents’ has become a progressively common symbol, which has been a point of criticism from those opposed to aspects of HM usage or its incorporation into the healthcare system. This line of argument is becoming increasingly anachronistic when used in this context. As I argue in Section 3.2.4, this power to cause adverse effects has been increasingly employed by HM and CAM practitioners as an argument for its credibility and legitimisation in mainstream healthcare at professional and government levels, and, as exemplified in *The Age* article cited above, at the level of mainstream news media reportage. Also contended in Section 6.5.11, there is evidence to suggest Australian biomedical practitioners and researchers have in more recent times developed a correlation between the acceptance of the risk of adverse events with efficacy, or pharmacological activity. This is highlighted in the black cohosh articles, in which the risk of liver failure and the dramatic potential of needing a liver transplant did not de-legitimise the efficacy and validity of the herb.
In the same article from *The Age* cited above, the naturopath quoted also comments:

‘One of the biggest misconceptions about herbal medicine is that since it’s natural, it’s innocuous’, she said. ‘That’s not the case’ (Miller, 2010b: 3).

The ‘natural is not necessarily safe’ argument (something of a mantra in much biomedical discourse about HM) has been appropriated by other advocates of HM usage and practice and used to make the point here that is made in the 2005 Lin report to the Victorian state government (authored by a conglomerate of senior CAM researchers and practitioners): ‘Any pharmacologically active agents that have the capacity to change physiological function can have adverse effects.’ (Lin et al., 2005: 37)

HM practitioners have been a much-marginalised group in Australian healthcare, particularly during the 20th century. By gaining and maintaining previously unavailable access to mainstream news media, HM practitioners are arguably decreasing their marginalised status in mainstream health care and increasingly legitimising their profession. However, it would seem this is dependent on their capacity to appropriate messages which are commensurate with dominant media framings, which include risk frames that make salient the dangers associated with ingesting herbs or visiting HM practitioners. In the case of the former, their discursive strategy targeting lay audiences appears to be: ‘see a naturopath or herbalist, it’s risky to self-treat’ and in the case of the latter: ‘make sure the practitioner is well-qualified’. This approach is not limited to targeted lay audiences. It also potentially targets government officials and policy-makers, who, over time, may accept the preferred HM practitioner frame, and take it into account when formulating policy. As Johnson-Cartee (2005: 60) has noted, ‘the dominant framing of the public issue ultimately determines policy outcomes’.

A reflection of the mainstreaming process is the acceptance of a health modality such as naturopathy and HM into federally accredited tertiary institutions. Whilst this mainstreaming process has been broadly accused of exemplifying biomedical co-option of HM (Evans, 2008b; Singer & Fisher, 2007), it does reflect HM or CAM practitioner efforts (both individual and collaborative) to seek both social and
professional legitimacy, via research activities, and purposefully advocating regulation and professionalisation (partly achieved through registration as advocated by organisations like ARONAH).

7.3.5 Other common frames

7.3.5.1 Efficacy

Efficacy is an important issue in mainstream news discourse about HM. Whilst it does not occur with the same frequency as risk framings, efficacy is increasingly discussed and accepted as a result of risk discourse. Potency (evident also in the very physiological phenomenon of toxicity, for example) equates to efficacy, a concept that has been demonstrated in the Potency Model in Figure 6-5 and discussed in Section 6.5.11. As potency increases, so too does the perceived proportion of efficacy and risk; this is the risk-efficacy interface. With the acceptance of ‘potency’ and the risk it entails, there must also be acknowledgement that these are substances with medicinal clout and which therefore gain medical meaning.

Despite the substantial number of articles with risk framings, which constituted almost 40% of all the news reports sourced, the efficacy frame also holds a prominent place in the media discourse about HM, albeit at almost half the frequency of risk framings. This reference to efficacy is corroborated by the manifest coding results, which show that a high proportion of articles also referred to the existing or potential effectiveness of HM products or practice. In the manifest analysis, the difference in frequencies between references to efficacy and adverse events was minimal.

As anticipated, articles with the HM efficacy frame were overwhelmingly positive (Table 7-11), featuring headlines such as: ‘Rosy outlook for sufferers of arthritis’ (Hall, 2009: 23), ‘Plant “as good as Prozac” (Unattributed, 2009c: 17), ‘Berberine new weapon for diabetes’ (Unattributed, 2006b: 30), ‘Herbal method to lift depression’ (O’Leary, 2005b: 64), and ‘Herbs remedied child’s cancer’ (Unattributed, 2005b: 16).

As indicated in Table 7-12, efficacy frames tended to occur mostly in articles citing university researchers (particularly those from CAM departments or research centres).
and HM practitioners. Positive scientific research frames often accompany efficacy frames based on research from CAM departments within universities.

Less often, efficacy was also framed or referred to in articles citing or quoting biomedical journals, private industry, lay people and professional biomedical organisations. Some specific examples of efficacy framings and their sources are presented in the following sections.

### 7.3.5.2 Peer-reviewed research

Articles with the research theme that present findings from peer-reviewed research form a significant proportion of efficacy framings in the study. Mentions of peer-reviewed research in the manifest analysis are almost as frequent as references to efficacy. Peer-reviewed research and the credibility of university sources as a main voice are primary ingredients of legitimacy that appeal to newspaper media for efficacy framings. The combination of research and university sources offers readers what Tuchman has referred to as a ‘representational convention of facticity’ (1987: 332). It is important to be able to identify such conventions, she argues, in order to understand the process of news-creation (1987: 332). The university voice is a powerful one in both risk and efficacy framings, and occurs with a high level of frequency in both types of frame. It is also a source that is generally accepted with what has been referred to as ‘uncritical reverence’ (Lewis et al., 2010). However, the analysis of the quality of reports by measuring how journalists interrogate the actual scientific quality of the research they are writing about, for example, is beyond the scope of this study.

Sweeping statements are not exclusive to risk discourse. An article by The Australian’s health editor, Adam Cresswell, in April 2006, in which he presented the findings of a Cochrane review of 10 different (and recent) studies around the world regarding herbs found to be beneficial for treating lower-back pain, opens with:

> Herbal remedies are effective in treating lower-back pain and in some cases work just as well as pharmaceutical drugs (2006: 3).
Despite this sweeping statement in the lead sentence, the majority of the article focuses on the findings of the study in relation to the three specific herbs were found to be efficacious.

Another news report combining the efficacy frame with peer-reviewed research and the university voice is presented as a ‘debunking’ story about echinacea. In July 2005 there were four reports about a clinical research trial published in the *New England Journal of Medicine* (Turner et al., 2005) which found echinacea to be no more effective than a placebo (notably, the ‘HM is ineffective’ frame is far less common than the efficacy frame). In June 2007 *The Lancet* published a systematic review of 14 echinacea studies, which found that taking echinacea decreased the odds of developing the common cold by 58% and the duration of a cold by one to four days (Shah et al., 2007: 473). Quotes from the University of East London and the University of Cardiff reinforce the efficacy framing. To an extent, this article highlights the ‘controversial’ nature of HM research findings, and gives reference to the negative findings of past trials, such as those of 2005. Reference to past research findings is a rare occurrence in news framings about HM which, as suggested earlier, do not appear to scrutinise the rigour or validity of research methodologies and findings.

Typically, these efficacy frames citing university sources adhere to an efficacy template, which first presents the main findings, then outlines the research in varying degrees of detail, citing the expert academic sources. This template is more consistent across all reports, and it is tabloid newspapers that tend to use the less heard lay voice in which efficacy is presented as a story about an illness or ailment cured.

### 7.3.5.3 Efficacy and the less heard lay voice

In most of the articles citing lay people, efficacy framings occurred. Half of the less common articles with the ‘HM as alternative’ theme used lay voices as a main source.

The low number of citations from members of the lay public found in this study contradicts research about CAM media reports conducted in both Australia and in the UK, a point taken up in the following chapter.
The increasing presence of the ‘lay hero’ in media representations is not apparent in this longitudinal analysis of Australian mainstream news representations of HM. Whilst news culture typically draws from elite and expert sources rather than lay people (Lupton, 1995: 501; Lupton & McLean, 1998: 952), health reporting may feature lay heroes, particularly those people who have been resilient in the face of debilitating or life-threatening illnesses (Seale, 2003a: 523). Stories about people with cancer in particular have been found to have a high rate of personal anecdotal narratives, which feature one or more lay ‘heroes’.

Cottle (1999) notes that in the domain of television news, whilst ‘ordinary voices’ are accessed in TV news stories, ‘rarely are they granted an opportunity to develop their arguments or points of view at length, much less directly confront and challenge political and expert authorities’ (1999: 29).

The findings of this study suggest that such privileging of lay people as a source is rarely granted in news representations about HM in Australian newspapers. Two rare cases of reports using the efficacy frame appear in the Sydney-based daily tabloid, The Daily Telegraph. One is a brief article in which two mothers (one of whom is also a naturopath) have taken a natural approach to effectively treating their children who have been diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) (Kleinig, 2008: 11). Another brief report from the same tabloid paper three years earlier (3 July, 2005) simply announces one woman’s cancer success story, using a sweeping efficacy statement, rather than identifying the actual herbs used or the therapeutic approach:

**Herbs remedied child’s cancer**
A woman who was diagnosed with terminal cancer as a child says she has beaten the disease with herbal remedies.
Samantha Wilson was given three weeks to live at the age of eight and her desperate parents put her on alternative therapy.
Mrs Wilson, now 35 and a married mother of one, said: ‘I am living proof that it works’.
She was diagnosed with myelocytic myeloid leukaemia in 1978 (Unattributed, 2005b: 16).

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58 A comparison with these studies will be discussed in Section 8.3 in the following chapter.
This article is an exception to the majority of articles about efficacy, which tend to use sources from universities or HM practitioners rather than members of the public. Curative cancer stories like this are rare in the news reports from the period of analysis. It is possible that health writers and news editors are becoming increasingly sceptical of such stories and either do not seek them or resist approaches from claimsmakers about HM and efficacy in relation to cancer. This may not be the case in other sections of the newspaper, such as the lifestyle pages.

Of the five efficacy articles using the lay voice as a main source, one report in *The Daily Telegraph* draws from two lay voices (again women), the first of which tells the story of a mother’s success in turning to a naturopath (who is also identified and quoted in the article) to treat her thyroid condition as well as her children’s illnesses. Another article from the same newspaper has a more quirky angle – that of pet owners using herbal remedies (and other CAM therapies) for their animals. These voices refer to either the benefits of the CAM treatment or the failure of conventional veterinary care.

Although these efficacy stories have been found to be common, and even predominate, in CAM reporting analysed in other research studies in Australia and further afield, they are exceptional to this study. This is perhaps a consequence of employing a research method that isolates a specific CAM therapy from the CAM ‘quagmire’ as well as distinguishing articles from the news genre for inclusion in the content analysis.

### 7.3.5.4 Regulation

Negative events involving adverse effects that are linked to HM products or therapies, as well as negligent or corrupt practitioners or companies are typical reasons for the regulation frame being used in news reports. An article in the *Herald-Sun* in 2006 (Dowsley and McRae, 2006: 9) presented the case of a naturopath who was facing rape and indecent assault charges still continuing to practise. The article used the frames of corruption and consumer vulnerability, as well as the ‘regulation is necessary for public safety’ frame. The main news angle was that Wilson (the
naturopath) was legally able to continue to practise, as ‘there was no legislation or regulatory body to suspend him until the case is heard by a court’. Another article appeared about the Wilson issue the following month, by two different journalists, with the lead sentence:

A naturopath to the stars has been hit with 150 fresh charges – including rape – but remains free to continue to practise (Cunningham & Butler, 2006: 11).

An article from Sydney’s Fairfax Sunday tabloid, the Sun-Herald, highlighted a particularly prominent media event when framing a news article about the announcement of ARONAH (Browne & Singer, 2009: 38). This was the death of Gloria Thomas Sam, a nine month-old baby who died from septicaemia caused by chronic eczema, whose father had treated her homoeopathically and was charged with manslaughter for refusing biomedical care for his daughter. After introducing this case, suggesting it had ‘dealt a blow’ to the reputation of naturopaths, the journalists incorporated the ARONAH frame about registration of the profession, using quotations by its spokesperson, John Wardle:

‘We are making sure that when the public sees a naturopath they have training, act ethically and if something goes wrong, there is a complaints procedure’, he said (Browne & Singer, 2009: 38).

Another article in The Daily Telegraph, headlined, ‘Dodgy “doctors” to swallow bitter pill’ (Masters, 2008: 19), also used the death of baby Gloria ‘who died of an infection after being treated with homoeopathic remedies’, to support the framing of a government ‘crackdown’ on unregistered health practitioners.

The sad case of baby Gloria is not logically relevant to the main frames of these articles, which are about practitioner regulation (the baby Gloria case was about her parents refusing biomedical treatments and her father, a homoeopath, using only homoeopathy to treat her illness). However, it was one of the most emotionally-laden and tragic as well as recent stories that journalists could use to relate to the frame of needing to regulate natural medicine practice, particularly given that it involved the death of an infant. In drawing from this prominent event (which had received
national print, radio and television coverage) journalists were employing a discursive strategy similar to ‘moral panic’ discourse, combining frames of risk, consumer vulnerability and practitioner negligence along with that of the need for regulation to ensure public safety. In this moral panic discourse, ‘dodgy’ unregistered practitioners ‘such as massage and reiki therapists, counsellors, naturopaths and herbalists’ confront news readers with risk, potentially stirring up social anxiety and fear, which is the outcome of moral panics (Ungar, 2001: 291). Social consensus and control can be engineered by incorporating an emotive element that heightens the sense of threat to the public (Ungar, 2001: 294). The primary framing of regulation in this story has been generated by the media release from the office of the NSW Minister for Health, Reba Meagher, which announced the drafting of a new code of conduct that ‘will give the Health Care Complaints Commission greater power to take disciplinary action against unregistered health practitioners’ (Masters, 2008: 19).

7.3.6 Textual silences - missing or marginalised discourses
An important part of the media framing process is those frames, or issues relevant to a frame, which are excluded from the actual communication messages or narratives (O'Shaughnessy & Stadler, 2008: 90). These silences in the mediation of HM discourse reveal that certain topics associated with HM use and practice in Australia are not being addressed. These include discursive framings about research funding, collaboration between biomedicine and HM research and practice, new products, and the questioning of the scientific agenda and commercialisation issues. Iyengar and Kinder (1987: 33) have noted that the news contributes to shaping a country’s political priorities ‘by attending to some problems and ignoring others’.

7.3.6.1 Need for research funding
No articles were framed around the need for funds for HM research. Only two out of the 139 articles made mention of it at all. This is surprising given that one of the biggest barriers to HM research is the problem of funding (Bensoussan & Lewith, 2003; Cohen, 2007). This is perhaps due to the fact those lobbying for more commitment to funding HM research have either not yet attempted or not been successful in their attempts to have journalists take up this message in news reports.
It may also be due to the fact it is perhaps difficult to find a ‘newsworthy’ angle on the subject of HM research funding.

7.3.6.2 Collaboration

Collaboration between orthodox and HM or CAM professions or research is rarely mentioned and infrequently framed. An example of a collaboration frame occurred in the Sydney Fairfax Sunday paper, the *Sun-Herald*, in an article titled ‘Old remedies on trial as a cure for modern ills’, by Sarah Price (2005: 27). The article was about the formation of the Chinese Medicine Clinical Research Centre at Liverpool Hospital in Western Sydney, a collaboration between The University of Western Sydney’s Centre for Complementary Medicine Research and the South Western Sydney Area Health Service. Another article, also in 2005, titled ‘Experts conceive of fertility herbal trial’ (Papadakis, 2005: 31) in Melbourne’s *Sunday Herald-Sun* framed a collaborative ‘observational study’ on the effect of the herb *Vitex agnus castus* (or chastetree) on pregnancy rates amongst women with premature ovarian failure who were trying to conceive. The intended trial, undergoing ethics approval, was a collaboration between herbalists Ruth Trickey (the main voice) and Sandra Villella, with the Jean Hailes Foundation\(^{59}\) (a non-profit women’s health service), and Melbourne IVF.

Whilst these were both positive stories that demonstrated the novel collaboration between HM practitioners and orthodox health organisations which use a biomedical approach, the infrequency of stories about collaborative practices, or about the need for collaboration between biomedical and HM or CAM-oriented individuals and institutions may be a result of such projects being scarce, or they are not commonly being promoted to news media, or the news media is disinclined to pursue stories about collaboration. A possible reason for the latter point may lie in the media preference for stories that yield definitive scientific findings (Eldridge & Reilly, 2003: 139).

\(^{59}\) http://www.jeanhailes.org.au
7.3.6.3 Beneficial new products
The new product frame was included in the coding in order to gauge the level of reports occurring which are based on the announcement of commercial products into the marketplace, particularly as previous research has suggested this is a concern in CAM reporting (Milazzo & Ernst, 2006). Only one new product frame was found during the entire period of analysis. This was from Queensland’s Sunday metropolitan newspaper, *The Sunday Mail*, and announced the launch of two new ginger products by South-East Queensland company, Buderim Ginger (Donaghey, 2010: 38).

Articles framing the benefits or findings of a new product are not typical in news reports over the past five years. The scarcity of new product frames is likely because such stories may be allocated to health or lifestyle sections rather than news. It may also reflect a scepticism or wariness that abounds in news reporting culture, which through political journalism processes in particular, has brought about the forensic analysis of ‘spin’ (McNair, 2006: 64). The Buderim Ginger story is exceptional in the way it satisfies the news values of relevance and proximity to the audience. It was a story about a successful and prominent company founded and located in an area not far from Queensland’s capital city, which was branching into natural medicines in addition to its well-known market of ginger confectionary, drinks and condiments.

7.3.6.4 The science agenda
News reports, particularly those of health writers, do not usually question the role of science in healthcare, which has an assumed legitimacy. Scrutiny of the research agenda for scientific research and policy on pharmaceuticals has become more pronounced, particularly over the past 15 years. However, the critique of scientific agendas in relation to HM research and product development is not apparent in Australian news reporting. This is also a neglected area in the sociology of CAM (Coulter & Willis, 2007: 222), although scrutiny of media reports of conflicts of interest in HM research has been undertaken by Bubela, Caulfield and Boon (2006a).
7.3.6.5 The lucrative CAM industry

Despite the occasional scepticism towards the HM and CAM industry expressed by biomedical researchers from universities (typically in regulation and risk framings), particularly in relation to product claims, the ‘lucrative industry’ frame rarely arises, with only four articles over the period of analysis having this frame. However, this may be due to the fact articles with an industry-focused frame may end up in the business pages, rather than as news. At the same time, such framings do not frequently occur in relation to regulation or risk issues. Whilst the manifest coding ‘unscrupulous marketing’ has a high rate of reference, this is not usually associated with a CAM or HM industry that makes large profits. The article in which both the ‘lucrative industry’ frame and ‘unscrupulous marketing’ manifest code was evident was an article by consumer affairs reporter Kelly Burke at The Sydney Morning Herald (Burke, 2007: 3). This article referred to a dispute between St Vincent’s Hospital and Woolworths, in which the hospital was campaigning to pressure the supermarket chain to stop selling a product that made unsupported claims about helping weight-loss, after the TGA has requested it stop making the claims. The scarcity of this discursive frame over the period of analysis suggests that, despite the high level of risk and regulation framings, the news media are not particularly hostile to the HM/CAM market.

Vastag et al. (1999) have suggested that a reason for this lies in the very nature of the CAM industry itself, which is comprised of relatively small companies, and is ‘non-hierarchical’, without the level of access to media that large biotechnology firms, as a comparison, may enjoy.

7.4 Limitations

This study is an analysis of how HM is represented in the news media. It is not a study that compares how HM issues are covered in comparison to those of biomedical issues or pharmaceutical products. Comparing risk reports between HM and biomedicine in particular would reveal whether there is a media preference towards risk-based frames when reporting about HM. Comparative content analytical research by Bubela, Boon and Caulfield (2008) does indicate that reports about HM in
biomedical journals tend to be more negative, but with a higher reference to risk in articles about pharmaceuticals (even when the majority of articles were positive). This is further discussed in the following chapter in Section 8.3 and is a subject for another study.

Given the extensive documentation of the way in which news can influence audiences and policy (Semetko, 2004: 360), the news genre has been a focus for this study. This is a limitation to the extent that comparisons of coverage across other genres is not available from the dataset. For example, scrutiny of lifestyle sections in newspapers may confirm whether there are generally far more positive frames about HM in such genres, which may use quite different sources from those of news journalism.

This study is a manifest content and framing analysis. It is not a study of the semiotics of image, nor does it scrutinise linguistics, for example, the specific range of terms that may be associated with the notion of ‘risk’. These are valuable considerations for another study.

This is not a gender-based study, thus it does not look at demographics of readers or consumers. Also, an historical study may have revealed much about how HM discourse has evolved over the decades (as with MJA study), particularly in relation to the development of the risk-efficacy interface. However, the purpose of this study was for contemporary contextualisation rather than historical.
7.5 Conclusion

The complexities involved in understanding the intricacies of media risk discourse, given the numerous practical, temporal, cultural, social, economic and technical factors that influence it, are highlighted in the findings from this study. Kitzinger (1999: 62) has pointed out the caution with which summarising research findings about risk needs to be approached. Such caution is also associated with the differing methodological and theoretical debates about analysing risk reporting in the media. As a scholar of media analysis and risk reporting, Kitzinger urges researchers to attempt to understand the circumstances where risks are addressed and the 'struggles which inform how this is done' (1999: 62).

The mixed-methods approach used in this study reflects a pursuit to gain insight into the ways in which HM risk is being constructed, and the interactivity between factors of news culture, temporal boundaries, opportunity and the source-journalist interface, as well as the broader sociocultural and political world.

The study reveals that themes about unethical HM practitioners who are either negligent or corrupt predominate in the media representations. At the same time, HM practitioners are the most highly cited practitioner group in the study, and the fourth most frequently cited group after government. I have suggested a reason for this is the increasing involvement of HM (and CAM) practitioners in research and regulation activities and initiatives, as well as the media’s receptiveness to this group as a legitimate source. In Australian newspaper media representations, HM practice is at once fraught with negligence and corruption, which taps into historical (and nostalgic) connotations of quackery, as well as legitimacy, scientific and clinical expertise, and clinical experience.

Herbal products are subject to sweeping, generalised frames about risk that provide monocausal explanations for risk. These sweeping risk frames tend to arise from sources or commentary from biomedical researchers in universities, hospital spokespeople and biomedical journals. The model of reporting, based on Briggs and
Hallins’ work (2010, 2007), tends to be a biomedical-authoritative model of communication.

The findings indicate that specific risk framing is also frequent, in which news reports isolate particular herbal products responsible for adverse events, such as black cohosh and echinacea. These specific risk frames tend to operate as government or hospital warnings about certain products. In the case of black cohosh and liver toxicity, the efficacy and usefulness of the popular herb for treating menopausal conditions was not challenged biomedically, suggesting an increasing acceptance of certain HM products in mainstream healthcare, along with the risk frame. Specific product-based risk frames tend to draw on the voices of biomedicine (whether in universities or hospitals) and government officials as their main sources. However, unlike the sweeping risk frames, these mediations tend to provide options to the public as consumers (‘the consumer-patient model’), who are actively responsible, information-seeking and self-regulating.

Experts whose voices support the negativity and drama of risk frames include university researchers (particularly those from biomedical research), government officials, and hospital-based biomedical practitioners. These are the main privileged voices in the discourse about HM risk. HM practitioners tend to provide a style of commentary which is counter to the dominant risk frame, or that provides a rationalist perspective on risk. Alternatively, this group occasionally appropriates risk framings to make points about regulation.

Biomedical practitioners without university or hospital affiliation are not commonly used as main sources in any news reports. In this sense, they have lost their aura of expertise when it comes to issues about HM, an arena in which they cease to be experts.

Contrary to the findings of a number of other media studies, which will be discussed in the following chapter (Section 8.3) private industry and lay people are not prominent sources in mediations of HM in Australia. The reasons for differences between this country and others should be explored in future research.
Importantly, the level of references to efficacy is a significant finding of the study, particularly given the high rate of risk framings. Although a very different study from the MJA content analysis, both studies found a relationship between references to risk and efficacy. I have theorised that this reflects a belief that the potency of HM gives it medical meaning, therefore efficacy is a more acceptable concept. At the same time, as the belief in the potency of HM rises, so too does the belief in its dangerousness. This is reflected in the Potency Model (Figure 6-5).

Efficacy framings were largely positive, favouring university researchers (CAM-based) or HM practitioners as sources. Peer-reviewed research gives HM a legitimate platform in news reports, demonstrating the power and credibility of the university-affiliated voice in establishing such legitimacy.

There are discourses missing from the analysis, the more pertinent of which have been highlighted in Section 7.3.6. This demonstrates that there are preferred framings which journalists tend to use in relation to HM stories, and certain issues or frames that either do not evolve or are avoided. Frames about research funding, collaboration between biomedical and HM/CAM groups were uncommon, as were frames about commercial issues, such as new products or scrutiny of the ‘lucrative industry’ of HM/CAM. Framings that questioned the scientific agenda did not occur.

The following chapter discusses the pertinence of the findings from this content analysis, as well as those from the MJA study. It also considers these in the context of other media representation research and raises suggestions for future research directions.
8 The HM-risk phenomenon: A comparative discussion of the findings

The investigations from the primary research reveal that risk is routinely discussed in the *MJA* and reported in the news sections of mainstream Australian newspapers. Risk is the dominant issue referred to in both biomedical and mainstream media representations of HM, and is the most prominent frame used in mainstream newspaper reports. This is the first analysis of risk reporting in HM media representations as a phenomenon to be explored within a sociological framework.

By taking into account what aspects of HM risk are being reported, how they are being reported and the main voices that are privileged in the reports, the content analysis findings provide insight into the construction of HM risk, and highlight that it is a multi-layered and complex process.

The news-making process consists of a range of interrelationships between journalistic news culture and news values with a host of other factors that include temporal and practical factors, sources, and the broader sociocultural, political, economic and social landscape in which these relationships are occurring (conveyed in Figure 3-3). This broader landscape is where issues such as scientisation, commercialisation and the regulation of HM arise.

The significant role of the media as a powerful sociocultural, political, and economic force in our society has been discussed in Chapters 1 and 3. In the introductory chapter it has been argued that sociological attention to media representations is important in order for societies to both understand media influence as well as ‘actively resist, refute, reshape or transform it’ (Section 1.4.2). The research findings reveal that discourse about HM is not only risk-based, but numerous other factors form part of this complex discourse. In both the *MJA* and newspaper studies, efficacy also came up as a prominent topic, although with a lesser frequency than risk.

The following section discusses the primary research results from both content analyses undertaken, and considers how the findings from these studies intersect. The
next section discusses the risk-efficacy interface, an important phenomenon arising from the findings, in which acceptance of potency and efficacy result in the need for a premise of risk as a necessary part of imbuing HM with medical meaning. The risk-efficacy interface also reflects issues associated with biomedical boundary-making and the legitimisation of biomedical dominance, as well as EBM and commercialisation. Section 8.3 discusses in detail the contribution of the primary research findings to the sociological literature in the field of CAM media content analysis.

8.1 The intersection: Primary research findings

Through two separate content analysis studies, insights into the nature and patterns of HM representations have been gained in two very distinct mediums: the *MJA* and mainstream Australian newspapers. In both media genres, risk is unmistakably the most prevalent issue either mentioned or framed in the overall representations of HM, a finding that satisfies the research aim articulated in Section 1.2.

It is difficult to directly compare the findings between the two content analyses, given the different methods used as well as the period of analysis. The manifest approach applied in the *MJA* analysis does not take into account positive or negative intonation or framings, therefore connotative meanings from the texts are unable to be measured. However, the findings do indicate some quite important correlations with those of the newspaper study, suggesting a relationship between biomedical representations and newspaper reportage. The broad social and political influence of biomedical journals has been pointed out by former editor for 13 years of the *British Medical Journal* (BMJ), Richard Smith:

> Not only do they affect how doctors treat patients and the actions taken by public health authorities, they also influence how we think about birth, death, pain, and sickness (2006: 115).

Risk, in association with HM products or therapies, is a significant theme running through both biomedical and mainstream discourses. Both studies showed that when manifest risk items were clustered, there was almost a 70% rate of frequency occurring in both studies. This is also supported by the high rate of risk framings
from the newspaper analysis. At the same time, the acknowledgement of efficacy of HM, or the potential for efficacy, was also prominent (albeit substantially less than risk) in both studies. The high rate of reference to efficacy in the manifest analyses undertaken in each study is also corroborated by the efficacy framings in the newspaper analysis.

Given the different methodological approaches in the *MJA* and newspaper studies, the inferences that can be made from such prevalence of risk discourses about HM in both studies largely need to be kept quite distinct and are not broadly conclusive. This is due to the fact that one study features a sole publication that typically targets a biomedically-based readership, including practitioners and scientific researchers. Articles from this publication were analysed over a period of four decades. The other study is focused on more contemporary newspaper texts that are news-based, considers articles on HM since January 2005, covers a shorter period of just over five years, and scrutinises articles from 18 mainstream daily and weekend newspapers. Significantly, however, the two genres intersect.

As Smith (2006) points out above, and as argued by Entwistle (1995), biomedical journals do influence a broader group of people than their specific targeted readership. They do not operate in a cultural vacuum. Significantly, research also indicates that health and medical journalists prefer to draw from these peer-reviewed publications for their news stories (Entwistle, 1995; van Trigt et al., 1994: 639). The reach of biomedical journal texts also expands beyond news representations, as evidenced by the content of medical reality television programs and medical dramas. The significance of the doctor-patient interface is also critical in the mediation of messages from biomedical journals, also bearing in mind that the contemporary ‘health consumer’ often has the same access to biomedical information as their general practitioner (Smith, 2006: 117). Additionally, biomedical journal editorial and advertising staff are cognisant of the need for media, particularly newspapers, to promote what they publish, as Stryker’s (2002) research into the effects of these journals’ press releases has shown. In addition to the audiences already mentioned, policymakers and funding agencies are also important audiences who are influenced (and targeted) by biomedical journal articles (Stryker, 2002: 526).
The presence of this interface between biomedical and mainstream media representations invites comparisons between my findings from each content analysis, taking into account the limitations posed by the two distinctive approaches discussed above. As pointed out in Section 4.6.2, given the far-reaching influence of biomedical journals, I incorporated lay media representations into my research design, in order to gauge whether the themes and issues recurring in the *MJA* also appeared in contemporary news reports. The newspaper study also expanded on the original research model by incorporating latent analysis, which took into account framing, article and headline intonation, and sources.

Based on the findings from both studies and from research by van Trigt et al. (1994), Entwistle (1995), and Stryker (2002) referred to above, it is logical to argue that biomedical discourse influences mainstream media representations in Australia. This point is also highlighted in a number of news stories from the newspaper analysis based on biomedical research. For example, the Byard articles referred to in Section 7.3.4.3, which present what I have defined as a sweeping risk frame, draw from the biomedically authoritative and definitive voice, in relation to the dangers of HM. The way in which the news story then becomes framed is subject to the influences of the news culture and values, and occasionally the individual attributes of the journalist, as well as timing, opportunity, resources and competing (or collaborating) sources. In addition to these factors, the ambiguous sociocultural and political context of HM in Australia must be considered, where botanicals hover on the margins, as well as at the very threshold of mainstream healthcare. This research contributes to understanding these interpretations within the broader sociopolitical contexts of biomedical dominance, medicalisation, scientisation and the consumerisation of healthcare (discussed in the background information provided in Chapters 2 and 3) factors that also impact on biomedical media representations. The confluence of these multifarious elements at play in media representations influences how notions of risk are constructed.

The systematic mapping of defined codes, which are detailed in the results sections of Chapters 6 and 7, reveal distinguishable patterns in the frequency of specific codes referred to, in both *MJA* and newspaper content analyses. As discussed extensively in Chapters 6 and 7, both broad (or ‘sweeping’) and specific references to HM and CAM
risk are prevalent. Thus, there is a strong indication that both biomedical and mainstream print media in Australia frequently associate risk with HM. This is also supported by the prevalence of risk framings in the newspaper analysis.

A similarity in discursive, biopolitical constructs about risk can be observed between the two studies. Both studies determined in their manifest codings that ‘Risk HM’ appeared frequently, which is a broad category that refers to the more general risks of HM or CAM as well as the risks of using a non-medical practitioner who uses these therapies. As argued in Chapter 6 (Section 6.5.10), this tends to misrepresent HM by constructing all botanicals (or HM practitioners) as risky (as opposed to those specific HMs that may have caused minor or major adverse events) and also uses the frequent tactic of trope, in which HM becomes part of the confusing, ambiguous and subsequently risky quagmire defined as ‘CAM’. The presence of this discursive tactic is particularly interesting within the MJA, given the obvious ‘bad science’ reflected in such an approach.\[^60\] In response, rationalist risk perspective arguments have also emerged, which stem from HM advocates who are typically university-based researchers and academics, usually with HM or CAM qualifications. Both of these sweeping and rationalist risk arguments are presented in mainstream news reports, however, the sweeping risk frame is typically prioritised and privileged above rationalist risk perspectives, which tend to emerge (as part of the ‘risk template’ of journalism) to counter sweeping risk arguments rather than frame the debate about HM. In contrast, the rationalist risk perspective argument may warrant a whole paper in the MJA (although not with a significant level of frequency).

Whilst the news appeal of the sweeping risk frame is an important attribution to its frequency (given that it is at once ambiguous as well as dramatic), news may also reinforce the legitimacy of dominant elites, as Entman (1993) and Caragee (2004) have contended. As evidenced by the findings about main voices, the lone biomedical general practitioner is no longer privileged when it comes to HM – in either biomedical or mainstream media discourse. This point has been discussed in Section

\[^60\] Former BMJ editor, Richard Smith, has been very critical of the ‘poor science’ of medical journals (2006: 115). Mark Blumenthal, editor of the journal of the American Botanical Council (ABC), ‘Herbalgram’ and founder of the ABC, has also criticised the ‘bad science’ that occurs in HM research published in biomedical journals (2010: 8).
7.3.4.7 in which I argue (after Coulter & Willis, 2007) that the weakening of the political power of biomedical practitioners (and their principal professional organisation) has occurred as a consequence of the consumerisation of healthcare. Additionally, I have argued that biomedical practitioners lose their expertise when it comes to CAM (Section 6.5.10), given their lack of knowledge about it. The voices of the biomedical elites are still, however, privileged, but in both forms of media, the voices of the biomedical elites of industrial modernity are those that are institutionalised, and found in universities, hospitals and of course biomedical journals.

References to specific risks about HMs occur in both studies. Comparisons highlight a correlation between the attention being given to adverse events. Drug interactions in particular, as well as toxicity and contamination are the adverse events most frequently referred to. These are the specific risk issues of HM products raised in biomedical discourse and which are carried on into mainstream newspaper discourse.

8.2 The risk-efficacy interface

In my review of the literature in Section 3.2.2, I presented research findings by Lin and colleagues in their 2005 report to the Victorian government, which revealed that a surprisingly high proportion of GPs nationally believed HMs to be effective (almost 40%), with over 60% believing they were potentially harmful (Lin et al., 2005: 220). As recognised pharmacologically active substances, HMs are no longer questionable because of suspicions or beliefs of benignity or ineffectiveness. Plants have suddenly re-gained medical meaning, but as tenuous, confusing and ambiguous substances for the modern pharmaceutically-driven pharmacopoeia. This re-emergence is characterised by the scientific research of HM efficacy, in particular RCTs, which have gained momentum during the 1990s and beyond.

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61 The anthropological meaning offered by Pellegrino (1976) reflects the value and meaning of the ‘pharmacologically active agent’: ‘The act of prescribing satisfies a complex urge of ancient lineage which predisposes humans to combat disease by taking in a chemical agent, which either drives out the intruding cause or replaces the ‘something’ lost in illness’ (1976: 625).
The findings from the MJA analysis, which covered a longitudinal period of 42 years, suggest that a newer, more accepting discourse started occurring in the mid to late 1990s, based on my mapping of codings that mentioned botanical medicines as efficacious substances.

As indicated in the findings from the MJA analysis, references acknowledging HM’s potential or existing efficacy also occur with a high rate of frequency, particularly since the late 1990s and throughout the 2000s. Such acknowledgements of efficacy also occur throughout a substantial proportion of the newspaper articles, even those that may have had negative intonation and risk-oriented frames. A pertinent example is the black cohosh articles referred to in Section 7.3.4.1, which refer to cases of liver toxicity caused by the plant, but do not question the legitimacy of it, which is reinforced by the way it is defined as efficacious. The black cohosh toxicity phenomenon exemplifies the interface of potency with risk and efficacy, a notion that has been articulated in relation to biomedical legitimisation in O’Neill’s (1994) sociological commentary referred to in the discussion of the MJA findings in Section 6.5.11 and demonstrated by the Potency Model in Figure 6-5. A significant sociohistorical factor to consider in relation to this ‘potency=efficacy+risk’ equation is the anthropological impact of ‘heroic’ pharmaceutical medicines on Western culture that made a profound impact on biomedical culture in the late 19th and early 20th centuries, including aspirin, codeine, morphine, quinine, digoxin and insulin for diabetes. An association of pharmacological ‘power’ with efficacy arising from this cultural period (which is by no means historically unique in making this association) has continued into contemporary industrial Western models of mainstream healthcare and concepts of treatment.62 In this sense, HM, unlike homoeopathy, is eminently medicalisable and can, to an extent, be appropriated into a pharmaceuticalised model of understanding.

In addition to the anthropological perspective provided above, the various reasons for the MJA to increasingly adopt a risk-efficacy position on HM, as suggested by the frequency of references to both risk and efficacy in the content analysis, have been

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62 Montagne (1988) points out that the original Greek word pharmakon has three meanings: ‘remedy’, ‘poison’ and ‘magical charm’ (Montagne, 1988: 418).
identified in Sections 6.5.10 and 6.5.11. I have argued that these reasons are professional, political and cultural and include the pragmatic professional reasons, doctors’ unfamiliarity with HM and CAM, certain discursive tactics used in the legitimisation of biomedical dominance, the matter of publication bias, as well as the legitimisation tactics of private industry, research institutions and professions. Given the influence of biomedical journal representations on mainstream media discussed above, these factors in turn affect the framings in news discourse, however they are not simply reproduced, but are subjected to the whole gamut of influences involved in the news-making process. This is where the notion of the control paradigm in media theory becomes unstable because, as McNair (2006: 48) has argued, once the mainstream media receive the messages, the news becomes:

…not an agent of ideological imposition, but a product of the interaction of all the environmental factors within which it is formed. If the environment changes, so does content, irrespective of the desires of dominant groups.

The impact of a changing environment on media content is reflected in the MJA’s own representations of HM, which are highlighted in Figure 6-2. This demonstrates an overall increase in references to HM and CAM as well as the differing growth-rates in references to both risk and benefits.

The results from both studies do suggest that there are ideological influences at play in the mainstream newspaper representations. However, while influential, the power of dominant elites (like the biomedical professions) is an inadequate explanation, as demonstrated by the increasing prevalence of the HM practitioner voice in the newspaper analysis findings.
8.3 Contribution of primary research: Comparisons with findings from other CAM media content analyses

Although CAM is a relatively new field of research, as CAM researcher Edzard Ernst has commented, ‘CAM is no longer a data-free zone’ (2007: 1093). Whilst CAM sociology is an emerging discipline, and CAM media content analysis in particular has a history of only 12 years in Western scholarly literature, there are a number of studies that have indicated trends in media reportage. In particular, such trends that are portrayed include an over-representation of positive portrayals of CAM and an under-representation of negative ones (Weeks & Strudsholm, 2008: 6).

My findings challenge this research. Previous studies of representations of CAM in the media have results that contradict my findings of the prevalence of risk representations (Weeks et al., 2007; Mercurio & Eliot, 2009). The findings from these studies, which focused on the media representation of CAM and cancer, have been discussed in my review of the literature in Section 3.4.5. In particular, these studies found that ‘positive’ reports and framings outweighed negative ones, and notably, reports about ‘risk’ in relation to CAM usage were outweighed by stories about benefits. Additionally, the studies found a predominance of personal anecdotes and biomedical practitioners as sources. Problematically, the Mercurio and Eliott (2009) study, also a newspaper content analysis, combined ‘CAM

63 This time period is based on those studies I have discovered through literature searches, as well as those covered in the scoping review of CAM media studies by Weeks and Strudsholm (2008).

64 An analysis of newspaper articles by Milazzo and Ernst (2006) had similar findings about overly positive reporting, however, this was not a rigorous, high quality study. It did not include intercoder reliability and provided no methodological guidelines or explanation for the qualitative approach of assessing article intonation.

65 Research by Weeks, Verhoef and Scott (2007), which considered both newspaper and magazine representations, found that CAM therapies were most often described positively, with little information provided about risks, benefits or costs of CAM use. Where these latter factors were mentioned, risk was the least discussed (34.2% of these articles referred to ‘natural health products’, a category covering a range of supplements such as herbs, vitamins and shark cartilage). The content analysis of Australian newspapers undertaken by Mercurio and Elliott (2009) found that discourse about benefits of CAM outweighed discourse about risks by 13.4%. However, these were studies of the representation of CAM usage in relation to cancer specifically. Also, the studies did not consider specific genres within the newspaper articles being analysed, therefore the proportion of news-based stories, feature or lifestyle articles, or more opinion-based articles is unable to be determined.
practitioner/industry’ as a source category, which is neither justified nor explained in the paper. This is an unusual approach to categorisation, akin to combining ‘biomedical practitioner and pharmaceutical industry’ as a source category, which would suggest a biased approach towards their interpretation of a CAM ‘marketplace’ and one in which practitioners and products are perceived to be inextricable. It also highlights the subjectivity involved in the process of devising coding categories, which has been observed by McKee (2001) and referred to in Section 4.6. Table 8-1 presents the distinct discoveries about sources between my own research and these two studies.

A more dated 1999 study of newspaper reports of CAM in the US as well as London, Japan, China and Israel during the period 1992-1997 showed that articles about CAM in the US were ‘overwhelmingly positive’ with 57.9% of articles being positive and only 20.5% negative (Vastag et al., 1999). My own findings reflect the virtual opposite to Vastag et al.’s: positive intonation accounted for 21.6% of the total number of articles and negative articles for 53.2%.

In contrast to these studies, my findings reveal a very high reference to risk in both manifest references and framings, as well as negative portrayals in articles about HM. While references to efficacy are substantial and worthy of exploration in both manifest and latent codings, they are significantly disproportionate to the risk frequencies, which is where the crucial discrepancy with other research findings lies. Importantly, the aforementioned studies by Weeks, Verhoef and Scott (2007) and Mercurio and Eliott (2009) are cancer-related, whereas my research covered a less constrained range of reference to HM in news articles only.

The significant role sources play in newspaper representations has been discussed extensively in Section 3.6. In my own findings during a period of over five years, journalists do not draw extensively from lay people or their anecdotal stories in news reports on HM – on the contrary, lay people are one of the least cited sources in the newspaper study. Also, in contrast to the findings of Weeks, Verhoef and Scott (2007), Mercurio and Eliott (2009), and Vastag et al. (1999), biomedical practitioners were not frequently cited (although it is not clear whether or not these other studies included practitioners from hospital settings in this category). My newspaper analysis
also found a higher frequency of HM/CAM practitioners as sources, even in comparison to the Mercurio and Eliot (2009) study in Australia, which, as discussed, inexplicably combined ‘private industry’ with the CAM practitioner category.\(^{66}\)

The Mercurio and Eliott (2009) and Weeks, Verhoef and Scott (2007) studies did delineate the frequencies of references to specific CAM therapies, and both studies found that HMs comprised an average of 20% of media reportage. However, neither study referred to whether or not HM was represented differently from other therapies. In the Milazzo and Ernst study (2006), HM stories were represented by only 9.4% of all articles. The Media Doctor Australia study by Bonevski, Wilson and Henry (2008) found that the highest quality of reporting about CAM originated from ‘biological’ CAM treatments\(^{67}\), which included HM, although this is less relevant to my findings, as assessments of ‘quality’ in reporting are not under consideration.

### Table 8-1 Comparing frequency of sources between newspaper studies

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<tr>
<td>Personal anecdote/lay person</td>
<td>52.4%</td>
<td>16.9%</td>
<td>5%</td>
</tr>
<tr>
<td>Biomedical practitioner</td>
<td>28.2%</td>
<td>16.1%</td>
<td>6.5%</td>
</tr>
<tr>
<td>CAM practitioner</td>
<td>11.9%</td>
<td>11.9% (nb: includes ‘industry’ in this category)</td>
<td>17.4%</td>
</tr>
<tr>
<td>Scientific research, university</td>
<td>15%</td>
<td>11.1%</td>
<td>25.9%</td>
</tr>
<tr>
<td>Government</td>
<td>9.9%</td>
<td>7.5%</td>
<td>20.9%</td>
</tr>
<tr>
<td>Published research</td>
<td>12.5%</td>
<td>5.6%</td>
<td>10.1%</td>
</tr>
<tr>
<td>Private industry</td>
<td>4.2%</td>
<td>11.9% (nb: includes CAM practitioner in this category)</td>
<td>9.4%</td>
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\(^{66}\) Of course the focus on cancer as a serious disease in the analysis is likely to influence the sort of practitioners journalists turn to.

\(^{67}\) The biologically-based practices defined by this Media Doctor Australia study included HMs, dietary supplements, animal-derived extracts, vitamins, minerals, fatty acids, amino acids, proteins, probiotics, whole diets and functional foods (Bonevski et al., 2008).

\(^{68}\) These percentages only include the newspaper findings from the study as relevant, and exclude magazine proportions.
My focus on the news genre in Australian newspapers, along with isolating HM as a distinct modality for investigation, highlights the validity of an approach that is specific about the distinctive CAM modalities as well as media genres in content analysis research. As argued in Section 3.5, news has primacy as a credible information source by its readers, who expect what they read to be ‘fact’-based (although what is ‘truth’ and ‘facts’ undergoes a process of construction in the news-making process), and tends to be taken seriously, in comparison with other genres, with less scope provided for polysemic interpretation.

The research by Bubela, Boon and Caulfield (2006a; 2006b; 2007; 2008) demonstrates a pioneering approach in which HM (rather than CAM) is addressed as the particular subject of media research. The initial part of their research, which specifically investigated newspaper reports on HM clinical trials, showed the ‘explosion’ in clinical trials of herbal remedies was not reflected in media reports (Bubela et al., 2006b: 6). The journalistic preference for peer-reviewed biomedical journals as sources of information about health issues may be responsible for this, as the ‘vast majority’ of these clinical trials found on PubMed by the authors were published by Chinese researchers and in specialised Traditional Chinese Medicine (TCM) journals. Biomedical journals appear to have a geographical bias towards publishing clinical trials where the lead research institution is based in the US, UK or Europe (Bubela et al., 2006b: 4). Other factors may be also at play, as the authors suggest, including publication bias towards CAM trials with negative outcomes, which has been inferred from the findings of a content analysis of biomedical representations of homoeopathy (Caulfield & DeBow, 2005). The issue of bias towards CAM representations has been explored in a 2008 content analysis study by Kemper and Hood (2008), referred to in Section 3.4.3, which found a correlation between high levels of pharmaceutical advertising with articles concluding that ‘dietary supplements’ were unsafe in 11 major biomedical journals. In addition to the factors articulated above, there is also the matter of how vigilantly a biomedical journal promotes its published articles to journalists. Although this has not yet been systematically investigated, it is likely HM or CAM journals do not have the level of

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69 The study used the US Food and Drug Administration’s definition of ‘dietary supplements’ as: ‘vitamins, minerals, herbs or other botanicals, amino acids, and substances such as enzymes, organ tissues, glandulars, and metabolites’ (2008).
PR resources required to promote their issues to journalists via disseminated media releases or follow-up to carefully targeted journalists on an international scale.

The Bubela, Caulfield and Boon study of 2006 did consider references to HM risk in the newspaper reports, and found risks were ‘under-reported’ (Bubela et al., 2006b), in contrast to my newspaper analysis findings. Their study also took quality of reporting into account, and found errors of omission in media reports to be substantial. They found a ‘subtle negative trend’ towards reports on clinical trials of HM, which was not reflected in the findings of my newspaper analysis, in which reports that used positive and negative research frames differed by only one article. At the same time, articles with the ‘research’ theme were predominantly positive in terms of headline and intonation in my own study (Table 7-9). It is important to note these research themes and framings were not restricted to clinical trials only, but may have included meta-analyses or laboratory-based research, for example. Articles under the ‘research’ theme may have also had positive ‘hope of new research’ framings.

A follow-up study was undertaken by the same authors in 2008, which was a systematic, comparative content analysis of HM and pharmaceutical clinical trial representations in newspapers (discussed in Section 3.4.4). Concurring with my own findings, they discovered that reports on HM clinical trials were quite evenly positive (21%) and negative (21.9%) in tone. However, when these findings were compared with news reports on pharmaceuticals, the authors discovered that no articles on pharmaceutical trials had a negative overall tone, rather, there was a 68.2% rate of positive intonation and neutral tone accounted for 31.8%. Risk plays an interesting role in these comparative findings. Despite the predominantly positive intonation used in reports about pharmaceutical clinical trials, these reports were actually more likely to refer to risks associated with pharmaceuticals than risks of HMs. This comparative approach by Bubela, Boon and Caulfield (2008) highlights

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70 These errors of omission included failure to scrutinise research methods, withdrawal and dropout rates, sample size, length of the trial, and dosage (Bubela et al. 2006b).

71 The methods of this later study by Bubela, Caulfield and Boon (2008) were more rigorous than the first, incorporating intercoder reliability and logistic regression.
the benefits of separating HM from the generalised CAM category. Additionally, it provides an important sociopolitical contextualisation of HM in news reporting, which can be obtained by comparative systematic analysis.

This chapter has provided a comparative discussion of the findings from my primary research. It compares the findings of the two content analyses undertaken, and contextualises these findings in the light of other research undertaken in the field. The next chapter provides the conclusion for my research.
9 Research summary and implications

This chapter presents a summary of the research findings and the implications of the research for future systematic investigations, as well as its implications for the role of HM in Australian healthcare.

The objective of the research was to systematically measure the dominant topics and frames occurring about HM in two printed media forms, and to gauge whether there is in fact a prevalence of risk reporting about HM in Australia. The findings confirm that there is indeed a prevalence of risk reporting in the *MJA* and mainstream Australian newspapers. Risk was prevalent in the text above all other coded items and, in the case of the newspaper analysis, in the framings also.

As noted in Section 1.5 of the introductory chapter, the process of defining spaces of safety and danger is not democratic (Carter, 1995: 145). Discursive strategies of risk are reflected in biomedical and mainstream media representations of HM. These risk constructions are often conveyed through the voices from dominant social and political groups in Australia.

Risk representations in the *MJA* over a 42-year period have focused mostly on toxicity, and in the last decade have become increasingly associated with the issues of herb-drug interactions. Issues of dosage and preparation are also significant, as is reference to the ‘discouraging of the use of biomedicine’ (assumed to be a potential risk of CAM usage), as well as the quality control issues of adulteration, and contamination, which are particularly associated with the commercialisation of HM. References to the broad or ‘sweeping’ risk of HM products generally, as well as HM or CAM practitioners, also forms a major component of risk representations. Risk occurs across all genres of biomedical article, and are at their proportionate highest in letters to the editor and case reports. The articles that require a more rigorous approach to research, those of original research and systematic review, are less weighted in favour of risk representations, and show a more equal representation of both risk and benefit.
In Chapter 6 I have theorised that risk prevalence in the *MJA* is due to a number of factors which include the legitimisation of biomedical hegemony in the healthcare system, a biomedical culture of risk-astuteness, doctors’ psychological association of notions of risk about HM as a result of their unfamiliarity with it, and publication bias. In addition to this, I have argued there is an increasing drive towards scientification for commercialisation purposes, which both promulgates and sustains EBM-based research institutions and practices. The outcomes of these EBM practices are frequently published in biomedical journals.

Of particular note in the *MJA* findings, highlighted by the prominence of efficacy discourse also, is the biomedical correlation of efficacy and potency with risk, discussed in Section 8.2. This association of risk, or potential for harm, with efficacy amongst biomedical professionals, has been indicated in research by Lin et al. (2005) and Braun (2006). The discourse of risk in association with efficacy suggests there is not necessarily a biomedical hostility to HM, but rather a tenuous process of understanding (and increasingly accepting) HM as a medicine with risks that have not yet become firmly ingrained (and understood) in biomedical culture. The findings from the newspaper analysis also support a theory of this significant correlation between risk and efficacy.

News discourse in Australian newspapers tends to report on HM negatively and with a risk frame that dominates all other framings. The predominance of risk references and framings in the analysis of 18 mainstream Australian newspapers are associated with unethical practitioners of HM (who are negligent or corrupt) as well as the products themselves. Risk is most frequently attributed to adverse events, and the specific adverse events most talked about are herb-drug interactions, toxicity and contamination. Risk frames draw on the voices of biomedical professionals who are employed with universities or hospitals as well as government. The framings fluctuate between sweeping risk frames, which tend to use the biomedical-authoritative voice as a main source, and specific risk frames, which tend to use a consumer-patient model that treats the public as responsible, information-seeking and self-regulating consumers. In the mainstream Australian media, HM risk is typically constructed by social and political elites who are associated with government,
universities or hospitals. The use of lay people as main sources in Australian newspaper news reports was extremely uncommon during the five-year period of analysis. The voices of HM practitioners are used above those of biomedical practitioners who are not affiliated with an institution. These HM practitioners (as well as those of university-based CAM researchers) appropriate risk frames to provide rationalist perspectives on risk as well as commentary (that is accepted in the media frame as expert knowledge) on deficiencies in regulation.

These representations of risk in biomedical and newspaper discourse do not seem to have impacted on the extent to which Australians use HM or CAM products or practitioners. The Pan Pharmaceuticals event demonstrates this phenomenon (discussed in Section 2.8), illustrated by the continued use of recalled products by people from Australian and New Zealand, despite their awareness the products they were taking had been recalled. This may be attributed to public contestation of expert knowledges, a feature of risk society, as well as the very resistance of dominant systems that may be reflected in people choosing to use HM or CAM. These theories can only be clarified by analysing the ways in which audiences perceive and respond to these risk messages, which is beyond the scope of this research. At the same time, this point does bring into question control paradigm theories, which may overestimate media power and influence as a social force. This last point raises the question of the usefulness of a media analytical approach to HM and risk representations.

9.1 Social contribution of this research
The media is an important means by which citizens – both experts and non-experts – receive messages about HM as a mode of healthcare. It is frequently used as a promotional tool by claims-makers, who may come from elite institutions such as government or universities, as well as private industry – or indeed from non-elites that include the people who are frequently classified as ‘patients’ or ‘consumers’ of HM. The media is also used by claims-makers to lobby or put pressure on those official representatives who can influence government policy. Ryan (1991: 53) argues that for those claims-makers who do not hold positions of privilege ‘gaining attention alone is not what a social movement wants; the real battle is over whose interpretation, whose framing of reality, gets the floor’.
The role the mass media plays in contributing to social constructions of meaning in our society means that continued sociological attention to media messages, discursive strategies and framings is essential in order to understand how these messages affect us, and the ways in which we may interpret as well as resist them. Media institutions are powerful, but they are not monolithic, and whilst audiences may have a tendency to ‘trust’ certain genres like biomedical journals and newspaper news, the messages contained within them may not necessarily be accepted. Plants are humanity’s oldest form of medicine. As an approach to healing that was culturally ‘forgotten’ and marginalised during the 20th century, plants as medicines have had a resurgence in popularity, based on a number of sociocultural movements which have arisen largely in response to negative impacts (and indeed risks) of industrialisation and medicalisation.

There is increasing scientific evidence that corroborates theories and philosophies about the usefulness of HM in modern healthcare. In Australia HM is accepted as a therapeutic substance at the level of government (reflected by the Therapeutic Goods Act), and at the level of postgraduate education and research, as reflected by programs such as the Master of Herbal Medicine at the University of Sydney and the Master of Health Sciences at the University of New England. HM is also a heavily commercialised and increasingly commoditised product in the Australian marketplace.

Botanical medicines are still located in the margins of mainstream Australian healthcare. Despite these factors, the marginalisation of HM is reflected in the omission of any HM products from the Pharmaceutical Benefits Scheme (PBS). The fallacy of this omission has been pointed out by Myers, in the light of first class scientific evidence indicating the effectiveness of particular herbs like St John’s wort, black cohosh and gingko (ABC, 2003). Marginalisation is also reflected by the failure of government to regulate the main HM practitioner group – naturopaths and herbalists – and the exclusion of this group from practising within conventional healthcare systems like hospitals. HM practitioners are also excluded from the Medicare scheme, a government program funded through progressive income tax and
an income-related Medicare levy, which subsidises visits to mainstream health practitioners, including general practitioners, specialists, optometrists and dentists.\textsuperscript{72}

The risk discourse that abounds about HM is invariably an important factor in its move towards mainstreaming. Certain groups, HM researchers and practitioners in particular, have learned how to appropriate risk discourse to highlight the benefits of HM products and practice, and the important role it may play in the modern Australian healthcare system. Indeed, this process of embracing or appropriating risk discourse may contribute to the mainstreaming and acceptance of HM into the modern, medicalised, healthcare system of Australia.

9.2 Future research

The conceptual framework for this research was based on the analysis of biomedical and mainstream media representations of HM, taking into account manifest and latent codings, and considering the frequency of these over longitudinal periods as well as their relationship to the sources of information. The findings of risk prevalence, and a risk-efficacy correlation in reporting, opens up opportunities to further refine the conceptual framework employed. Future research could include broadening the genres under investigation within newspapers, incorporating television, radio and web-based representations, and comparing HM representations with biomedical ones. Some suggestions for future research directions follow.

The newspaper study looked specifically at news as a genre for analysis, which was a focus as an information source that is typically (although not uncategorically) perceived as credible and objective. However, there are other genres within newspapers that provide messages that may be conflicting (or, alternatively, commensurate) with news discourse. These include health and lifestyle sections, feature stories and opinion columns.\textsuperscript{73} Further research into how these very

\textsuperscript{72} http://www.medicareaustralia.gov.au/about/whatwedo/medicare.jsp

\textsuperscript{73} However, investigating the relationship between PR, marketing, and journalists would be a critical aspect of such research, mapped against the operations of the ‘infotainment’ media.
distinctive genres represent HM would give an enhanced perspective on how newspapers frame the issues surrounding HM.

In order to gain a more comprehensive perspective of media representations of HM in Australia, television, radio and website reports may also be considered as media for future scrutiny. Print media is just one medium that may influence people’s attitudes towards HM. As has been discussed, print media is often referred to in other media. Print media may also provide more information compared to very brief electronic media items. Additionally, online media (or social media) now enable consumers to be much more actively engaged with constructing and conveying messages about CAM and HM.

Another important contribution for future research is comparative content analysis, an approach that would offer a valuable contribution to the research of HM media representations. This would entail a content analytical approach to investigate comparisons between HM media reports and those reports about pharmaceuticals, for example. This could also include comparisons of reports on biomedical practitioners and herbalists or naturopaths, to gauge whether biomedical practitioners do in fact inspire risk-based stories on a similar scale. This approach could be broadened to include many other CAM modalities in the analysis, which could be compared with media coverage of a broader range of biomedical therapies. Such a comparative approach is needed to determine whether HM or CAM reports are in fact more risk-oriented than biomedical ones. Latent analysis would be essential in this approach, assessing specific (and revised) framings and intonation, as well as sources. My research focused on Australia in order to yield in-depth research results and provide indicators in a local context, which would not have been possible with a larger sample. It would be useful to design a similar study within a broader international context. Widening this type of comparative research approach to include other countries would also help to determine cross-cultural similarities and differences, therefore taking the research beyond the Australian context.

As has been noted throughout this study, audience reception analysis is much needed in the field of CAM media research. Insight into how audiences respond to media
communications is only possible by actively engaging with the people who receive the media messages. In the case of the *MJA* study, in-depth responses from a sample of the journal’s readers would provide a perspective on how the largely biomedical readership interprets messages about risk, efficacy, regulation and other issues that arose from the content analyses. It would also be beneficial to investigate how this group responds to messages about HM from other media sources. A similar approach may be taken for lay audiences to gauge their responses to media messages about HM from a variety of media sources.

Another area for exploration is the investigation of the responses of HM practitioners to media representations about HM, and in particular, the constructions of risk in media reporting. As the findings demonstrate, sectors from this group appear to have appropriated risk messages as part of their advocacy of HM and naturopathic practices. The media activity around the registration of naturopaths is a good example of such appropriation. Audience reception research with this particular group would contribute insight into the impact of such risk constructions on a group that has been so marginalised in Australian mainstream healthcare, and reveal the ways in which this professional group manages such risk constructions in their interactions with clients and colleagues. This sector is also varied – consisting of qualified HM or naturopathic practitioners who have devoted their careers to research, as well as those practitioners who may work in retail stores selling CAM products and providing advice to customers, or alternatively those who have their own practice.

Communications about HM occur within a landscape of overwhelming volumes of marketing information about HM products, which media audiences may encounter in a substantial number of the print and electronic mediums that they read, view, or listen to. An analysis of how HM is portrayed in marketing information, as well as how audiences respond to this information (such as advertising or labelling) would be useful to accompany the research approaches suggested above. The forces of advertising should not be underestimated in the uptake or usage of HM products and/or therapies and how beliefs about HM are developed, despite the fact that this is yet to come under close sociological attention.
9.3 In conclusion

This research provides a contribution to the scholarly literature on CAM sociology, and the media representation of CAM in a contemporary Western context. The research has evolved at a time when HM and CAM usage is increasing in Australia and in other Western countries, prompting questions about HM’s potential future role in Australian healthcare. The growing popularity of HM must also be considered within the context of its commercialisation and scientisation. Economically, the scientific investigation of HM benefits research institutions like universities, and the manufacturing and marketing of HM benefits private industry, which in turn capitalises on the legitimation provided by scientific evidence. This research has also arisen at a time when the authority of biomedicine and biomedical knowledge is still prominent, but increasingly being brought under question and challenge. The use of natural medicines has symbolised a resistance to biomedicine, which has, throughout the 20th century, used a typically pharmacodoxic approach to healing.

This sociocultural phenomenon of HM usage also coincides with the movement towards self-management and self-regulation in relation to healthcare, which is endorsed at the level of government to reduce pressure on the healthcare system. The consumerisation of healthcare assists the state in this respect, because it encourages citizens to take a higher level of responsibility for the management of their own health. This phenomenon has corresponded with the consumer movement and the consumerisation of healthcare, which accommodates and fosters the government agenda for individual self-governance and self-regulation. Each of these aforementioned factors in turn assists a commercial HM industry to flourish, which is a phenomenon yet to be fully explored (and critiqued) in sociological discourse, as Coulter and Willis have pointed out (2007: 222).

The study of HM media representations is a study of the conflicting forces that each struggle to promote, refute, legitimise, de-legitimise and regulate HM products and usage in Australia. These struggles convey a process of the social construction of meaning at work. Schiebinger makes the point that:

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74 Primary producers of HM raw materials are another stakeholder group, but have not been considered in this thesis.
Plants rarely figure in the grand narratives of war, peace, or even everyday life. They are, however, important cultural artifacts, often at the center of political and economic struggles (2004a: 235-236).

Scrutiny of media representations does highlight the important role of plant-based medicines as cultural symbols Shiebinger is referring to. It is also a site where the different truth-claims are made by groups who often compete to have their own claims take primacy in the representations. Such struggles are evident in the mainstream media representations from the second content analysis, which occur primarily amongst (though not necessarily between) biomedical and HM/CAM practitioners, government regulators and policy-makers, and critics of regulation, as well as university researchers in the fields of biomedicine and CAM research. In the case of the *MJA* the struggles for truth-claims are largely restricted to biomedical practitioners and researchers, as well as university-based CAM researchers who adhere to modern biomedical principles (such as EBM) in their research approaches.

Risk as a discursive construct is particularly evident in these media representations. As a rhetorical strategy, risk discourse is applied by different stakeholder groups (in a manner of different ways) who are attempting to influence public policy and/or public opinion and health behaviours. A crucial social issue (pointed out in Section 1.4.2), which remains largely unaddressed in the media discourse, is whether HM is beneficial to the health of Australian citizens, whether it is affordable to people in Australia, and whether it should it be supported by government policy. An understanding of the complex processes of risk constructions, such as those discovered in my primary research, contributes to debates about the role of HM in Australian healthcare, taking into account the nature of competing truth-claims, which are typically only heard if they come from privileged sources. This research adds another dimension to previous media studies of CAM representations which have primarily focused on the issue of accuracy in reporting – which typically concentrates on the role of the journalist.

My research offers insight into the processes of risk construction in Australian media reporting of HM, which is occurring at an historical point in which expert scientific
knowledge plays a pivotal role in the construction of risk. At the same time, such forms of expert knowledge are increasingly under interrogation and challenge by lay people, who may resist or appropriate them as a form of social control. In particular, it is the very undemocratic nature of risk constructions that endears them to sociological investigation and discussion, and makes this phenomenon a particular issue of concern in the important domain of healthcare. I have argued that the tactics of risk construction are typically political and reflect the struggles between different groups vying to affirm or reaffirm their legitimacy. However, it most often those privileged and typically elite voices that are heard in mainstream news media representations and biomedical journals. A key sociological concern is for the audiences who must also struggle to navigate and negotiate these multiple risk constructions, as well as the other topics and frames about HM, when formulating opinions and deciding on actions regarding their use (or non-use) of plant-based medicines.
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### Appendix 1: MJA codebook – content analysis from Jan 1966 to Dec 2008

<table>
<thead>
<tr>
<th>RISK</th>
<th>EFFICACY</th>
<th>QUALITY</th>
<th>REGULATION</th>
<th>SOCIOCULTURAL</th>
<th>HISTORICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intrinsic and extrinsic risks</strong></td>
<td>Effective or not</td>
<td>Problems with quality</td>
<td>Regulation issues</td>
<td>Community attitudes/issues</td>
<td>82. Reference to traditional/historical use</td>
</tr>
<tr>
<td>1. Problem of toxicity</td>
<td>26. HM/CAM is effective or potentially effective</td>
<td>35. Contamination</td>
<td>49. Regulation is inadequate</td>
<td>59. Public is positive about HM/CAM therapies and practitioners</td>
<td></td>
</tr>
<tr>
<td>2. Problem of adverse reaction or side-effect</td>
<td>27. HM/CAM is not effective</td>
<td>36. Misidentification</td>
<td>50. Regulation is adequate</td>
<td>60. Public is positive about biomedical therapies and practitioners</td>
<td></td>
</tr>
<tr>
<td>5. Problem of self-treatment</td>
<td>40. Incorrect labelling/advertising</td>
<td>41. Inappropriate labelling/advertising</td>
<td>53. HM should be regulated like pharmaceuticals</td>
<td>63. Consumer attitudes</td>
<td></td>
</tr>
<tr>
<td>6. Problem of misuse</td>
<td>42. Poor manufacturing practice</td>
<td>43. Quality of research</td>
<td>54. HM should not be regulated like pharmaceuticals</td>
<td>64. Doctors’ attitudes</td>
<td></td>
</tr>
<tr>
<td>8. General risk of HM/CAM therapy or practitioner</td>
<td><strong>Action needed</strong></td>
<td>46. Need standardisation</td>
<td>56. Scientific research needed</td>
<td>66. Consumers are vulnerable/not protected</td>
<td></td>
</tr>
<tr>
<td>9. Risk of doctor/therapy</td>
<td>29. Scientific research needed to address efficacy</td>
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## Appendix 2: MJA articles sourced from 1966 to 2008

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### Appendix 3: MJA Study – Raw percentages for manifest codes

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<td>Toxicity of HM/CAM</td>
<td>23% (34/148)</td>
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<td>2</td>
<td>Adverse events</td>
<td>41.9% (62/148)</td>
</tr>
<tr>
<td>3</td>
<td>Drug interactions</td>
<td>18% (27/148)</td>
</tr>
<tr>
<td>4</td>
<td>Lack of evidence re safety</td>
<td>13.5% (20/148)</td>
</tr>
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<td>5</td>
<td>Self-treatment</td>
<td>6.8% (10/148)</td>
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<td>Misuse</td>
<td>8.8% (13/148)</td>
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<td>Problem of dosage</td>
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<td>General risk of HM therapy/practitioner</td>
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<td>General risk of biomedical therapy/practitioner</td>
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<td>Problem of discouraging use of biomedical therapies</td>
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<td>Doctors lack knowledge about HM/CAM</td>
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<td>Risk of manufacturing/advertising</td>
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<td><strong>Action needed re risk issues</strong></td>
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<td>Doctors should ask patients about use of HM/CAM</td>
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<td>Doctors need education about HM/CAM</td>
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<td>Need to raise public awareness to reduce risk</td>
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<td>Need pharmacovigilance to address risk</td>
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<td>Need collaboration between doctors and HM practitioners to reduce risk</td>
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<td>Benefit of HM outweighs risk</td>
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Appendix 4: Newspaper analysis – media list

138 Articles

24/138 = health journalists (17.4% - in blue)
15/24 = risk-based articles by health journalists (62.5%)
43/138 = no journalist name / wire service declared (31.2%)

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<td>79</td>
<td>6/9/07</td>
<td>At a glance (Detox death claim)</td>
<td>Northern Territory News</td>
<td></td>
<td>9</td>
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<tr>
<td>80</td>
<td>20/9/07</td>
<td>Fake Doctor</td>
<td>The Advertiser</td>
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<td>11</td>
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<tr>
<td>81</td>
<td>21/9/07</td>
<td>'Naturopath' jury retires</td>
<td>Daily Telegraph</td>
<td></td>
<td>19</td>
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<tr>
<td>82</td>
<td>22/9/07</td>
<td>Naturopath found not guilty of patient's death</td>
<td>Malcolm Brown</td>
<td>SMH</td>
<td>5</td>
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<tr>
<td>83</td>
<td>22/9/07</td>
<td>Naturopath has his name cleared</td>
<td>Margaret Scheikowski</td>
<td>Hobart Mercury</td>
<td>12</td>
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<tr>
<td>84</td>
<td>22/9/07</td>
<td>Naturopath found not guilty</td>
<td>Courier-Mail</td>
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<td>85</td>
<td>13/10/07</td>
<td>Doctors to get a grounding in herbal remedies</td>
<td>Harriet Alexander</td>
<td>SMH</td>
<td>9</td>
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<tr>
<td>86</td>
<td>4/1/08</td>
<td>Dodgy 'doctors' to swallow bitter pill</td>
<td>Clare Masters</td>
<td>Daily Telegraph</td>
<td>19</td>
</tr>
<tr>
<td>87</td>
<td>27/1/08</td>
<td>'Sex pest' stalks in city</td>
<td>Kate Kyriacou, Police reporter</td>
<td>Sunday Mail (SA)</td>
<td>22</td>
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<tr>
<td>88</td>
<td>17/2/08</td>
<td>Sick leave under fire</td>
<td>Sharin Labi and Clair Weaver</td>
<td>Sunday Herald Sun</td>
<td>18</td>
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<tr>
<td>89</td>
<td>17/2/08</td>
<td>Sickie notes 'open to abuse'</td>
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<td>The Sunday Mail (QLD)</td>
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<tr>
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<td>29/3/08</td>
<td>'Remedy' kills 23</td>
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<td>The Advertiser</td>
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<tr>
<td>91</td>
<td>3/4/08</td>
<td>Naturopath banned for life</td>
<td>Bellinda Kontominas</td>
<td>SMH</td>
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<td>92</td>
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<td>Life ban for health fraudster</td>
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<td>Daily Telegraph</td>
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<td>93</td>
<td>7/4/08</td>
<td>Alert on herbal remedy</td>
<td>AAP</td>
<td>The Australian</td>
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<td>94</td>
<td>8/4/08</td>
<td>Herb link to liver</td>
<td>Janelle Miles</td>
<td>The Courier-Mail</td>
<td>15</td>
</tr>
<tr>
<td>No.</td>
<td>Date</td>
<td>Title</td>
<td>Author</td>
<td>Newspaper</td>
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<tr>
<td>95</td>
<td>27/4/08</td>
<td>Funds plant herbalists in mainstream</td>
<td>Hannah Davies</td>
<td>Sunday Mail</td>
<td>26</td>
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<tr>
<td>96</td>
<td>8/5/08</td>
<td>Guilty of sex assaults</td>
<td></td>
<td>Herald Sun</td>
<td>10</td>
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<tr>
<td>97</td>
<td>18/6/08</td>
<td>Verdict on gingko extract: it doesn’t help memory or concentration</td>
<td>AAP</td>
<td>Canberra Times</td>
<td>7</td>
</tr>
<tr>
<td>98</td>
<td>20/7/08</td>
<td>Herbal medicine chaos a recipe for risk: naturopath</td>
<td>William Birnbauer</td>
<td>Sunday Age</td>
<td>5</td>
</tr>
<tr>
<td>99</td>
<td>24/7/08</td>
<td>More of us turning to non-Western healers</td>
<td>James Massola</td>
<td>Canberra Times</td>
<td>7</td>
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<tr>
<td>100</td>
<td>3/8/08</td>
<td>Code sought to stop shonky naturopaths</td>
<td>William Birnbauer</td>
<td>Sunday Age</td>
<td>4</td>
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<tr>
<td>101</td>
<td>31/8/08</td>
<td>Star pregnant thanks to Chinese herbs</td>
<td>Kim Wilson</td>
<td>Sunday Telegraph</td>
<td>7</td>
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<tr>
<td>102</td>
<td>20/9/08</td>
<td>Herb aid for mums – Remedies improve fertility</td>
<td>Leanne Edmistone</td>
<td>Courier-Mail</td>
<td>31</td>
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<tr>
<td>103</td>
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<td>Rapist saw practice as harem</td>
<td>Elissa Hunt</td>
<td>Herald Sun</td>
<td>11</td>
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<tr>
<td>104</td>
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<td>'Guru' rapist jailed</td>
<td>Kellee Nolan</td>
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<td>12</td>
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<tr>
<td>105</td>
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<td>Dosing up kids just a 'quick fix'</td>
<td>Xanthe Kleinig</td>
<td>Daily Telegraph</td>
<td>11</td>
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<tr>
<td>106</td>
<td>21/11/08</td>
<td>Caution prescribed for herbal medicine users</td>
<td>Nick Miller</td>
<td>The Age (1st ed)</td>
<td>3</td>
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<tr>
<td>107</td>
<td>16/1/09</td>
<td>Naturopath faces TGA's bitter pill in class action</td>
<td>Siobhain Ryan</td>
<td>The Australian</td>
<td>2</td>
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<tr>
<td>108</td>
<td>8/4/09</td>
<td>Ban urged on weight-loss medicine</td>
<td>Adam Cresswell</td>
<td>The Australian</td>
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<tr>
<td>109</td>
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<td>Warning on 'quack' remedies for cancer</td>
<td>Julia Medew</td>
<td>The Age</td>
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<tr>
<td>110</td>
<td>19/5/09</td>
<td>Owner faces court over claims of allergy cures</td>
<td>Kelly Burke</td>
<td>SMH</td>
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<tr>
<td>111</td>
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<td>Herbal remedy quality query</td>
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<td>Sunday Tasmanian</td>
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<td>112</td>
<td>24/5/09</td>
<td>Remedy contents inferior</td>
<td>Suellen Hinde</td>
<td>Sunday Mail</td>
<td>30</td>
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<tr>
<td>113</td>
<td>13/6/09</td>
<td>Call for registration of alternative therapists</td>
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<td>115</td>
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<td>Register to hit shonks – Alternative medicine to clean up its act</td>
<td>Rachel Browne and Melissa Singer</td>
<td>Sun-Herald</td>
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<tr>
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<td>23/6/09</td>
<td>Wheelchair man on sex charges</td>
<td>Sam Rodrigues</td>
<td>The Advertiser</td>
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<td>117</td>
<td>14/8/09</td>
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<td>Daily Telegraph</td>
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<tr>
<td>118</td>
<td>29/9/09</td>
<td>Giggle pills no joy for</td>
<td>Janelle Miles and</td>
<td>Hobart Mercury</td>
<td>7</td>
</tr>
<tr>
<td>No.</td>
<td>Date</td>
<td>Title</td>
<td>Author</td>
<td>Newspaper</td>
<td>Page</td>
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<tr>
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<td>Health risk in a Giggle pill that can kill</td>
<td>Gemma Jones and Janelle Miles</td>
<td>Daily Telegraph</td>
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<td>120</td>
<td>5/10/09</td>
<td>Herbal drug not real deal</td>
<td>Nick Miller</td>
<td>The Age</td>
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<td>20/12/09</td>
<td>A sorry Delta returns from the cold with a new voice</td>
<td>Christine Sams</td>
<td>Sun Herald</td>
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<td>122</td>
<td>9/2/10</td>
<td>In Brief: Deadly remedies</td>
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<td>Daily Telegraph</td>
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<tr>
<td>123</td>
<td>9/2/10</td>
<td>Herbal cures ‘a toxic mix’</td>
<td>Adam Cresswell</td>
<td>The Australian</td>
<td>7</td>
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<tr>
<td>124</td>
<td>21/3/10</td>
<td>Ginger approach to sales</td>
<td>Kathleen Donaghey</td>
<td>The Sunday Mail (QLD)</td>
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<td>125</td>
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<td>Herbs lethal if misused</td>
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<td>Herald Sun</td>
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<td>126</td>
<td>9/2/10</td>
<td>Herbal medicines can kill: researcher</td>
<td>Nick Miller</td>
<td>SMH</td>
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<td>127</td>
<td>9/2/10</td>
<td>Herbal mix can be lethal</td>
<td>Callie Watson</td>
<td>Adelaide Advertiser</td>
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<td>128</td>
<td>30/4/10</td>
<td>Watch out for herbs that kill – Academic attacks natural remedies</td>
<td>Edith Bevin</td>
<td>Daily Telegraph</td>
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<td>129</td>
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<td>Herbal brew poisons 21</td>
<td>Wire</td>
<td>Northern Territory News</td>
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<td>130</td>
<td>29/10/07</td>
<td>Woolworths placed on notice over sale of suspect diet pills</td>
<td>Kelly Burke</td>
<td>SMH</td>
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<td>17/4/06</td>
<td>Menopause health alert - Herb remedy can hurt liver</td>
<td>Sue Dunlevy</td>
<td>Daily Telegraph</td>
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<td>132</td>
<td>3/2/10</td>
<td>Herbal remedies ‘devastating’</td>
<td>The Times</td>
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<td>31/7/07</td>
<td>Sex aid pills withdrawn</td>
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<td>Daily Telegraph</td>
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<td>134</td>
<td>9/10/08</td>
<td>Plant ‘as good as Prozac’</td>
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<td>The Advertiser</td>
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<td>135</td>
<td>26/6/07</td>
<td>Sniff of a cure: herb can help beat colds</td>
<td>Bellinda Kontominas, Med reporter</td>
<td>SMH</td>
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<tr>
<td>136</td>
<td>27/10/08</td>
<td>Munch weeds and see doctor if pain persists</td>
<td>Penny McLeod</td>
<td>Hobart Mercury</td>
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<td>137</td>
<td>9/2/10</td>
<td>‘Natural’ remedies can prove lethal: research</td>
<td>Nick Miller, Health Ed</td>
<td>The Age</td>
<td>3</td>
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<tr>
<td>138</td>
<td>9/8/09</td>
<td>Rosy outlook for sufferers of arthritis</td>
<td>Louise Hall, Heath Reporter</td>
<td>Sun-Herald</td>
<td>23</td>
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</table>
### Appendix 5: Newspaper codebook - manifest analysis (2005-2010)

45 codes.

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Code (Excel)</th>
<th>Category</th>
<th>Explanation of code</th>
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<td><strong>RISK</strong></td>
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<tr>
<td><strong>Intrinsic risks</strong></td>
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<td></td>
</tr>
<tr>
<td>1</td>
<td>Toxicity</td>
<td>Problem of toxicity</td>
<td>Refers to risk of toxicity of HM</td>
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<tr>
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<td>Adverse/SE</td>
<td>Problem of adverse reaction (side-effects)</td>
<td>Refers to risk of adverse events or side-effects</td>
</tr>
<tr>
<td>3</td>
<td>Drug int</td>
<td>Problem of drug-interactions</td>
<td>Refers to risk of HMs interacting with pharmaceutical medications</td>
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<tr>
<td><strong>Extrinsic risks</strong></td>
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</tr>
<tr>
<td>4</td>
<td>Self trt</td>
<td>Problem of self-treatment</td>
<td>Refers to risk of individuals self-medicating</td>
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<tr>
<td>5</td>
<td>Misuse</td>
<td>Problem of misuse</td>
<td>Refers to risk of HM products being used incorrectly or inappropriately</td>
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<td>6</td>
<td>Dosage</td>
<td>Issue of dosage, preparation or inappropriate long-term treatment</td>
<td>Article refers to the risk of inappropriate dosage and long-term treatment with HM</td>
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<td>7</td>
<td>Risk HM</td>
<td>Risk of HM/CAM practitioner or therapy</td>
<td>Refers to overall risk of HM or risk of HM practitioner</td>
</tr>
<tr>
<td>8</td>
<td>Risk Doc</td>
<td>Risk of biomedical practitioner or therapy</td>
<td>Refers to risk of biomedical practitioner or biomedical treatment</td>
</tr>
<tr>
<td>9</td>
<td>Discrg use</td>
<td>Discouraging use of biomedical treatments</td>
<td>When use of HM involves use of biomed treatment being discouraged (whether necessary or not)</td>
</tr>
<tr>
<td>10</td>
<td>Lack knowl</td>
<td>Doctors lack knowledge, education</td>
<td>Refers to risk of doctors’ lack of knowledge and education about HM</td>
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<td>11</td>
<td>Risk low</td>
<td>Risks of HM are low or relatively low</td>
<td>Refers to relative safety of HM</td>
</tr>
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<td>12</td>
<td>Risk lower</td>
<td>Risks of HM lower than pharmaceuticals</td>
<td>Refers to risks of HM being lower than that of pharmaceuticals / biomed.</td>
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<tr>
<td><strong>Action needed re risk</strong></td>
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<td></td>
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<tr>
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<td>Lack ev/sci research</td>
<td>Lack of scientific evidence / need for scientific research</td>
<td>Mentions lack of (generally clinical) evidence about HM and refers to need for scientific research</td>
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<td>Disclosure</td>
<td>Patients should tell their doctors they are using HM</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Docs Ask</td>
<td>Doctors should ask their patients if they are using HM</td>
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<td>Medsuperv</td>
<td>Should only use under</td>
<td>HM should only be used</td>
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<td>Explanation of code</td>
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<td>Doc educ’n</td>
<td>Doctor education needed</td>
<td>Doctors need more education about HM</td>
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<td>Pharmacov</td>
<td>Pharmacovigilance needed</td>
<td>Refers to need for collaboration between HM and medical practitioners.</td>
</tr>
<tr>
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<td>Collab</td>
<td>Collaboration needed between doctors and HM practitioners</td>
<td>Refers to need for collaboration between HM and medical practitioners.</td>
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<td>20</td>
<td>Resresults</td>
<td>Article shows peer-reviewed research results</td>
<td>Peer-reviewed research results are referred to</td>
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<tr>
<td></td>
<td></td>
<td>EFFICACY</td>
<td>Any time this is mentioned in article it should be noted.</td>
</tr>
<tr>
<td>21</td>
<td>Effective</td>
<td>HM effective or potentially effective</td>
<td>Any time this is mentioned in article it should be noted. An article about St John’s Wort being effective may also state that Echinacea is not effective, in which case both ‘effective’ and ‘not effective’ would be coded.</td>
</tr>
<tr>
<td>22</td>
<td>Not eff</td>
<td>HM not effective</td>
<td>Anytime this is mentioned in article it should be noted. An article about St John’s Wort being effective may also state that Echinacea is not effective, in which case both ‘effective’ and ‘not effective’ would be coded.</td>
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<tr>
<td></td>
<td></td>
<td>Action needed re efficacy</td>
<td>Article refers to need for research funding of HM</td>
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<tr>
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<td>Funding</td>
<td>Funding for research</td>
<td>Article refers to need for research funding of HM</td>
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<tr>
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<td>Barriers</td>
<td>Barriers to research</td>
<td>Article mentions that there are barriers to HM research (ie. politics, lack of $$ devoted to CAM)</td>
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<tr>
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<td></td>
<td>QUALITY</td>
<td>Article refers to quality problem of contamination of HM</td>
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<td>Contam’n</td>
<td>Contamination</td>
<td>Problem where one herb is mis-taken for another and used instead of the intended one in the manufacturing (or self-harvesting) process</td>
</tr>
<tr>
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<td>Misident’n</td>
<td>Misidentification</td>
<td>Where an HM mix has other non-herbal substances added, particularly synthetic or pharmaceutical substances</td>
</tr>
<tr>
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<td>Adult’n</td>
<td>Adulteration</td>
<td>Where one herb is inadvertently or deliberately substituted for the intended herb.</td>
</tr>
<tr>
<td>28</td>
<td>Substit’n</td>
<td>Substitution</td>
<td>Where one herb is inadvertently or deliberately substituted for the intended herb.</td>
</tr>
<tr>
<td>29</td>
<td>Label/advtg</td>
<td>Inappropriate or incorrect labelling or advertising</td>
<td>Inappropriate or incorrect instructions, advertising or labelling on the product. Where this may mislead public in terms of usage, dosage or benefits</td>
</tr>
<tr>
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<td>Problem with research quality</td>
<td>Refers to issue of quality in research being undertaken</td>
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<tr>
<td>Item no.</td>
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<td>Explanation of code</td>
</tr>
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<td>--------------</td>
<td>----------</td>
<td>---------------------</td>
</tr>
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<td>Ed HM</td>
<td>Problem with education standards of HM/CAM practitioner</td>
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<tr>
<td>32</td>
<td>Ed docs</td>
<td>Problem with education standards of biomedical practitioner</td>
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<td>33</td>
<td>Standard’n</td>
<td>Standardisation</td>
<td>HM should be standardised to improve their quality</td>
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<td>Quality control (QC)</td>
<td>Quality control of primary production and manufacturing</td>
<td>Quality control needs to occur at the primary production and manufacturing levels</td>
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<td>Regulation</td>
<td>Regulation needed</td>
<td>States that regulation is needed or that it is inadequate. May refer to need for action to be taken in relation to regulation of HMs</td>
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<td>Reg adeq</td>
<td>Regulation of HM is adequate</td>
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</tr>
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<td>Claims</td>
<td>Issue of product claims</td>
<td>Article refers to issue of the claims (ie about efficacy, benefits) that companies make about their HM products.</td>
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<tr>
<td>38</td>
<td>Cons vuln</td>
<td>Consumers are vulnerable, naïve or ignorant</td>
<td>Refers to vulnerability of consumers</td>
</tr>
<tr>
<td>39</td>
<td>Unscr mktg</td>
<td>Problem of unscrupulous marketing practices</td>
<td>Mentions unscrupulous practices in marketing of HM. This could include fraud, corruption, price-fixing, deliberately misleading public.</td>
</tr>
</tbody>
</table>

**REGULATION**

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Code (Excel)</th>
<th>Category</th>
<th>Explanation of code</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>Pop HM</td>
<td>Popularity of HM therapies and practitioners</td>
<td>Article refers to popularity of HM usage, may mention positive attitudes of public towards it.</td>
</tr>
<tr>
<td>41</td>
<td>Pop docs</td>
<td>Popularity of biomedical therapies and practitioners</td>
<td>Article refers to popularity of doctors, or the ongoing use of them in spite of HM use</td>
</tr>
<tr>
<td>42</td>
<td>Pub diss HM</td>
<td>Public dissatisfied with HM therapies and practitioners</td>
<td>Mention of dissatisfaction of public with HM therapies and/or practitioners</td>
</tr>
<tr>
<td>43</td>
<td>Pub diss docs</td>
<td>Public dissatisfied with biomedical therapies and practitioners</td>
<td>Mention of dissatisfaction of public with biomedical therapies and practitioners</td>
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</tbody>
</table>
## HM/CAM role in healthcare

<table>
<thead>
<tr>
<th></th>
<th>Ackn syst</th>
<th>Acknowledges HM in modern healthcare system</th>
<th>Mentions that HM has a place in the modern healthcare system</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td>Costs</td>
<td>Costs of HM to people, to government</td>
<td>Mentions the costs of HM to public and to government. May include refs to public expenditure on CAM per year</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Result</th>
<th>No.</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Risk</td>
<td></td>
<td>36</td>
<td>University (medical research)</td>
</tr>
<tr>
<td>2</td>
<td>Regulation</td>
<td></td>
<td>37</td>
<td>University (CAM research)</td>
</tr>
<tr>
<td>3</td>
<td>Research</td>
<td></td>
<td>38</td>
<td>University (unknown or unclear if medical or CAM)</td>
</tr>
<tr>
<td>4</td>
<td>Ethical / Legal</td>
<td></td>
<td>39</td>
<td>Hospital</td>
</tr>
<tr>
<td>5</td>
<td>HM as alternative</td>
<td></td>
<td>40</td>
<td>Private industry</td>
</tr>
<tr>
<td>6</td>
<td>Efficacy</td>
<td></td>
<td>41</td>
<td>Professional medical body</td>
</tr>
<tr>
<td>7</td>
<td>New product</td>
<td></td>
<td>42</td>
<td>Professional CAM body</td>
</tr>
<tr>
<td>8</td>
<td>Business</td>
<td></td>
<td>43</td>
<td>Private college</td>
</tr>
<tr>
<td>9</td>
<td>Education</td>
<td></td>
<td>44</td>
<td>Government</td>
</tr>
<tr>
<td></td>
<td><strong>Framing/s of story</strong></td>
<td></td>
<td>45</td>
<td>Police/courts</td>
</tr>
<tr>
<td>10</td>
<td>Risk</td>
<td></td>
<td>46</td>
<td>HM/CAM practitioner</td>
</tr>
<tr>
<td>11</td>
<td>HM is effective</td>
<td></td>
<td>47</td>
<td>Medical practitioner</td>
</tr>
<tr>
<td>12</td>
<td>HM is not effective</td>
<td></td>
<td>48</td>
<td>Medical journal</td>
</tr>
<tr>
<td>13</td>
<td>Regulation is necessary for public safety</td>
<td></td>
<td>49</td>
<td>CAM journal</td>
</tr>
<tr>
<td>14</td>
<td>Hope of new research</td>
<td></td>
<td>50</td>
<td>Science magazine</td>
</tr>
<tr>
<td>15</td>
<td>Positive scientific research</td>
<td></td>
<td>51</td>
<td>Celebrity</td>
</tr>
<tr>
<td>16</td>
<td>Negative scientific research</td>
<td></td>
<td>52</td>
<td>Lay person / patient/s / parents</td>
</tr>
<tr>
<td>17</td>
<td>Corruption</td>
<td></td>
<td>53</td>
<td>Other practitioner</td>
</tr>
<tr>
<td>18</td>
<td>Negligent practitioner</td>
<td></td>
<td>51</td>
<td>Other professional body/group</td>
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<tr>
<td>19</td>
<td>Popular HM</td>
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<td>54</td>
<td>Research institute</td>
</tr>
<tr>
<td>20</td>
<td>HM becoming mainstream</td>
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<td>55</td>
<td>Church</td>
</tr>
<tr>
<td>21</td>
<td>HM more effective or safer than orthodox medicine</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Collaboration/integration between HM and biomed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Vulnerable consumer/s</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Business disadvantaged by regulation/regulator</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Beneficial new product</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Lucrative industry</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>27</td>
<td>Research funding needed</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>28</td>
<td>Criticism / questioning of funding/regulation</td>
<td></td>
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<td><strong>Headline</strong></td>
<td></td>
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<td>29</td>
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<td></td>
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<tr>
<td>30</td>
<td>Negative</td>
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</tr>
<tr>
<td>31</td>
<td>Neutral</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

|     | **Valuation/tone**         |        |     |                                                                           |
| 32  | Negative                   |        |     |                                                                           |
| 33  | Positive                   |        |     |                                                                           |
| 34  | Neutral                    |        |     |                                                                           |
| 35  | Mixed                      |        |     |                                                                           |