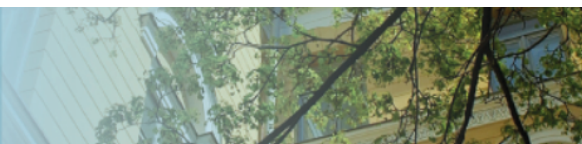


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Social Amplification of Risk: News Media and the Emergence of a “Cancer Cluster” Narrative in Australia

1. Introduction

*Metaphor is a ladder that science aims to kick away.*¹

News and other media reporting of perceived cancer clusters located in workplaces has reached unprecedented levels in Australia in the last two years. Sensational media reporting linked radiofrequency radiation with a perceived cancer cluster in a university high rise building in May 2006. News media reported the investigation of a further thirteen workplace based perceived cancer clusters in different parts of Australia over the two year period to June 2008. The broad ranging effects and impacts of these events generated intense media and public interest and discussion. Comprehensive environmental testing failed to reveal a cause. The first of these investigations to meet the epidemiological definition of a true cluster was a cluster of breast cancer that affected mainly news presenters located within a regional studio of a national media organisation the Australian Broadcasting Corporation (ABC). Privileged news and other media coverage of this cluster event were sustained for more than a year.

The results of costly epidemiological and scientific investigations of perceived cancer clusters rarely satisfy community concerns, highlighting the discrepancies between

the concerns, perceptions and language of risk of scientists and the public. Many public health authorities are reluctant to enter into what they believe will be a costly and unproductive investigation, and risk assessment and communication efforts lack a common terminology used to discriminate between types of cancer cluster.

Risk experts formally evaluate risk by determining the probability and likely magnitude of harm according to scientifically established criteria. The layperson is more interested in the meaning of the risk event to everyday life, thinking of risk as an experience to be perceived, considered and managed. Because we tend to construct understandings of health and disease by interpreting information from media and other sources through the filter of our own experiences and social beliefs, we may therefore interpret threats to physical and social space and values as risk, even in the absence of any scientific evidence of the likelihood of harm.² For Siegrist,³ the lay person's view of cancer cluster is not formed in the absence of knowledge, but rather resembles a narrative, an expression of human thought and imagination that is constructed through social processes and expressed in language that is the result of cognitive, affective and social processes. The images, ideas, and metaphors contained in the risk narrative all convey knowledge and values.

2. Language, Metaphor and Science

Metaphorical models and the imagination are fundamental to linking meaning to experience, understanding knowledge, and solving problems. Metaphor makes it possible to understand one type of experience by means of another by mapping the structures from one perceptual domain to another, and promotes understanding by adding clarity and depth of meaning to a complex issue by anchoring perceptions of

new science and technology in available images and beliefs.⁴ Narrative stimulates the imagination through the power of words and the worlds it reveals, and knowledge is formed in relation to our understanding. Science needs language for communicating abstract scientific ideas. Metaphorical language combines both understanding and imagination, provides a means of communicating new knowledge, and instigates the process of creative thinking. Metaphor facilitates the communication process by describing the unknown by means of the known experience, making the unfamiliar more familiar.⁵ Metaphor allows us to think about abstract matters, acting as a bridge between medical science and the imagination, connecting objective and subjective worlds (for example the “cascade” metaphor is commonly used to explain complex biological processes).⁶ However science often seeks to deny metaphor as it seeks maintain objectivity and a neutral stance.⁷

3. Narratives, Images and Metaphors of Risk

As part of a broader study, we sought to better understand how and why a “cascade” of perceived cancer clusters has been reported in Australia at this time. In this paper we explore the use of imagery and metaphor in the development of a particular media narrative of “cancer cluster” and discuss the value of figurative language in bridging the gap between science and the public.

This paper draws primarily on news media and interview texts and other materials collated for a series of case studies of perceived workplace-based cancer clusters investigated over a two year period in Australia. We examined the role of culture in the phenomenon of apparent cancer clusters through an empirical application of the Social Amplification of Risk Framework (SARF).⁸ Our interpretations were

informed by psychometric, social and cultural theories of risk. SARF acknowledges both that people evaluate risk through a filter of social and political values that are unique to each context, time and place, and also that media is important amongst the societal institutions that amplify or attenuate ideas of risk in Western societies.

Amongst the results of our case study media analyses we identified changes in the pattern of reporting of cancer cluster stories over time. In order to further understand how media representations may have influenced public understandings of cancer clustering we conducted both quantitative and qualitative analyses on content from a news media search from all Australian news sources in the *NewsBank* news media database using the search term “cancer cluster”. The use of the specific term “cancer cluster” in news reporting has increased dramatically in Australia in the last seven years. In the five years June 2001 – May 2006, our search retrieved 26 articles, compared with 230 articles in the 18 months from June 2006 – December 2007, and 50 articles in the six months period January – June 2008. The term was rarely used in media reporting of the first of the cluster investigations in Melbourne in 2006, however in the reporting of the ABC breast cancer cluster in July 2006 the term “cancer cluster” was used widely, and this trend has continued in the reporting of more recent cluster claims and investigations. We found metaphors of cancer and risk occurring as small sections of text, as recurring themes, and embedded across a story and series of stories. As the use of the term cancer cluster increased over time, the use of structural and ontological metaphors decreased. As managers and public health authorities responded more quickly to claims of clusters with more timely, independent and participatory forms of investigation, new media templates were formed. These templates were less likely to focus on blame and responsibility, and

more likely to report the progress of investigations in terms of the expectations of those people affected.

Claims of cancer clustering may be a response to threats to physical, geographical and social space, and to related values (ie. stigma). In our analysis, perceived cancer clusters were commonly defined by place and location, and print media reporting of the events was most frequent in those cities where an investigation was current. In all instances affected citizens demanded both studies of the cancer cases and comprehensive environmental testing to eliminate the possibility that the physical workplace environment was to blame.

Metaphors of risk are bounded by time; they appear and disappear according to context. By layering media and interview texts and other contextual materials across a timeline and interpreting them with reference to SARF, we identified a critical point in time when the new narrative of “cancer cluster” began to take shape, when lay meanings of cancer cluster began to be given more weight and substance by expert opinion. That social shift occurred at the same time that a ‘true cluster’ of breast cancer was confirmed within the ABC workplace.

Print media in particular developed a cancer cluster narrative through the use of imagery and anchoring mechanisms, established and new metaphors, and the telling of personal and group stories. Established imagery and metaphors of cancer were evident in both journalistic texts and in quoted narratives, and metaphors were used in conjunction with potent photographic images. The women themselves labelled a particular desk environment at the ABC studios “the cancer desk” (“*ABC cancer desk*

fear". The Sunday Times, Perth. December 24 2006). Rooftop telecommunications towers loomed ominously over a city building plagued by brain tumours ("*Phone tower cancer fears; RMIT closes its business school after five found with brain tumours*". The Age, 12 May 2006). Cluster "victims" "battled" and "fought" with cancer, management and public health authorities, to be heard, and to be believed ("*Gallery begins second study of building cancer links*". Canberra Times 24 August 2006). The metaphorical model of 'cancer cluster' seems to consist of two opposing images; cancer as something that diminishes the individual, and clustering as something that adds power to the group. When used together, the term "cancer cluster" was often associated with a binding together (solidarity) of people bound in time and place by a common problem. Print media often reported clusters in association with disrupted relationships between those affected and their management, their colleagues and the physical space in which they worked, the building became the organisation. The use of imagery and metaphor was most noticeable in print media reporting of the ABC risk story. News print media images captured the dramatic moment when all ABC staff walked from the building that was blamed for the perceived cluster, the signs of all pervading technology on the building, and the solidarity of the women as they posed for the media before that (now abandoned) building.

Risk narratives are adopted in order to make sense of the complexities of life, to interpret events and construct meaning. The public telling of personal stories offers an opportunity for everyone to relate to the uncertainties contained within the risk stories. The ABC gave privileged coverage in radio and television news and current affairs programs to the events as they unfolded within their own workplace, the

newsreaders themselves became the news. The ABC documentary series “Australian Story” focuses on the very personal stories of ordinary Australians caught up in extraordinary events. Two hour-long episodes were dedicated to the ABC risk story, and extended interview videos and transcripts reflecting the views of those affected and experts were posted on the program website. Personal stories were often absent from a number of earlier print media accounts of cancer cluster stories, however, journalists do try to include these accounts when they can.

A personal story, in any media, it humanises an issue and you can relate to, I can see what this person is going through, I’m more likely to relate to it. I mean some figures about death tolls on the road don’t make much difference, human stories can.

(Print media journalist, key informant interview 2007)

One reason that the ABC story received such interest may be because it occurred amongst women of minor celebrity status; familiar faces that appeared nightly on the state’s television screens. The occurrence of a cancer cluster narrative amongst minor celebrities not only adds news value through a novel twist in the risk story, it also allows us all to share the story (narrative) as we do the lives of celebrities, and to feel its impacts more closely:

But that also happens, you know, a footballer has depression and talks about it publicly, suddenly that person helps to raise awareness (normalises it) because it basically means that it could happen to anybody, that a so called celebrity is not immune and this thing affects so many people.

(Print media journalist key informant interview 2007).

There is a lot of social learning that comes out of discussing celebrities. This gossip is a form of social cement and a way of rehearsing social attitudes. People always frame the story in terms of their own social scenario. We desperately want celebrities to be just like us, and that they are is immensely consoling. There is definitely the recognition that we are all trying to find love and find happiness and it is a struggle.

(*"She should be so lucky"*, The Age, 10 Feb 2007).

4. Metaphors as Anchors

When individual risk stories are brought together they may shape a collective meaning. "*Oriental*" metaphors have a spatial orientation and are rooted in physical and cultural experience.⁹ This form of metaphor was given extraordinary power when it was anchored in powerful images from the past. Shocking and controversial television advertisements aired in Australia in the 1980s depicted innocent people as ten pins bowled over with HIV/AIDS by the dark spectre of the Grim Reaper. ABC news presenters expressed their feelings of lack of control as they recalled these images for a science television program:

It was like going ten pin bowling and seeing all of those pins being knocked down”...“We really did just feel like we were being picked off one by one and we were looking around thinking who’s going to be next?

(*Cancer Clusters*, Catalyst, Australian Broadcasting Corporation, October 11 2007).

Narratives and metaphorical models can act as a bridge to link the unknown present to the known past. The public narrative of cancer cluster is risk story that “contains” context and a reference to history. Print media consistently used metaphor to anchor past and current risk narratives and to link new claims to previous and ongoing cancer cluster claims. References to previously hidden hazards currently being widely discussed in Australia were found in both print and Internet media and key informant interview texts:

Mobile phones and towers are just the latest scandal in a long line of modern corporate health scandals...how long did James Hardie deny asbestos was killing people?

(Anonymous blog - Melbourne Independent Media Center May 13 2006).

Mobiles are like passive smoking – they seep into every part of our lives whether we like it or not.

(“*Ringling in the bad with the good*”. The Age July 9 2006).

5. Social Amplification of Risk

News media interpret events and construct meaning through narrative. Sometimes this is done in a detached way, using alternative narratives, blending them together, and acknowledging that there are many truths. At other times events are sensationalised to meet news values. The SARF emphasis on sequence and consequence provided a useful framework through which to study the images and metaphors associated with the newly defined narrative of cancer cluster. By reflecting the risk issue as one based on social interaction, SARF made transparent the role of the media in that part of the risk that concerns the public, the interpretation of the social meaning of the events.

Holton suggests that “the scientific imagination dreams of explanations and laws”.¹⁰ The language of science expresses the values of scientific research by its emphasis on rationality, objectivity, the impersonal, and the impartial. But the scientific imagination may hold more expansive values such as the excitement of discovery, the promise of a better future for humankind through technology. The narrative of cancer cluster for epidemiology aims to be objective and free of contextual bias, and is communicated in formal reports and case studies. Our SARF analyses revealed how, in their reporting of perceived health risk events that were bounded by place, news media acknowledged and responded to the search for causes, explanations and laws by epidemiologists, and also to the search for meaning amongst the impacts and consequences by the public. The new cancer cluster narrative that we have described challenges the assumptions of current risk communication strategies because it places less importance on scientific values and protocols and focuses more on the historical and social contexts of health risk related events. Moreover, the narrative recognises that in addition to the possibility of lifestyle and environmental causes of cancer, the

workplace “contains” values and emotions that are connected to the overlapping contexts of work, family and leisure attachments.

The development of a new and meaningful cancer cluster narrative in Australia may have contributed to a reduction in uncertainty, an increase in trust, and set the scene for both public and private action. For Mairal,¹¹ a risk narrative is told in order to demand data, is given substance by expert data, but will continue to be told anew if the data fails to meet the notion of risk demonstrated by the narrative. The women at the ABC declined to cooperate fully with an initial investigation of breast cancer in 2005 because they believed it was biased. Our interpretation of news print media reporting showed that more recent cancer cluster investigations and associated risk communication are more respectful, comprehensive, transparent and inclusive in their processes that has been the case in the past. New metaphors have the power to create a new reality, to reorient our view of reality by highlighting some features and not others, and to create the possibility of new ways of thinking and taking action.¹² The development of a cancer cluster narrative may have allowed the unknown and mysterious phenomenon to be named, to be recognised as a valid experience, quantified, acted upon and eventually understood. Media select metaphors to meet their current media frame and news values. By maintaining and supporting, and perhaps encouraging public disquiet about cancer cluster investigation through the consistent use of public rather than scientific definitions of cancer cluster, the media in this case helped create the possibility of a new way of investigation.

6. Conclusion

Modern methods of communication and a loosening of the grip of the grand narratives of biomedical science and technology as demonstrated in the notion of the Risk Society^{13 14} may have forced science to demonstrate relevance.¹⁵ The arrival of the Internet and changing knowledge systems may have allowed a space for personal narratives and lay epidemiology to thrive as the narratives of illness have been re-defined in metaphor.¹⁶ Metaphor can link scientific discourse with social and cultural change and the associated meanings, values, and ideological interests.¹⁷ What we may be witnessing in Australia is a process by which lay knowledges and understandings about cancer are transferred to science through an exchange of meanings that is mediated in part by the mass media.

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