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‘The cold hard facts’ immunisation and vaccine preventable diseases in Australia’s newsprint media 1993–1998

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Abstract

The news media have the potential to influence public perceptions about childhood vaccination. Research has quantified the extent of positive news reportage on immunisation but no studies have explored the rhetorical nature and the core appeals that characterise positive reportage.

To complement our previous research on the rhetorical nature of anti-immunisation reportage, this paper reviews positive coverage of immunisation in over four and a half years of Australian newsprint media. Three core topics dominated the reportage; the problem of vaccine preventable diseases and low immunisation rates, notions of who is responsible and the implied solutions. The threat of vaccine preventable diseases was conveyed using panic language, disease personification, quantification rhetoric, stories of personal tragedies and portentous tales from yesteryear. Attribution for low immunisation rates ranged from blaming parents to blaming lack of government coordination. However, most blame framed individuals as responsible. The most popular spokespersons were representatives of professional medical bodies who tended to be cast as voices of authority, castigating the ignorance and apathy of parents. Urging of compulsory vaccination, pleas for parents to immunise their children and the provision of information about vaccine preventable diseases were the most frequently occurring implied solutions. Immunisation was promoted as a modern medical miracle, health professionals were portrayed as soldiers in the fight against killer diseases and urges to immunise were usually conveyed through the use of stern directives.

Understanding how immunisation messages are framed in the media and the core values to which those messages appeal highlights opportunities for media advocates to enhance desired messages and reframe those which are considered antipathetic to the goals of public health advocacy. © 2002 Elsevier Science Ltd. All rights reserved.

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Introduction

Despite the availability of safe and effective vaccines for major childhood diseases, vaccine preventable diseases continue to cause morbidity and mortality in Australia. During the period 1993–1998, there were 34,848 notifications and 9 deaths from pertussis. During that same period, 12,404 cases of measles were notified with 7 deaths from the disease (Communicable Disease Network, 2000).

In 1995, population data indicated that only 52 per cent of children under five years were fully vaccinated for their age (Australian Bureau of Statistics, 1995). The resulting public outcry formed the focus of much immunisation news coverage during the next three years. Recent data indicate that completed immunisation rates are closer to approximately 85 per cent (Communicable Disease Network, 2000). However, rates continue to fall short of the national target of 90 per cent (National Health and Medical Research Council, 1993). Scheduled vaccines are provided free to all Australian children. Doctors in a primary care practice make up 69 per cent of all providers with others including local council clinics, community health centres

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or Aboriginal health services (Australian Childhood Immunisation Register, 2000).

Reasons for sub-optimal immunisation rates are multifactorial and have been attributed to inadequate political commitment and poor coordination between different levels of government; problems with service provision; provider misconceptions about contraindications; difficulties with a complex and changing immunisation schedule; parental beliefs and misconceptions; and the 'busy lives' factor (Bazeley & Kemp, 1994). In recent years, a number of measures designed to improve vaccine coverage have been implemented in Australia including the provision of financial incentives for General Practitioners and measures to encourage parents to immunise their children. These have included the linking of vaccination status to maternity allowance and childcare benefits, a mailed reminder scheme and national media campaigns.

The news media at times can influence the process of parental decision making about immunisation. Mass shifts in public confidence have been attributed to immunisation controversies arising in the media, particularly in the UK (Mason & Donnelly, 2000; Griffith, 1981; Gangarosa et al., 1998). Conversely, studies of mass media campaigns to promote vaccination have also shown an effect (Macdonald & Roder, 1985; Paunio et al., 1991; Zimicki et al., 1994). Immunisation reportage in the news media are an important vehicle through which health workers can promote immunisation.

The Australian print media is characterised by one or two daily newspapers selling in each of the eight state and territory capital cities, plus a plethora of daily and weekly regional newspapers serving regional or rural areas. There is one relatively low selling national newspaper. In a population aged 15 and over of 15.13 million, readership of metropolitan newspapers in 2000 were: Monday–Friday: 48 per cent; Saturday 61 per cent; Sunday: 60 per cent (Asia Pacific Media Directory, 2001).

In the Australian press, controversies about the safety of vaccines arise sporadically and despite rhetoric to the contrary are uncommon proportional to positive or normative news coverage. Our previous study of 2440 press articles about immunisation indicated that the majority of news coverage is normative or promotional with only five percent being oppositional in nature. However, we have argued that it is not the quantity of coverage, but its qualitative nature which renders it newsworthy and memorable to the wider public and to health professionals concerned about its effect (Leask & Chapman, 1998).

How an issue is presented or framed creates appositions with wider social themes that transfer meaning across ostensibly different topics. For example, manifest anti-vaccination claims about vaccines being dangerous

and ineffective tend to be located under a canopy of more general newsworthy discourses about cover-up and conspiracy, manipulation by venal private enterprise interests, governments with totalitarian agenda and the back-to-nature idyll (Leask & Chapman, 1998). Themes like these can also be found in reportage of issues such as water fluoridation (Paul, 1961) and gun control (Chapman, 1998). Through these 'inter-textual' connections, readers can locate content within a wider constellation of themes providing a frame for understanding.

Similarly, media representation of spokespersons tends to conform to expected stereotypes (e.g.: caring doctors, poker-faced bureaucrats, impassioned whistleblowers, Galileo-like paradigm challenging scientists, to name but a few examples). This draws on the notion that such portrayals allow people to sort information into convenient categories. As Fowler (1991, p. 17) states:

A stereotype is a socially-constructed mental pigeon-hole into which events and individuals can be sorted, thereby making such events and individuals comprehensible.... They are categories which we project onto the world in order to make sense of it.

To the extent that spokespersons tend to be stereotyped, how one seeks to be presented and how they are presented may be two different things (see for example Brown, Chapman, & Lupton, 1996). Therefore, this analysis comes with the qualification that spokespersons may not intend or agree with their portrayals (although some are more adept at being cast by the media in their preferred roles). For public health workers wishing to promote immunisation, insight into the framing of news and how spokespersons are positioned can assist in the maintenance of frames which advance the goals of advocacy and illuminate how undesirable frames might be repositioned (Ryan, 1991; Menashe & Siegel, 1998; Chapman & Lupton, 1994). Hence, this paper sets out to describe the nature of pro-immunisation press coverage and ways in which health workers are positioned within this coverage. The approach will be via a content and framing analysis of all text and images. Discussion shall focus on implications for advocacy.

Methods

All Australian press reports on immunisation ($n = 3090$) were obtained from a media monitoring agency. The collection included articles from all Australia's metropolitan newspapers for the period November 1993 to July 1998. Articles from regional newspapers were also obtained for the period September 1993 until January 1996 when the organisation from which we received articles ceased this collection.

Due to the greater number of small circulation regional newspapers, the collection of articles contained a higher proportion of regional to metropolitan publications (70:30). To account for the larger readership and political importance of the latter, we used a stratified sample to evenly represent both categories. We also stratified for time periods to account for the sporadic nature of news coverage (Leask & Chapman, 1998). Drawing an equal number of articles from each three monthly time period would increase the chance of representing each new story rather than over-representing the one story intensely covered within a short time period such as urges for back to school immunisations.

We randomly selected 240 articles after the above stratification. This number was considered adequate to represent the entire sample but small enough to allow in depth analysis. From this, we excluded articles considered completely neutral (24) or oppositional (8) in nature, leaving 208 articles. Articles were considered neutral if they were purely informative with little rhetorical substance (e.g., newsbriefs informing readers of immunisation clinic times). Articles were considered oppositional when the main content related to anti-vaccination claims (e.g., letter to the editor from vaccination opponent).

A qualitative analysis of all articles was undertaken to distill the major themes arising out of pro-immunisation rhetoric. Techniques for analysis were adapted from the literature on framing and critical discourse analysis (Ryan, 1991; van Dijk, 1993). Discourse analysis of text is a process of identifying the ways in which language conveys meaning and alludes to wider issues.

All articles were read and reread in order to develop a coding framework which accounted for emerging patterns and themes. As themes emerged, we adopted techniques of frame analysis which accounts for how media reportage on an issue defines the problem, who is blamed and what solutions are proposed (Ryan, 1991). Each article was coded accordingly. This framework provided insights into common threads and interrelationships within the discourse but as coding proceeded, the structure was expanded to accommodate emerging patterns and acknowledge positioning of spokespersons. Once finalised, we reanalysed articles according to the following (Ryan, 1991):

- what is the problem?
- who is said to be responsible?
- what are the implied solutions?
- what devices (such as metaphors, visual images, rhetorical devices and stereotypical portrayals) are used to construct the themes?
- casting of spokespersons with respect to the themes and typical rhetoric styles.

Results: what is the problem?

Problem 1: diseases threaten

Panic language

In the articles, childhood immunisation was most commonly introduced in the context of disease threat. This representation occurred in 60 per cent of articles, many conveying headlines with dramatic language that could potentially incite a sense of alarm and panic in the reader. Such passages were characterised by adjectives such as ‘alarming’, ‘catastrophic’, ‘grave’, and nouns such as ‘death’, ‘violent’, ‘deformity’ and ‘epidemic’. The language implied a sense of general drama:

Goondiwindi parents have been warned against a strain of “killer measles” which is sweeping southern Queensland

(Article; metropolitan, 31 August 1994)

Diseases personified

The diseases were often referred to in the active voice, as if they were malevolent, purposive almost anthropomorphic entities akin to murderers. For example, a virus does not *seek and destroy* or *lurk* but such language constructs an intentionality that animates what might otherwise be described in drier, less engaging language. The active voice was used to paint images of diseases as threatening agents out to ‘attack’.

The horror diseases of yesterday are still lurking around

(Article; regional, 31 August 1994)

MUM’S WARNING: MEASLES CAN BE A SLEEPING KILLER

(Headline; metropolitan, 29 July 1994)

The spectre of disease threat included passages where language conveyed images of the diseases brutalising vulnerable children:

if nothing was done, Australians could again see babies being born deformed because of rubella, young men becoming sterile because of measles and one in 4000 unimmunised children dying of whooping cough, he said.

(Article; metropolitan, 10 April 1996)

Quantification rhetoric (Potter, Wetherell, & Chitty, 1991)

Twenty five percent of articles provided a paragraph or two listing data on disease morbidity and mortality. Sometimes, as in the example below, these tended to

focus on incidence in absolute numbers rather than rates.

Health Department statistics have shown the number of pertussis cases in Victoria rose from 71 in 1991 to 527 in 1993, and there were 481 cases in 1994. About 4000 cases of whooping cough were believed to have been reported in Australia last year.

(Article; regional, 29 April 1995)

Stories and their morals

Despite the power of personal testimony, only five per cent of articles contained personal accounts of parents whose children were affected by vaccine preventable diseases. Such ‘stories’ tended to be framed as lessons or moral tales of what can happen if a child is not immunised. This was either in the form of powerful testimonial accounts from parents whose children had died from vaccine preventable diseases or articles where the story or photograph of a child currently suffering from a disease implied a “this could be your child” lesson for all parents. Two of this latter group included photographs of listless babies hospitalized with measles or pertussis and attached to an array of tubing and monitors. Even the unusual account of a woman who contracted polio from her recently vaccinated child took the opportunity to conclude that all contacts should be vaccinated against the disease:

Dr. Michael Whitby said the case reinforced the need for polio vaccination. “If you are vaccinating your baby against polio it’s important to vaccinate anybody else in the household who hasn’t already been vaccinated”

(Article; metropolitan, 16 October 1995)

Lessons from history

Compared with stories of children now affected by vaccine preventable diseases, it was more common for readers to be provided with lessons of history in an effort to communicate the seriousness of diseases. This theme occurred in 12 per cent of articles. Such ‘tales of yesteryear’ mostly came from politicians, but editorials often harked back to the times when diseases were much more prevalent and visible in the community and vaccination was rarely questioned. In the following quote, one flamboyant celebrity doctor leaves the reader with the image of a prominent older Australian offering his wisdom.

Older people and some older doctors recall the terrible stories of yesteryear as these horrifying diseases killed or maimed our kids

(Article; metropolitan, 21 April, 1996)

Politicians were those most likely to be quoted as recalling past experience as is seen in this statement from the then Federal health minister who was reported in a number of publications as saying.

“We have been spoilt in a country like Australia,” Dr. Lawrence said. Many young parents have never come into contact with the terrible diseases such as polio and diphtheria that plagued children in Australia before effective vaccines were available

(Article; metropolitan, 12 May 1995)

As this example shows, invoking lessons from history draws on a veneration of a past when the value of vaccination was more appreciated, implicitly inviting the reader to place such spokespersons within a stereotype of the ‘older and wiser’ and rebuking the complacent ‘younger generation who don’t know how good they have it’.

Problem 2: vaccination rates are low

Quantification of low rates

The release of the Australian Bureau of Statistics 1995 National Childhood Immunisation Survey received widespread coverage. The report estimated full vaccination rates for children aged from three months to six years at 52 per cent (Australian Bureau of Statistics, 1995). The figure was based on children in all states being fully vaccinated on time against all diseases on the schedule. When the recently introduced Hib vaccine was included, the fully vaccinated rate dropped to 33.1 per cent. The choice of which statistic to quote was revealing as seen in this editorial which misinterpreted the latter figure.

The ABS puts it at only 52 per cent although this data is disputed by some medical authorities and may be as low as 30 per cent in some pockets of the nation and approaching 90 per cent in others, including metropolitan Melbourne

(Editorial; metropolitan, 21 April 1996)

In other instances, the figures were used to lament low immunisation rates and provide a platform from which various spokespersons’ opinions could be quoted on the cause and solutions for the problem. For example, federal health ministers would tend to be quoted in the context of rebuking other governments for their own lack of political commitment to immunisation. Medical experts and Australian Medical Association (AMA) representatives tended to quote the figure in the context of rebuking the neglect of parents, some calling for compulsory vaccination:

Dr. Segal attributed the low levels of immunisation to laziness. He recommended compulsory immunisa-

tion as the only way to ensure immunisation levels rose. (Article; metropolitan, 22 July 1995)

Who is to blame?

As indicated by the above, articles tended to flow from the statement of a problem to the allocation of responsibility for that problem. This question of blame for diseases and low vaccination rates was central to many articles. Five distinct categories emerged and included the nation as a whole, government, providers, parents, and the anti-immunisation lobby. As coding proceeded, the existence of not only the *blamed* but the *blamer* became evident. Medical spokespersons had the largest representation with their comments about blame occurring 65 times more than those of parents. Table 1 summarises these patterns.

The nation—Australia’s shame

During a 1997 national campaign to promote pertussis vaccination, television footage of an infant with the disease was alluded to in some headlines. For example:

“BABY BOY THE FACE OF A ‘NATIONAL SCANDAL’ This is a national scandal and a situation which does not need to happen in modern-day Australia.” he said

(Headline and quote, metropolitan, 29 July 1997)

The problem of low vaccination rates being a national disgrace arose in one quarter of articles and was most commonly embedded within the statement that Australia’s vaccination rates were lower than those of many impoverished Third World countries—a statement which received extensive national coverage:

For a country that once pioneered the development of vaccines and led the fight for the global eradication of smallpox, Australia’s immunisation record is now a disgrace. These figures place Australia behind not only most industrial nations but Third World countries such as Vietnam, China and Cuba, which have achieved up to 95 per cent.

(Opinion piece; national, 29 January 1997)

The popularity of this statement was further indicated by its reappearance in articles over a three-year period. It subtextually referenced concepts of racial hierarchy and a notion of alleged threat by contradicting expectations that essential indicators like immunisation always exceed rates in developing countries which, in popular discourse, are portrayed as sources of ‘exotic’, ‘rampant’, ‘alien’ and hence poorly controlled infectious disease (Tomes, 2000).

Australia was also compared to the US which was usually venerated as the gold standard. For example, despite the USA experiencing controversies about the safety of vaccination which have at times, flared up quite considerably in the media (Gonzalez, 1982; Freed, 1996), one Australian immunisation expert was quoted as saying:

“It’s not a debate I’ve seen going on anywhere else” he said. “It hasn’t been going on in the US. People accept that their children should be vaccinated”

(Article, metropolitan, 31 January 1997)

In lamenting low rates as a collective and national problem, reference to children often involved the collective pronoun, “our”, implying social rather than individual ownership:

It is a fact that many zoo animals at risk such as the red panda, cats and elephants still have better rates of immunisation that **our** children. (emphasis added)

(Article; regional, 27 January 1995)

Table 1
Who is blamed for low vaccination rates?

	Blamed Factor implicated in responsibility (number of instances)					
	Nation	Government	Providers	Parents	Anti-vaccination lobby	Total
Blamer ^a						
Politicians	10	7	0	11	2	30
Doctors	18	12	3	25	7	65
Other health workers	1	1	0	4	1	7
Parents	0	1	0	0	0	1
Journalists	2	4	5	7	2	20
Total	31	25	8	47	12	123

^aNews actor represented as apportioning responsibility.

Government

The issue of low vaccination rates reflecting a lack of government coordination, funding commitment, inadequate service provision and vaccine cost was mentioned in 20 per cent of articles. When federal politicians referred to government responsibility, it was always to apportion blame to lack of state or previous federal government commitment. For some articles, the entire context for introducing immunisation was a conflict between state and federal governments over who was responsible for the problem.

GOVERNMENTS BLAMED FOR MEASLES-RELATED DEATHS IN QLD.... Dr. Lawrence (then Federal Health Minister) said the States were at fault, guilty of a ‘decade of neglect’ in their immunisation policy

(Newsbrief; metropolitan, 25 May 1994)

Medical spokespersons were the next group most commonly quoted as charging the government with a degree of responsibility:

He described the Government’s failure to fund the national immunisation strategy in the May budget as “inexplicable” and said vaccines should be made accessible to all Australians regardless of financial or geographical restrictions.

(Article; national, 14 September 1994)

Providers

Providers were the group least likely to be apportioned any responsibility for low immunisation rates with only four per cent of articles referring to such factors. This generally came from nonspecific reportage and medical experts. In only two of these articles did provider factors form the focus of the report.

SYDNEY—Complacency about the rubella virus by the community and some doctors could have contributed to an alarming increase in reported cases. “People, including doctors, think there is not much measles around at the moment, why bother (with vaccinating),” he said

(Article; regional, 13 September 1995)

Parents

In contrast, parents received the greatest blame for diseases and low immunisation rates. This was commonly in the form of castigatory language issued via statements from politicians or medical spokespersons. The comment on low rates was the most common

platform from which the accusations of parental complacency and laziness were launched:

‘CHILD ABUSE’ NOT TO IMMUNISE: Failing to get children vaccinated is akin to child abuse, according to one of Australia’s experts on immunisation.

(Headline and lead; metropolitan, 14 June 1994)

The most common medical spokespersons to be positioned as blaming parents were representatives of the AMA, Australia’s powerful doctors’ union.

Queensland faced a public health disaster because parents were failing to fully vaccinate their children, the Australian Medical Association warned yesterday

(Article; metropolitan, 25 May 1995)

However, it was editorials and statements attributed to politicians which carried the strongest castigatory language.

The threat of a national epidemic of measles underlines the selfishness of those who do not immunise their children

(Editorial; metropolitan, 21 May 1997)

Dr. Lawrence said complacency by parents, who wrongly thought vaccine preventable diseases no longer existed, was killing children (Article, metropolitan, 2 October 1994)

If an article was primarily about an immediate threat of disease such as a local whooping cough outbreak, castigatory remarks tended to be replaced by urges or pleas for children to be immunised.

Anti-vaccination lobbyists

Relatively, few articles contained statements blaming the anti-vaccination movement for the low rates.

The risk of children catching whooping cough has risen as a result of a recent ‘anti immunisation’ movement.

(Article; regional, 7 September 1995)

Individual shame and collective pride

Although parents were the most popular agents of blame for low immunisation rates, articles which focussed on improved rates never attributed this to the individual efforts of parents in the region but to better service provision, new regulatory structures or the dedication of local health professionals as is seen in the following example:

I think Croydon's high immunisation rate can be attributed to the maternal and child health nurses and their diligence in making sure mothers know about having their child immunised.

(Article; metropolitan, 14 September 1994)

Such apparent contradictions are mirrored more widely in the medical literature where research on determinants of low coverage often concentrates on demographic and attitudinal variables measured within individuals whilst systematic reviews of improving vaccine coverage indicate that structural factors such as improving service delivery are strongly predictive of high coverage (Shefer et al., 1999).

The proposed solutions

Immunisation—the modern medical miracle

From the frames of disease threat and irresponsible parents, most articles concluded with a proposal for solutions. Alternatively, where the main focus of an article was on measures to improve immunisation rates, articles typically invoked disease threat and irresponsible parenting in their conclusions. Solutions to the problem of vaccine preventable diseases tended to convey immunisation as the stereotyped 'modern medical miracle' using language which carried through the sense of drama that was initiated in the rhetoric about diseases.

IMMUNISATION—THE 20TH CENTURY LIFESAVER: More babies and small children have been saved from death and illness through immunisation than through any other medical strategy this century.

(Headline and lead; regional, 28 October 1994)

Immunisation is the most important weapon in the fight against infectious diseases.

(Opinion piece; metropolitan, 1 August 1997)

Military metaphor

As in the above example, military metaphors were liberally used. Health professionals, for example, were portrayed as gallant soldiers fighting a war against 'killer' diseases.

World experts here for measles battle: An international team will lead a vaccination program to head off an expected measles epidemic from New Zealand

(Headline and lead; metropolitan, 4 September 1997)

The following passage evoked an image of an army of nurses marching on schools:

Nurses will visit 7000 primary schools in a campaign to stamp out the diseases and head off an epidemic

(Article; metropolitan, 10 July 1998)

Stern directives

Directives for parents to immunise their children issued from doctors were very common and often provided short headline grabs, particularly in rural articles.

DOCTORS SAY IMMUNISE

(Headline; regional, 2 March 1994)

Threats and pleas

Almost as a last desperate measure, the threat of reduced performance at school was held up as yet another consequence of failure to immunise.

If there are a lot of cases then they could be absent from school for a long time and that can only do harm to their academic performance.

(Article; regional, 14 September 1995)

The word 'plea' was noted in six headlines as if to imply that health authorities were almost desperate for the public to take preventive action.

PLEA ON CHILD JABS

(Headline; metropolitan, 31 January 1997)

Compulsory vaccination

Throughout the entire sample period, some representatives of the AMA would continue to urge for compulsory vaccination, stating that this was the most effective way to ensure that children were immunised. One letter written by a non-medical academic advocated compulsory vaccination using very strong castigatory language:

Obligatory vaccination is the only way the rest of us will be protected from the non-immunised ignorant, apathetic, complacent and pigheaded, who are a drain on the rest of society when they themselves are unnecessarily sick or a source of infection of the innocent. Infanticide with a blunt instrument is illegal

in this country, but not, it seems, by infection with a largely preventable disease such as whooping cough.

(Letter to the editor, national broadsheet, 25 January 1997)

The provision of information

Extensive listings of factual information about the diseases and vaccines characterised 15 per cent of rural and 6 per cent of metropolitan articles, some of the former reproducing the entire vaccine schedule in a text box, usually accompanied by a characteristic symbol such as a syringe or a teddy bear. In 1994, the announcement of an immunisation information package was framed as a way to address the low rates problem:

Parents and doctors will have access to a new information kit aimed at boosting Australia's poor immunisation record.

(Article; metropolitan, November 3 1994)

Examples of desired action

Photographs of babies and children being vaccinated served to reinforce immunisation as a social norm and symbol of a desired parental action. Sometimes this was reinforced in the accompanying text. For example, one photograph of a baby being immunised carried the accompanying lead sentence:

When Montrose mother Petra Moore gave birth to her second child Kirk 13 weeks ago immunisation was not an issue. "I always knew I'd have my children immunised. It is not something I would not think of doing"

(Article; regional, 7 March 1995)

Community benefit

The notion of immunisation benefitting society as well as the individual was introduced in 18 per cent of the articles mostly by immunisation experts, government health officials and editors. Community benefit was advanced in three different ways: firstly, in reference to vaccines conferring population protection limiting the opportunity for diseases to thrive; secondly, vaccination protecting others who were more vulnerable to the deleterious effects of the diseases and thirdly, for the benefit of future generations:

Australians of this generation owe it to Australians of the next to play their part

(Editorial; metropolitan, 21 April 1996)

However, such text was given little prominence usually being mentioned at the end of an article.

Spokesperson representation

Table 2 summarises the proportional representation of all spokespersons referred to, or quoted in articles. Those most commonly referenced were members of the medical profession who received 64.5 per cent of total representation. Other health workers such as nurses received little relative prominence. Lay representation was also at a minimum with parents referred to in only 4.3 per cent of articles and often via photographs. The proportion of male to female spokesperson representation was 7:3, a similar finding to that of Lupton (Lupton, 1995).

Anti- versus pro-vaccination positioning

The positioning of proponents and opponents of vaccination is summarised in Table 3. In vaccination reportage, we see discourses about threat from infectious diseases in competition with the appeal to alternative pathways of disease prevention. Parents are pitted

Table 2
Spokespersons quoted or referred to in articles by professional grouping^a

	<i>n</i>	%
<i>Medical spokespersons</i>		
Health official	47	16.7
Politician	33	11.6
Expert doctor	31	11.0
AMA representative	21	7.4
Paediatrician	20	7.1
Local doctor	11	3.9
Public health worker	7	2.5
Division of general practice representative	6	2.1
Celebrity doctor	5	1.8
Anti-immunisation proponent	1	0.4
Subtotal	182	64.5
<i>Non-medical Spokespersons</i>		
Politician	20	7.1
Public health worker	16	5.7
Council worker	14	5.0
Parent	12	4.3
Other health worker	11	3.9
Researcher	10	3.5
Anti-immunisation proponent	8	2.8
Other	6	2.1
Celebrity	3	1.1
Subtotal	100	35.5
Total	282	100.0

^a Each article was coded for up to four spokespersons.

Table 3
Framing both sides of the vaccination debate Adapted from Carey, Chapman, and Gaffney (1994)

Area of argument	Pro-immunisation frame	Anti-immunisation frame (From Leask & Chapman, 1998)
Who are we?	Experts concerned about diseases Grave authorities issuing stiff rebukes	Intrepid truth seekers Friends to parents Advocates of informed choice Parents with first hand experience
Who are they?	Mischief makers Well intentioned but misguided	Doctors unable to admit folly Governments with a totalitarian agenda Faceless, grasping pharmaceutical industry
Views about diseases	Threat to health	Prevented by measures such as good diet, fresh air, exercise Not as serious as we are led to believe
Views about vaccines	Modern medical miracles Safe and effective Necessary for all	Erode the immune system Cause all manner of idiopathic ills Toxic chemical cocktails
Explanation for low rates	Parental complacency and apathy Lack of service coordination Lack of government commitment	Parents are becoming more informed about their children’s health and not just accepting the status quo
Solution to low rates	Parents just need the facts Castigate, plead Compulsory vaccination	

against authorities with stereotypes of caring nurture embodied in the mother contrasted with the cold hard face of science embodied in the (usually male) clinician. Reportage tends to simplify a continuum of positions polarising them into the choice between science and nurturing; intervention and nature. In a loss of complexity, the possibility for compromise or a coexistence of approaches is not presented.

Discussion

With knowledge of how the promotion of immunisation is framed in the news media, the question for advocates centres around whether this is conducive to a desired public response. Whilst there is no apparent published research into audience reception of mass media news coverage about immunisation, the literature on risk communication, decision theory and message framing provides some insights. A workshop on vaccine risk communication in the US considered input from consumers and researchers. It concluded that promotion of vaccination should come from credible sources, avoid paternalism, be personally relevant, account for how information is framed, address concerns about vaccine safety, avoid threats of mandatory vaccination and avoid using the issue as a political device (Evans, Bostrom, Johnson, Fisher, & Stoto, 1997). This discussion shall link our results to these recommendations and

a wider body of literature to make tentative suggestions for public health advocates.

Disease threat

The stereotypical threat of disease conveyed through their portrayal as active agents, is not new and examples pepper historical discourse (Hecker, 1844; Edwards, 1902) (Tomes, 2000). Rosenberg (1989, p. 5), discussing the development of science’s understanding of illness states “Once articulated and accepted, disease entities became ‘actors’ in a complex social situation”. Since infectious diseases are invisible and thus conceptually abstract, their portrayal as active agents threatening to attack a vulnerable public allows them to be mobilized by the imagination. When infectious diseases are described in such terms, military metaphors almost always accompany. Sociologists have attempted to draw meaning from such prominent use in medical discourse. Lupton (1994, p. 65) draws on Martin’s (1990) work, stating that:

military metaphors serve to draw boundaries between Self and Other by representing the body as a nation state which is vulnerable to attacks by foreign invaders, invoking and resolving anxieties to do with xenophobia, invasion, control and contamination.

In discussing the implications of military metaphors, Sontag argues that their abuse, seen increasingly since World War 1, is inevitable in capitalist societies where ethical principle alone cannot legitimate action. Capitalist society, Sontag contends, “increasingly restricts the scope and credibility of appeals to ethical principle”. Hence, only a *war* on disease, cancer or drugs can legitimise the no-expense-spared actions seen because war “is defined as an emergency in which no sacrifice is excessive” (Sontag, 1991, p. 97).

Indeed, the power of dramatic disease portrayals has been demonstrated when mass hysteria about disease outbreak spurred on by overly dramatic media reporting has caused unnecessary public anxiety, inappropriate political response and inequitable allocation of resources (Hume, 1992). Conversely, writers with a social marketing perspective have argued that in some circumstances tapping into the public’s fear of potentially uncontrollable and invading organisms has been used to spur politicians to allocating needed resources to an issue and the public into taking necessary preventive action (Siegel & Doner, 1998). Recent successful immunisation campaigns in Australia have used appeals to fear to address complacency about measles and whooping cough (Carroll, 1999). Such measures have been supported by studies demonstrating that low measles vaccination rates in particular are connected with perception that the virus is innocuous (Bond & Nolan, 1998). The use of fear appeals has been subject to considerable debate in the public health literature and those considering their use should refer to existing guidelines (Hale & Dillard, 1995; Witte, 1994; National Research Council, 1989).

Quantification rhetoric

Not only emotive appeals to fear were present in articles. Statistics about disease incidence and mortality were a common way to convey disease threat. Quantification rhetoric is a feature of medical reporting and has been defined as “the manner in which numerical and non-numerical quantity formulations are deployed when proposing and undermining argumentative cases.” (Potter et al., 1991, p. 333). Quantified information does not exist as an entity devoid of any potential for subjectivity. There are always choices in the ways data are presented which reflect the intended message. For example, in developed countries, it is rare to see child deaths presented as percentages of total population because child mortality from infectious diseases is now proportionately small. In the articles, mortality was usually presented in absolute terms to convey that our society accepts no deaths from a disease for which immunisation is available. Despite this potential for framing, quantifying risks is important because more subjective estimates such as “high” or “low” are subject to greater range of interpretation (Nakao & Axelrod,

1983). Straight factual information was also seen in a significant proportion of articles. A paediatrician, attempting to refute the claims of an anti-vaccination campaigner, epitomised assumptions about the salve of statistics by stating that the opponents’ claims: “were not backed up by cold hard facts”. (Article, regional, 20 October 1995). Such tendencies reflect an assumption commonly found in the medical literature that if ambivalent parents are simply given the facts about immunisation, they would be prompted to immunise their children. Whilst important, a substantial body of knowledge indicates that communicating risks and benefits of vaccines relies on an acknowledgement of underlying social, emotional, spiritual and psychological factors impinging on the decision-making process (Evans et al., 1997).

In view of the media’s propensity for personal stories, accounts of children suffering from vaccine preventable diseases were surprisingly infrequent. This under-use contrasts with their liberal use in negative press coverage about vaccination (Leask & Chapman, 1998). Supply likely determined such differences where negative articles about vaccination often result from the concerted efforts of parent lobby groups who readily provide journalists with stories of their own children whom they claim to be vaccine injured. By contrast, health professionals who tend to initiate, and are sought as spokespersons for positive articles, are trained to be objective and impassive in presenting information. We would argue that in conveying the seriousness of disease it is legitimate to use also the stories and the images of children affected by diseases to symbolise the weight of disease risk against vaccine risk. This is much more memorable than quantification of case and mortality incidence *alone* because it puts a personal face to the figures. As the public receives less exposure to the once very visible effects of vaccine preventable disease (such as children in leg braces from polio), the media will play an increasingly important role in jogging the collective memory. Personal stories may come in two forms: the story of a child has been affected by a vaccine preventable disease or the testimony from health professionals who have cared for those affected. The latter might be adopted by health professionals wanting to avoid being depersonalised by anti-vaccination lobbyists who seek to mobilize an ‘us versus them’ frame (Leask & Chapman, 1998).

Responsibility

Blame

Our analysis found that parents were the group most likely to be blamed for low immunisation rates and disease incidence. Tendency of the press to focus on individual responsibility is contextual. Firstly, it relates

to the functions of the media where conveying dry information on bureaucratic mechanisms which influence low rates is difficult when the selection of news is pressured by limitations on space, time and editorial demands for memorable soundbites. Simple messages which imply a clear problem and focus on a single agent of blame lend themselves to reporting, particularly in a society grounded in individualism. Secondly, we see here the universal tendency for politicians to deflect attention from inadequate service delivery, whether real or perceived, to individual responsibility.

A preference for individual attribution of responsibility has been demonstrated by other media researchers who have shown that news stories tend to frame problems as being a result of human error rather than wider social structures (Iyengar, 1991; Wallack, Dorfman, Jernigan, & Themba, 1993). For the vaccination issue, the portrayal of parents as the primary cause of the problem conflicts with research identifying a myriad of factors including poor government coordination, inadequate service provision, provider misconceptions and lack of opportunistic vaccination (Bazeley & Kemp, 1994). Whilst these factors find their confluence with the individual parent who is ultimately responsible for their child's vaccination, excessive focus on parental 'laziness' and 'complacency' is perhaps unfair when the problem is multifactorial and complex. In recent years, efforts to address suboptimal immunisation rates in Australia have demonstrated the need for comprehensive approaches to addressing both individual and environmental determinants.

Lamenting low rates

The lamenting of Australia's allegedly low vaccination rates also raises the more general question of whether disseminating such information is conducive to public action. Meszaros et al. in their research on cognitive processes influencing vaccination decisions identified a number of possible strategies including the suggestion that publishing downward trends might discourage 'free riding'—parents who rely on others being vaccinated (Meszaros et al., 1996). In contrast, however, research by Hershey, Asch, Thumasathit, Meszaros, and Waters (1994) identified the "band-wagoning" factor where decisions to vaccinate were affected by news of whether others were vaccinating their children. They cautiously concluded that "public health programs to increase vaccine usage should stress high vaccination rates" (Hershey et al., 1994, p. 177). With this in mind, further research to investigate parental response to reports of both low and high vaccination rates would be instructive.

The solutions

Urges to action

In terms of promoting immunisation, medical spokespersons received privileged voice and the Australian Medical Association were well represented on the issue. These findings support those of Lupton and McLean who studied 5157 Australian press items about the medical profession and found that doctors represented 55 per cent of news sources with lay sources representing just 6 per cent (Lupton & Mclean, 1998). In view of medicine's high standing in the community, (Australian Public Opinion Polls, 1986), and the importance of doctors as a source of immunisation information (Gellin, Mailbach, & Marcuse, 2000), urges to immunise should continue to come from doctors but it would be advantageous to have a wider coalition of voices supporting the practice, including parents and older infant health nurses, particularly for those parents who are skeptical of advice from doctors.

Advancing community benefit

Public health advocates have long relied on public knowledge of the seriousness of diseases to convey the need for vaccination. But as the risks of disease become less evident and vaccine risk receives greater relative prominence, public health advocates will need to rethink the way they frame vaccine benefit as an individual phenomenon and find ways to communicate societal benefit.

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