Dynamics of an effective risk communication campaign for Influenza A (H1N1)

L. Gray
C. MacDonald
D.M. Johnston
C. Cunningham
B. Mackie
D. Paton
S. Johal
J. Wenn, M. Baker

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L. Gray, University of Otago, PO Box 7343, Wellington South 6242
B. Mackie, University of Tasmania, Locker Bay 1342, Launceston, Tasmania 7250, Australia
C. MacDonald, Massey University, PO Box 756, Wellington
D. Paton, University of Tasmania, Locker Bay 1342, Launceston, Tasmania 7250, Australia
D. M. Johnston, GNS Science, PO Box 30368, Lower Hutt
S. Johal, Massey University, PO Box 756, Wellington
C. Cunningham, Massey University, PO Box 756, Wellington
J. Wenn, Massey University, PO Box 756, Wellington
M. Baker, University of Otago, PO Box 7343, Wellington South 6242

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CONTENTS

ABSTRACT

This research is part of an Influenza A (H1N1) Rapid Response Research Initiative launched in partnership with the Health Research Council of New Zealand (HRC) and the Ministry of Health in order to support research that aims to inform and advance understanding of the Influenza A (H1N1) 2009 and subsequent pandemics.

The primary objective of the study was to rapidly provide health authorities with practical information to guide the development and delivery of key health messages for H1N1 and other health campaigns. The study collected qualitative information about community responses to key health messages in the 2009 and 2010 H1N1 campaigns, the impact of messages on behavioural change and the differential impact on vulnerable groups.

Eight focus groups were held in greater Wellington and Auckland between May and July 2010. Participants were deliberately selected (theoretically-sampled) to include those identified by the Ministry of Health as vulnerable to the H1N1 virus; such as people with heart conditions, those with diabetes, pregnant women and children. A thematic analysis of the qualitative data identified four major themes and a number of sub-themes that represented how the New Zealand public understood and interpreted health messages about H1N1. The main themes were risk, building community strategies, responsibility and information sources. Exploring the participants' ideas, opinions and beliefs revealed many issues associated with the uptake of health risk messages. Combined with a comprehensive review of current New Zealand and international literature and relevant health behaviour theories, this report presents the major findings and suggests that engaging with communities will be essential to facilitate preparedness and build community resilience to future pandemic events.

People wanted messages about specific actions that they could take to protect themselves and their families and to mitigate any consequences. They wanted transparent and honest communication where both good and bad news is conveyed. There was a clear desire across all groups for clear and specific information, such as infection and/or death rates and defining symptoms.

Participants for this study represented diverse cultures and ethnicities. Some differences were identified in the analysis. The importance of these differences is not the differences per se but it is that they highlight the problem with a "one size fits all" pandemic warning strategy. The responses from all groups endorsed the need for community based risk management including, information dissemination. This research provides a clear illustration of the complexities of how people understand and respond to health messages relayed to the H1N1 pandemic.

Agencies must acknowledge that the public are diverse and need to be involved in the development and management of pandemic response initiatives appropriate for different communities.

KEYWORDS

H1N1, Pandemic, public education.

1.0 BACKGROUND

Influenza A (H1N1) virus is a subtype of influenza A virus. In June 2009, the World Health Organisation (WHO) declared the new strain a pandemic. The new virus, dubbed "swine flu" by the media, quickly spread globally. The H1N1 virus resulted in patterns of death and illness not normally seen in influenza infections. Most of the deaths caused by this pandemic influenza have occurred among younger people, including those who were otherwise healthy. Pregnant women, younger children and people of any age with certain chronic lung or other medical conditions, such as morbid obesity, appear to be at higher risk of more complicated or severe illness. Many of the severe cases have been due to viral pneumonia, which is harder to treat than bacterial pneumonias usually associated with seasonal influenza. Many of these patients have required intensive care.

Addressing Pandemic Influenza A (H1N1) became a key priority for the Health Research Council of New Zealand (HRC) and the Ministry of Health. In partnership, the agencies launched an Influenza A (H1N1) Rapid Response Research Initiative to support research that aims to inform and advance understanding of the Influenza A (H1N1) 2009 and subsequent pandemics.

As part of the research programme the Joint Centre for Disaster Research (JCDR) was awarded funding to investigate one of the priority areas: health messages for the public.

Research suggests that to develop and deliver effective risk management information for a pandemic, it is necessary to gain an understanding of how people interpret information, and how individual, cultural and environmental diversity influence people's interpretations of pandemic flu, the actions they can take and the sources of information they rely on. Furthermore, attention must be paid to the structure and framework for delivering an effective communication programme.

1.1 Previous research

A review of relevant literature was undertaken which encompassed the most recent studies and evaluations of pandemic preparedness, public perceptions of the risk of a flu outbreak and motivations for behaviour change. Theories and models were evaluated and quantitative and qualitative research was conducted in several countries: The United States, UK, Singapore, Australia and New Zealand consisting of questionnaires, surveys and focus groups. The findings have been summarised below. The full annotated bibliography (Mackie, in press) is appended under separate cover. The findings from this literature review informed both the thematic analysis and the development of the draft questionnaire.

2.0 RESEARCH OBJECTIVES

The primary objective of the study was to rapidly provide health authorities with practical information to guide the development and delivery of key health messages for H1N1 and other health campaigns. A secondary objective was to develop (but not implement) a quantitative questionnaire.

The study aimed to collect qualitative information about community responses to key health messages in the 2009 and 2010 H1N1 campaigns, the impact of messages on behavioural change and the differential impact on vulnerable groups.

3.0 METHODOLOGY

Qualitative research in the form of focus group discussions were undertaken with participants representative of either ”vulnerable groups” or general population, as identified in consultation with the Ministry of Health staff. The research team facilitated the discussions and the questions were informed by the imperatives of the HRC H1N1 project. A priority for these discussions was that questions were asked in a way that avoided “leading the talk”. The transcriptions of the data confirmed this was achieved.

Staff of Massey University took responsibility for the Māori components of this research including participant recruitment, organising and facilitating the hui, data analysis and reporting under the direction of Dr Janice Wenn (Ngati Kahungunu). The information provided by the Research Centre for Māori Health and Development has been incorporated throughout this report.

3.1 Focus Groups

Eight targeted focus groups were undertaken to gather information about people’s attitudes and behaviours in relation to pandemic intervention messages and practices such as personal hygiene behaviours, home quarantine/isolation, social distancing, seeking medical advice and use of vaccinations and antivirals such as Tamiflu®.

In consultation with MoH staff, the following target groups were identified:

1) Vulnerable people with chronic conditions (defined as those who are eligible for subsidised vaccinations, such as pregnant women, those with diabetes, using asthma inhalers, with heart disease or kidney problems
2) Māori
3) Pacific Peoples
4) Children (or parents of children)
5) General population

The timeframe of the study was condensed to facilitate the rapid delivery of information to the Ministry of Health. To facilitate this, the first phase of focus groups was held during the third and fourth weeks of May 2010 with participants who were all residents of the Greater Wellington Region. A second phase of focus groups was held in Auckland in the first week of July 2010.

The focus group discussions lasted approximately 1 hour, and in the case of the Māori focus groups, were conducted as a hui. Each participant was given a $10 petrol voucher to assist with costs.

3.1.1 Recruitment

The Māori participants were recruited using existing cohorts and contacts available through the Research Centre for Māori Health and Development, Massey University. The Māori focus

groups were conducted Dr Wenn. The Pacific participants were recruited via Dr Debbie Ryan (Pacific Perspectives) and Eleni Mason (Pacific Health Service Porirua Inc.) Lesley Gray and Brenda Mackie conducted the Pacific Peoples focus groups, aided by Pacific Health Service staff members. The general population Group 1 participants were recruited through contacts at the University of Otago Medical School (Wellington). The general population group 2 was recruited through District Health Board (DHB) and, Ministry of Social Development (MSD) contacts, and placement of recruitment posters in a local library. Both these focus groups were conducted by Brenda Mackie and Lesley Gray. The Auckland Pacific Peoples group was recruited through a South Auckland based NGO. The Auckland general population group was recruited through DHB and local council contacts. Lesley Gray facilitated both these groups.

3.1.2 Focus Group Composition

Eight focus groups were conducting with a total of 80 participants. The size of each group ranged from 7 to 13. A summary of participant characteristics for each focus group follows:

General Population: with children (N=9)

Ethnicity	**Health conditions**	**Age**		**Gender**	
7 self identified as New Zealand European and 1 as Chinese Malaysian.	2 parents reported a health condition (asthma; diabetes).	25-34	2	Female	6
		35-54	6	Male	3
		55-64	1		

Employment	**Household composition**
All participants were in paid employment.	Household sizes ranged from 2 to 4. All included children. 4 had children aged between 0-4.

General Population: chronic conditions (N=7)

Ethnicity	**Health conditions**	**Age**		**Gender**	
New Zealand European or Pakeha (6) Scottish (1)	3 participants reported health conditions, two cited asthma.	35-44	1	Female	3
		45-54	6	Male	4

Employment	**Household composition**
All participants were in paid employment.	Household sizes ranged from 2 to 4. All participants had children living at home.

Pacific Peoples: chronic conditions and pregnant/very young children (N=12)

Ethnicity	**Health conditions**	**Age**		**Gender**	
Samoan (4) Cook Island (2) Cook Island Māori (1);Tongan (2) Tokelauan (1)	Diabetes (3), Diabetes and other (1) Gout (1) High blood pressure (1).	18-24	2	Female	8
		45-54	2	Male	4
		55-64	4		
		64+	4		

Employment	**Household composition**
10 indicated employment status: 2 were in paid employed, 8 were not.	5 indicated household sizes of 10 or more. All participants had children living at home.

Pacific Peoples: non-chronic. (N=8)

Ethnicity
Samoa (3)
Cook Islands (2)
Niuean (1)
Tongan (1)

Health conditions
No one in this group reported any health conditions

Age	
25-34	1
35-44	3
45-54	2
55-64	1
64+	1

Gender	
Female	6
Male	2

Employment
All indicated their employment status: 4 were in paid employment and 4 were not.

Household composition
Household sizes ranged from 2 to 6, all included children.

General Population: mixed (N=9)

Ethnicity
British (1)
European New Zealand (4)
Greek/Māori (1)
Māori (1)
Niuean/European (1)
NZ/Scottish (1)

Health conditions
3 participants indicated health conditions, 2 cited asthma, 1 high blood pressure

Age	
25-34	2
35-54	3
45-54	3
55-64	1

Gender	
Female	8
Male	1

Employment
All participants were employed

Household composition
All participants had children living at home.

Pacific/Māori mixed (N=13)

Ethnicity
64+ Māori (5)
Cook Islands (1)
Indian (1)
Niuean/Māori (1)
Rarotongan/Māori (1)
Samoan (1)
Tongan (1)

Health conditions
8 participants indicated health conditions, 5 had multiple conditions.
Conditions included:
Asthma (3)
Diabetes (6)
Mental health (1)
Circulatory/cardiac (4)

Age	
25-34	3
35-54	1
45-54	4
55-64	3
64+	2

Gender	
Female	13
Male	0

Employment
12 indicated employment status: 2 were in paid employment, 10 were not.

Household composition
All participants had children living at home.

Māori: Kaumātua (and one Community Health Worker) (N=13)

Ethnicity
Māori

Health conditions
All kaumātua reported 1 or more health conditions:
Asthma (7), COPD (7), cancer (2), Diabetes (2), Hypertension (10)

Age	
25-34	1
55-64	4
64+	7

Gender	
Female	12
Male	1

Māori: Tamariki Ora Mothers (N=9)

Ethnicity
Māori

Health conditions
2 participants reported that they had a child with a health problem: heart condition (1), asthma (1)

Age	
18-24	3
25-34	5
35+	1

Gender	
Female	9
Male	0

Household composition
All participants had young children

3.1.3 Transcription

All focus group sessions (except Kaumātua and Tamariki Ora conducted by Dr Wenn) were recorded. The recordings were independently, professionally transcribed.

Oral data can be transcribed in a variety of ways, from linguistic analysis of spoken syntax that documents in fine detail to a more functional approach that is more interested in "how language communicates when it is used purposefully in particular instances and contexts" (Cameron, 2001:13). As the researchers were more interested in what being said than how it was said, transcriptions were provided to detail at a moderate level, i.e. mainly verbatim, with verbal padding and hesitations omitted. Apart from the facilitators, specific individuals were not identified in the transcripts.
The extracts used to illustrate the content of each theme are identified by codes which correspond to the focus group transcripts from which they were taken.
(G1) General Population: with children
(G2) General Population: chronic conditions
(G3) General Population: mixed
(P1) Pacific Peoples: chronic conditions and pregnant/very young children
(P2) Pacific Peoples: non-chronic.
(P3) Pacific Peoples: chronic conditions
(M1) Māori: Kaumātua
(M2) Māori: Tamariki Ora Mothers

3.1.4 Analysis

The analysis of the focus group data (excluding Kaumātua and Tamariki Ora groups) was undertaken by a single researcher who was neither present at the focus groups nor had read any preliminary findings. This work was verified by the focus group facilitators to ensure that any "contextual richness" had not been missed in the data. Thematic analysis was used to identify themes and concepts across the entire data set (6 transcripts) to "identify repeated patterns of meaning" (Braun & Clarke, 2006:78). The process involved working through the six phases of thematic analyses as identified by Braun and Clarke (2006).

4.0 FINDINGS

Four predominant themes were identified from the data sets which were categorised as central themes: risk, building community understanding, responsiveness and information preferences. Each central theme contained a number of related sub-themes (17 in total).

Transcript extracts were selected on the basis of their relevance to the theme under discussion.

Whilst this study intentionally involved participants with diverse cultural and ethnic backgrounds, and included individuals from vulnerable groups caution needs to be taken with respect to generalising about differences between the groups. Further research utilising quantitative methods is advised to investigate these issues in more depth. It is also worth noting that for some issues the views varied more within the groups than between them.

The differences found in this study have been highlighted throughout the thematic analysis section.

4.1 Risk

The perceived risk associated with H1N1 pandemics, and other risk events, was a central issue around which much of the discussion focused. This was further categorised into the subthemes of: national preparedness and risk, concern and risk acceptance, contextualisation and saliency, and risk perception.

4.1.1 National Preparedness and Risk

Previous research has shown that there is a general belief that New Zealand, protected by factors such as geographic isolation, is a relatively safe place to be in the event of a pandemic (Bürgelt, Paton, & Johnston, 2009; Mackie, 2009). The following comments reflect the concept of “risk homeostasis” or “risk compensation” which suggest people make preparedness decisions on how dangerous they believe their environment to be and that if public agencies are taking steps to deal with a hazard they believe that they don’t need to. Perceived isolation, together with a belief that border control agencies will prevent flu entering New Zealand, results in people transferring responsibility for preparing, from themselves to border control agencies (Paton et al, 2008a).

> *(G2) The benefit of being here is they can so simply isolate us from the rest of the world. Not that we aren't already. It's a piece of cake. And either they should have done that immediately, or they should have...*
>
> *(G2) I think you tend to feel safer in New Zealand though, because you know...isolation.*
>
> *(G3) It's pretty much a one-border control place. That's why that's better. We're lucky, because we've got only that one contact point coming in. So we can actually focus on that.*

Others were aware that our perceived geographical isolation does not in fact translate to a decrease in risk.

> *(P3) It's the fact that we're so far away from everybody else.*
> *Yeah. That's what I thought. But then you look at travel, you know, it's only a few hours, and you are... where people travel so much from different part of the world, where these happening. So we are not isolated, as we thought we are.*

> *(G3) Well we think that we're different because we're far away. But actually, if you think of how people travelled here, it's the biggest factor for it always, because everyone who comes here comes in an aeroplane, pretty much. And they come from everywhere.*

4.1.2 Concern and Risk Acceptance

Comments reflected variable levels of awareness of and reaction to the 2009 and current pandemics. Many regarded the 2009 H1N1 pandemic as an overreaction that was not taken very seriously by many people. Typical comments included:

> *(G2) Unnecessary panic. And nothing ever seems to eventuate. I mean it was feared this would be the major pandemic, and it didn't...*

> *(G1) …it gives you that whole "crying wolf" thing. So when it came in, it was mild, and they were all screaming "Pandemic."..*

> *(G3) I thought it was scaremongering, personally. I thought the way it was handled was quite interesting, and I think it also made a lot of people very paranoid about things, that sometimes people don't need to be paranoid about.*

The previous extract illustrates the concept of "normalisation bias" in which people extrapolate from the current experiences (H1N1) to define what a future pandemic would look like and therefore underestimate their future risk which makes them less respective to current health risk messages (Paton et al., 2008a).

Participants in both Māori focus groups also felt that "a great deal of unnecessary hype" was generated. A mother in the Tamariki Ora group related her experience of being hospitalised in 2009 on her return from the USA. "She became unwell and because she was pregnant she was admitted to hospital in the isolation unit. All the tests carried out on her were negative" (Wenn, 2010).

For some participants it was the particular use of term "pandemic" that gave rise to the sense of overreaction by suggesting something more serious than what actually occurred. The scale of what happened what not viewed as being significant enough to warrant being called a pandemic.

> *(G1) (Pandemic) to me means disaster. And it really wasn't a disaster.*

> *(G1) it became reasonably clear reasonably quickly last time that hundreds and thousands and millions weren't dying. Even when they kept on sort of saying things were happening, and then you saw the numbers, it just didn't add up.*

Whilst most of the participants in the general population groups regarded swine flu as *" bit of a joke, really" (P1),* others took the threat seriously and reported feelings of anxiety, fear or panic. There is evidence that higher levels of general anxiety and perceptions of high risk severity are related to a greater likelihood of carrying out preventive and avoidant protective behaviours (Bish & Michie, 2010; Rubin et al., 2009).

> *(G3) I think initially, I actually did panic, because when it first came out, there wasn't actually enough information... first of all, it was like, "this is what's happening, you could die", or "this is what's happening, and you'll get really sick, and you're screwed;"*
>
> *(P1) It was frightening to think of that spread, knowing the spread, and probably what the swine flu fatal results has been received. So that's quite scary for quite a few of the people.*
> *In particular, reports of flu-related deaths gave rise to more serious concern with one group generally agreeing that when you started to hear about people dying, that's when you started to care (P2).*

In particular, reports of flu-related deaths gave rise to more serious concern with one group agreeing that *"when you started to hear about people dying, that's when you started to care" (P2).*

> *(P1) People die. Because they talk about someone as dying, people are dying because of that. First off, normally the flu is, don't hear of people dying. But with this, it's really panic.*
>
> *(G3) And it was the events then, it was the international media saying that x amount of people were dying from it.*
> *...Yes. [from several]*
> *.....So it started to hit New Zealand then.*

For those who felt that our geographical remoteness provided some form of protection, it was not until cases were reported within New Zealand that the threat became more real. This was no longer something that was happening elsewhere. This shift in thinking is important as the perceived relevancy and immediacy of risk affects the decision to act or not to act on information (Bürgelt, Paton & Johnston, 2009; Janssen et al., 2006).

> *(G3) Because you kind of go, well, we're just little old New Zealand, where nothing happens. You know, we'll be right. And it wasn't until you actually heard that people in New Zealand had brought it back from overseas. And that's when you really does go "Ooh! Alright."*
>
> *(P3) I was pretty scared.*
> *...Yeah. I wasn't so much scared when it was overseas, eh. Personally I found it (too close) to New Zealand.*
> *.....Yeah, yeah, yeah.*
>
> *(G3) And I think the first big thing that people paid attention to was the school kids that came back, and a few of them were sick. And that's when I think people started to freak out a little bit about it.*

Concern about news reports from overseas also related to the reliability of the information in terms of both its trustworthiness and relevance to “us”.

> *(G2) The other thing, people are a bit cynical about the whole thing. because there are these people dying in Mexico, you think, well, there are people sick in hospital. You know, I've got no idea what the health system's like there,*
>
> *(G1) I guess the only thing is, really it depends on international information sources...*
> *...So the sources last time were not reliable, in some cases.*
> *.....And then you deal with places like China that lie anyway.*
> *.....And there were like Mexico, that didn't want to like impact their tourist trade by saying, "Ooh, we might have a problem here.”*
> *.....It was quite an issue, wasn't it?*
> *.....Exactly so. It is a problem, when you've got countries like that.*

These comments reflect a belief “it won’t happen to me because - it happens to others”. Through the process of “othering”, individuals focus on differences in others, effectively creating a separation between “us” and “them” (Grove & Zwi, 2006). By projecting the risk of infection and death onto “them” the sense of powerlessness and vulnerability is reduced for “us” (Crawford, 1994; Joffe, 1999). Cynicism about the veracity of media reports was not limited to news from overseas. Indeed there was a strong feeling that the New Zealand media had a central role in the “overhyping” of the 2009 and current pandemic risk. This is consistent with previous research showing that media are credited with amplifying the risk perceptions in such a way that risk communicated may not be an accurate reflection of the true risk (Glik, 2007).

> *(G2) I think the news media have a lot to blame, because they want to make news. They sensationalise stuff. That's not helpful.*
>
> *(G1) ...I think the media was the one who actually (cemented) the over-reaction, rather than the people who were giving the information.*
>
> *(G2) The news media selling a product...*
> *...Exactly. They're selling advertising time, so they want to make sure that you watch the news, so they're going to say 18 people died in Mexico, when in fact...*
> *.....With all the gory photos.*
> *.....Exactly. In fact it's the news media, in fact, which needs to take a look... a bit more responsibility in how they portray things like that.*

Some of the comments reflect a more general distrust of media. Rubin et al., (2009) argue that public distrust in journalists and the sensationalising of health related stories is a hindrance to taking the risk seriously and of undertaking precautionary measures.

There is general agreement in the literature that media is a powerful factor in how the public respond. This is an example of “social amplification” of risk which is responsible for exaggerating risk beliefs (Fischhoff, 2005). A belief that risk has been exaggerated is associated with an increased sense of helplessness and frustration and a reduction in the likelihood that people will prepare in the short-term. (Glik, 2007; May, 2005; Rubin et al., 2009).

(G2) Well, I've been involved in a situation which was being broadcast on the news, and I'd swear it was a completely different situation. … I thought they weren't even talking about the same thing… But no, it was actually the one I was involved with, but it wasn't reality. It was completely misleading. It's like the newspapers. It's always disturbing when you read an article that's about something you know a lot about, and you just go, "Oh my God!"

(G3) Because the Herald do always make mistakes. Heck! They've got reporters who half the time don't actually know what they're talking about. And they make things up, which then, if you pick up on that frequently from their reporting, then you actually don't even read that thing properly. Or read them at all.

4.1.3 Contextualisation and Saliency

In an attempt to understand potential risks people situate risk-knowledge in historical and local contexts (Lupton & Tulloch, 2003). This can be seen in the focus group discussions in which participants referred to health or other risk events. Compared to a pandemic, many participants were more concerned about other risks, including illnesses such as heart disease, cancer, meningitis, respiratory disease and even childhood diseases such as measles, chicken pox or mumps if contracted as an adult.

(G2) I mean personally, I was admitted to hospital on a suspected meningitis, so I do sort of take that one a bit more seriously.
...I'd probably take that one more seriously than I would the flu, actually.

(G1) In terms of overall effect, yeah, I probably would be (more concerned about earthquakes). Flu is a very individual thing, you know. You get it or you don't. If we have an earthquake, it's what happens to you is kind of more down to where you are at the time, and how prepared you are on the day.
...Yeah. And how big it is.

(G1) You look at what happened with HIV; and that's not that easily caught. But even so, the way that it spreads is exponential.

The attitudes reflected in these comments indicate the need to develop an all-hazards approach that integrates health and other hazards, and to link risk management of specific health issues with management of general health risks. Using existing primary health care mechanisms increases the cost-effectiveness of risk management.

Much of the discussion in the general population groups seemed to be about reassuring themselves that the pandemic was indeed an overreaction and a “media beat-up” as they believe that this had happened before with other events.

(G2) I mean, meningitis comes to mind, really.
[general agreement]
...Especially if you've got little kids. They really put the hard sell on that one, and you know...

(G3) Like I saw an article in the paper about six months or a year ago, about measles...but the way that they were reporting it, it was very much scaremongering. …

(G2) Like the bird flu that was... that, I think, killed some... a few people in Canada. And people said it was going to be the next big flu, and it wasn't.

(G2) Actually, speaking of that now, it reminds me of the Y2K thing.
...But maybe that would have been a complete disaster if there hadn't been (a bit of panic.) ..... It's hard to know.

Maintaining such a sceptical and cynical perspective is a means of "distancing" themselves from the threat. In particular, tsunamis were seen as "*the latest hot button" (G2)* which had been overhyped. This is also an example of "normalisation bias".

(G2) every time there's an earthquake, of which there are so many of them, yeah, it is a tsunami alert. [several agreeing]

(P1) I think some people that just relax, you know. They sit back and relax. Because it's [tsunami] never happened, they think it's a wasting of time preparing, but it never happen.

(M1) Look at what people did. They went to the beach, when there were tsunami warnings. Because there were so many, that people just went, "Oh well, I'm going to go down and watch it."

4.1.4 Risk Perception

There is clear evidence that individual perceptions of risk are important determinants in undertaking preventive, management and/or protective behaviours for events such as pandemics for which have no or limited experience (Bish & Michie, 2010; Bürgelt, Paton & Johnston, 2009; Rubin et al., 2009). The focus group discussions provide some insight into issues that arise when trying to encourage people to personalise risk and accept their vulnerability.

Some participants appeared to have a sense of "personal invulnerability" based on their history of rarely having experienced flu's or colds.

(P2) …I was kind of naive, and thought nah, never get sick.

(G2) I've not really had a lot of colds either, for years. So I've never had a flu injection.

(G2) Oh, I've been fortunate enough to... I don't know that I've even actually ever had the flu, even ordinary flu, in my life...I don't think I've ever sort of actually had it. So I seem to have a bit of a natural immunity to it, luckily enough, so... yeah.

(G3) But yeah, when you think of percentage, you just kind of go, "Well, that'll be like everybody else. It won't be me." But then when you think, well, one in one hundred, it's like, "Well, I know a hundred people. So one of those is going to be (hit). You know?

The previous quote is indicative of one of the most significant issues that risk communication must deal with. This is the phenomenon of unrealistic optimism. This means that while people accept the risk to the community in general they are more likely to transfer the risk from themselves to others and see themselves as less vulnerable than others (Paton et al., 2008a) and to see risk communications as applying to others rather than to themselves.

In contrast there were others who expressed a heightened sense of risk due to their personal circumstances and health history. Assessing their personal risk in this way is consistent with the view that people's understanding of risk is developed not only through cultural and sub-cultural membership, but also through personal experience (Lupton and Tulloch, 2003). Particularly in relation to the previous item, this highlights the importance of risk communication encouraging people to personalize information.

> *(G2) Oh well, I kind of think that I'm more vulnerable having kids.*
>
> *(G2) I've always had a problem too, because my partner's a primary school teacher by trade. She'd bring the things home. ...There was this flu going round, and I'd be getting it and she'd be fine. She's built up quite an immunity, I think. Yeah.*
>
> *(G1) I was getting every flu that went around. And so I sometimes had two or three occurrences of flu a year. So my assumption is that if there was a really bad flu, it would probably kill me, because I'd probably get it, unless I had a flu shot or something. And I'm not in a high-risk group...*

Interpretation of risk or threat is based in part on how they have responded to seasonal flu and colds; this is the only frame of reference people have, therefore there is a need for health agencies to highlight to the public how pandemic influenza will be different.

All groups were aware of the concept of "high risk" groups with the most frequently identified being the elderly, young, pregnant and those with "complicating conditions" such as asthma. The relationship between knowledge of "high risk factors" and individual perceptions of risk was less clear; although some participants identified themselves as "high risk" they appeared to be uncertain about what this meant for them.

> *(G1) I know most of the ones here [deaths] had complications.*
> *...Complications. Yeah, I mean they were the kind of people who would die of any flu.*
> *.....But then they talked about complications being things like being asthmatic. God, you know, half of this room is asthmatic.*
> *[general agreement]*
>
> *(G1) Yeah. Well, both of us with compromised immune systems.*
> *...Yeah.*
> *.....Anything that's going.*
>
> *(G3) What happens at times is that somebody who's young and fit... you think a fit, healthy guy dies, then, but no, perhaps he had some other health issues.*

The previous extract and those following illustrate how some participants used "othering" to minimise their own perception of risk by differentiating themselves from those who they identified as "high risk". Flowers (2001) argues that this social construction of boundaries of "self" and "other" and their relationship to boundaries of "safety" and "danger" are particularly relevant to understanding notions of health and disease.

> *(P3) What is it they were saying? That usually people have something wrong with them, like asthmatic and other thing?*

[IR] Yeah. Yeah. I mean, there are people who are more vulnerable.

(G2) "Yeah, it's someone who's died, and it's just like me", then maybe you can... but when it's, you know, an overweight, ninety-year-old woman from living in third-world conditions in the … that's died, you kind of think, well, you know, maybe she had it coming.

(G3) And then we had... like I sat next to a girl whose children were actually pulled out of school. And that sort of went, "Whoa. Better find out some more about this."

(G1) Well, I mean it started around Mexico somewhere...
...Because they're not totally undeveloped. They're fairly developed.
.....I mean there are pockets of poverty and poor health status in...
.....Close proximity to each other.
.....Crowded conditions.

However, the self-other divide can be used to facilitate preparing (Paton et al., 2006). By considering whether something can be done to assist those more vulnerable, people are more likely to also consider what they can do for themselves.

A number of participants discussed the perceived dangers inherent in travel and the fear that it created. Responses varied from ensuring they were vaccinated to cancelling planned travel.

(G3) Long-haul flights, if you think of the recirculation of air in there, and people coughing and spluttering and sneezing, and door handles in the toilets. You know, people... if they don't wash their hands... and it's like you think of all the ways that you could transmit diseases in an aeroplane, and it's quite you know, a really huge breeding-ground for all sorts of things.

(P3) And at the time, my daughter and her husband wanted to take me for a holiday to America. But I was so scared, because it was in a cold part we were going to go. And I thought, yeah, you just go in a plane, there's so many people, and going (through the air together), I might get it, and I might bring it back to my family. So I refused to go. I didn't want to go.

(P3) For example last year, even though it was known that it was spreading and everything, I had to travel. I couldn't change my plans. So I travelled, and I hoped for the best.

A young Tamariki Ora mother told of a personal experience when she had to go to Tokelau with her partner and children. She and her family were placed in quarantine for 10 days and were then allowed to proceed to her destination. She had been told prior to leaving New Zealand that the pandemic was slowing down and there would be no requirements placed upon them in relation to H1N1 (Wenn, 2010).

Another young mother reported that her partner had H1N1 and he was diagnosed while working away from home. When he returned home he stated that he had swine flu and was still generally unwell, and it "*took him a long time to recover"* (Wenn, 2010).

4.2 Building Community Understanding

The central theme of awareness included three subthemes: key health messages, information sources and community strategies. One of the key aims of the study was to ascertain what people knew about the 2009 and 2010 H1N1 pandemics and associated information campaigns. These themes focus on these aspects of the data.

4.2.1 Key Health Messages

Recall of key health messages was varied, however most participants were aware of hygiene self-efficacy measures such as hand washing, sanitiser use, covering of coughs and sneezes, and staying at home (social distancing). This was particularly strong in one of the Pacific Peoples groups and for many appeared to be translated into action.

> *(P2) Mainly they tell you to wash your hands.*
> *...Cover your mouth when you cough.*
> *.....And don't share hankies, they say, yeah.*
>
> *(P1) About how to prevent all the germs. That's what I really heard about, really.*
>
> *(P3) Told us not to drink from other people's bottles. Water bottles. Not to share.*

There was little recall of the 2009 posters and the messages which they contained.

> *(G2) Yeah. I mean, I see posters up on how you could prevent spreading flu, and I think that's quite effective. You know, you just see diagrams, and it's (not) in your face all the time.*
>
> *(G2) (Poster content) Oh, how to cough.*
> *....and a lot of hand-washing and hand-drying properly.*

Although some who recalled the posters expressed concern that they were inaccurate and overused.

> *(G1) The bad posters, that confused bacteria and viruses.*
> *...Oh OK, yeah, of course, yes it was.*
> *.....I just thought well, it's sloppy.*
>
> *(G2) And I think the same with the posters as well, because if you (keep seeing) so many posters, it's just suddenly... you know,*

There was generally less recall of the 2009 television advertisements, and even less recall of the messages they were conveying.

> *(G2)TV commercials.*
> *...I can't remember. I can't remember what was the content of them.*
> *[general mumbling of no]*

Overall, participants did not feel that they were better prepared or had changed their behaviour as a result of the information which the recalled from 2009.

> *(G2) I've forgotten, to be honest.*
> *...I'm not really thinking about it, really.*
> *[agreement from several voices]*
> *.....Well, I got the jab.*
> *.....Yeah, I got the jab too, so maybe that's part of it.*
>
> *(G1) Not really.*
> *...Not for me.*
> *.....No. Not really.*
> *.....Just follow common sense. Common sense, yeah.*
> *.....Yeah.*
> *.....I mean, I'm really paranoid about hand-washing and tissues anyway. So... and if that's what it was that you had to do, then I was already doing it, so wouldn't have changed anything that I did*
>
> *(G3) Well, I still don't use the hand sanitisers, or anything like that.*

Where lessons had been learnt from the previous year, these were mostly related to improved personal hygiene measures:

> *(G3) And I've just got into the habit now of using our (oral) wipes to wipe the phone ... Stuff like that. So that it's just a carry-on from...*
>
> *(G2) Last year, I think I was a lot more likely to stay at home than I am this year. .. but this year, I know with us and that, the panic doesn't seem to be there.*
>
> *(P3) But I think last year, what we did start doing was, insisting that the kids were a little more conscious of their hygiene levels. Like you know, all day we insisted. I mean, it was always a rule in the house that when you come home, you wash your hands and face, but we started enforcing it a lot more.*
>
> *(P1) We use the Sterigel.*
> *...Wash your hands more.*
> *.....And you see the gel more often in reception areas as well.*
> *.....Yeah. Oh, yeah, yeah.*
>
> *(G1) I think we probably got a bit more vocal about sending people home from work*

When asked if they recalled anything about the current campaign, many participants said “No, Nothing happened”, or “they didn't see any”. Awareness of the 2010 campaign was scant and what was recalled tended to be from commercial advertising, for example, from private commercial companies promoting flu vaccinations.

> *(G2)There were a couple this year (ads), about getting the jab and things.*
> *...Yeah. The guys looking out of the aeroplane, and you get that (in tins)... small needle vaccines, whatever.*
> *.....To get the jab with a smaller needle.*

A number of kaumātua made reference to previous activities in relation to sharing information about H1N1, however in subsequent years it was felt that this was not followed up, and there was a reported apathy to any H1N1 initiatives. It was generally believed by this group that the effects of the earlier campaign had been forgotten, and it was hoped that the idea of an epidemic or pandemic was not necessary (Wenn, 2010).

4.2.3 Information Sources

Participants reported receiving pandemic information from a variety of media sources including newspapers, TV, radio and the internet.

> *(P2) We normally just do what they tell us on the TV. Well, that's what I do.*
>
> *(P1) On the TV, but not much, I think. On the television.*
> *...Yes, television.*
>
> *(P1) I heard my radio was advertising, warning about the people around with disease, and supposed to be aware about covering the mouth and nose, and to protect from that sort of kind of disease.*
>
> *(G1) I remember looking at the website, on other countries, and how many deaths and that sort of thing.*

However the primary source of information for participants was their workplace and/or community. This differs from previous research in which Google was listed as a primary source of information (Janssen et al., 2006) and television was the preferred means of receiving information during a pandemic (Gupta et al., 2006), consistent with the findings of Bürgelt et al. (2009).

The general population groups tended to report workplace as a key source of information, including workplace intranets.

> *(G1) Well, the information that was made available at work via the intranet had links to the public health sites. But I was also looking at the H1N1 global tracker map thing as well.*
>
> *(G2) They sent lots of emails about it.*
> *...They did. Yes.*
> *.....And they had meetings in the lecture room. Lecture theatre.*
> *.....The joint hospital and university...*
>
> *(P2) I did. I work in a school. I did (receive information).*

In contrast there was general agreement in the Pacific Peoples groups that their primary sources of information were the community. This included social networks and family, regular forums and meetings, church groups and health centres. This supports the view that when faced with uncertainty, people turn to others to reduce their uncertainty and guide their preparation; often these are family and friends, but also health agencies with whom they have a direct relationship. (Paton et al., 2008).

> *(P1)This, our Health here, we have a meeting every fortnight in the week. They remind us, every time we have a meeting here. They explain to us as to what is happening....*
>
> *(P2) I know we like to come here (Pacific Health) and talk to them about it, and they're always been there, to talk to our community. And then that's the only way we find we hear about the swine flu.*
>
> *(P2) And even in the church. Because one thing in the church is, our people fear God, and they always go church no matter what. . And the pastors is one of the key people that talks into the community.*
>
> *(P2) We know that here in … we have a Pacific Ministers' forum, and they're made up of lots of different denominations. All the different cultures. So whenever there's a biggie... like they say, we'll contact the Pacific Ministers' forum, and ask them to give word of mouth to churches*

Current campaigns have largely gone unnoticed by kaumātua. They did not believe that information was readily accessible, no one had seen articles in the local press regarding H1N1 and pamphlets and posters “were not freely available” (Wenn, 2010). This view was mirrored in the Tamariki Ora focus group. While six of the nine Tamariki Ora mothers knew something about H1N1, the whole group agreed that there was generally a “lack of information” (Wenn, 2010). This reflects the relatively more important role of community as a medium of meaning and communication.

> *(M2) There used to be information on the Ministry website this has been lacking when I last looked’.*

The kaumātua group felt that in 2010 all existing initiatives need to be revisited and updated and that information is best disseminated to places of work, kura, kohanga reo, whānau and to Māori health providers to ensure coverage of the Māori population (Wenn, 2010). It appeared that the messages in the media (TV/Radio/news media) were not “making an impact with Tamariki Ora mothers. Many switch channels on TV rather than look at ads” (Wenn):

> *(M2) we watch the television and read the newspapers, we reckon the needle ad on TV in relation to immunisation is stupid.*

Overall these comments highlight problems associated with using the mass media - very general messages rarely meet the needs of the diverse community - and they also identify the important role that social context plays. Participants identified workplaces, schools and their local communities as the most important sources of information. This is consistent with research that identifies social context as the most significant predictor of risk beliefs and taking action to mitigate risk (Paton et al., 2008a).

4.2.4 Community Strategies

Previous research has shown that community participation and trust in emergency management agencies played significant roles in increasing community preparedness, willingness to take responsibility for own safety, risk acceptance and satisfaction with communication (Paton, 2008). Public are more likely to take appropriate action and accept the recommended actions if they have been involved in the decision-making process through mechanisms such as focus groups or forums (Holmes, 2008; Tam, Sciberras, Mullington & King, 2005).

Kaumātua were of the view that the 2007/08 campaign had been successful because the DHB had come out into the community and involved them in planning or providing information, but "*it had not been effectively followed up on"* (Wenn, 2010). The following extracts also highlight the importance of engaging with communities and disseminating information through community mechanisms.

> *(P2) Or because the school brought in a new (policy), that says your children have to be at school. So instead of getting them alone, she'll ring you up and say, "Your child has not been at school." And for fear of them ringing, you'll send your child to school sick. And then in the end, you've got to come back and get your child, because the school says, "Oh, she's too sick to stay." But then he'll say, "He has to come to school." So...*
>
> *(M1) In [region] [named marae] worked with the District Council and Civil Defence to prepare the marae as a centre for the pandemic (Wenn, 2010).*
>
> *(G3) Civil Defence needs to be proactive, and actually make sure that they've got the right community people, and the right community organisations on the board.*
>
> *(G2) I must say, I don't think the school really had a policy.*
> *...No. [from several]*

With respect to workplace pandemic or disaster response plans, most participants had little or no knowledge of these. Some were aware of general plans or the existence of emergency supplies at work. The discussion in one group indicated that they believed emergency preparedness was seen as an "individual responsibility" by their employers.

> *(G2)There's no food, there's no nothing.*
> *...I bet it's individual...*
>
> *(G1) Actually, my concern about the building at work is that if our building - you know, if the roof falls in, or whatever, which let's face it, on that building anything could happen. None of us can get into the (CD) cabinet anyway, because Dave's got the bloody keys. And we've got a full CD cabinet. Water and food and candles.*
>
> *(G1) Oh well, we've certainly got disaster recovery scenarios at work that say that if necessary, there would be no further development on what we were doing, but we could certainly pretty much close the department, and enough of us could work from home that we could actually keep the systems going, and everything would still work, and... you know, there's not anything vital that we'd miss in the meantime.*

The apparent lack of clearly-articulated workplace response strategies is consistent with a U.S. review of the threat that the H5N1 virus posed to local communities. Only 37 percent of small businesses believed that a public health crisis would affect their businesses and they were ill-prepared and lacked pandemic plans (Schneider, 2009).

4.3 Responsiveness

Another aim of the study was to gain some understanding on the impact that key health messages had on behavioural change and in particular if there were differences between vulnerable groups. This central theme of responsiveness includes three sub-themes: Preparedness, Vaccinations and Staying Home and Social Distancing.

4.3.1 Preparedness

Few participants had stocked up on emergency supplies or prepared for the pandemic any other way. This is consistent with results from an American Public Health Association survey in which only 14 percent of people surveyed had any kind of emergency supplies (Schneider, 2009) and a study of H5N1 in Auckland that found that only some 16% had prepared (Paton, 2008). Blendon et al., (2008) also reported that although resilience during home quarantine would depend on the level of preparedness, many had not prepared at all for a public health emergency.

Some individuals had stocked up on food and essential supplies and/or had a family disaster plan.

> *(G1) I've certainly thought about how would we get food, or how much food did we have in the house, if we were to get quarantined. And I think I made sure that we had enough. I also went out and got my cat food.*

> *(G1) Yeah. I mean, we all do... because we live in Wellington, I think we're particularly attuned to the high probability of natural disasters, and disaster preparedness. But you know, I don't know about other people, but we've always had a family disaster plan,*

While the kaumātua focus group believed that they are extremely poorly prepared for an outbreak of H1N1, some kaumātua did report a level of preparation:

> *(M1) Most of us would have supplies of tissues, sanitizer and Panadol*

Tamariki Ora mothers were aware that in the event of becoming ill with H1N1, hand washing would have to become a priority and general procedures must be put in place:

> *(M2) I would have to be reactive about the flu and preparation of the pandemic*

In three of the groups participants talked about “civil defence bags” which they had seen or had been given. While a number in the Pacific Peoples group regarded the bags as very effective and useful those in the other groups were less positive.

> *(P2) They provide this bag…and we saw information, you know, inside. Like that.*

...It's really good.
.....Yeah, because it gives you ownership, eh, to go and get it yourself.

(G2) But it was a... you know, like a re-usable bag, and it had all the things on the back, what to include in your kit, in your self-defence kit. Which I thought was good, and I've got... because I wouldn't use it, I thought well, I'll put it out, so I will refer back to it. But yeah, that was... they gave those away for a week.
(G2) We have got re-usable shopping bags from New World. I mean it's a good idea, but they were such a horrible yellow colour, I didn't use it.
[laughter]

(G3) And also, like civil defence had like a bag that they've given away, and it says "Be prepared." But there's nothing in it.

While some participants reported that they had already prepared emergency boxes, others were yet to act on their intentions to do so; it was on the list of things to do.

(P3) Oh no, I have my pack ready. I have water, and I've got a first-aid box, everything.

(P1) I have mine.
...We got ours.

(G2) No, but it's on the list.
...We were going through it, and it was like, yeah, we really need to get a box of stuff ready.

Participants were aware of advice to stock-up on pharmaceutical products such as Panadol, but a number found the array of over the counter products available very confusing.

(G2) I've got paracetamol and all those... Rob went overboard, and bought all those Lemsips, and Panadol, and...

(P2) So many cough mixtures out there, isn't there. So many … The right one? My dad would go, "Oh, I like Vicks, but I used to have Baxter's, and then I have the..." so you go down and you shop around, and you bring back the lemon sip and everything else for him…So to make it clear, what is the best one that you don't have to get over the counter.

Many participants expressed concern that the cost of emergency kits could be a barrier for low income families and that some sort of financial assistance should be available. These views are also consistent with the finding that perceived or actual economic impact influenced influencing psychological and behavioural responses (Reissman et al., 2006).

(G2) And the thing is that it would affect... I mean, imagine someone on a really base-level income, with a low education level, isn't going to have a preparedness kit. So they're the ones that are going to suffer, through in some ways, no fault of their own.

(G2) Surely this kind of thing should be provided... subsidised. I mean, we all pay taxes. So why doesn't everyone in every household... we've got a recycling bin, so why don't we get a civil defence kit?

(G2) But how about, you know, instead of getting four cents per litre off petrol, and then you do your shopping, and then you get... you know, few dollars off your civil defence kits, or even a free. You know?

In terms of Māori focus groups, the kaumātua group was quite vocal about their unpreparedness, the cost of Tamiflu, cost of rubbish bags for removing garbage, and the cost of food and care packages. These are an added cost which pensioners are unable to cope with, as the majority were on National Superannuation. Similarly the "*expense of preparedness"* was a constraining factor for the young mothers in the Tamariki Ora group (Wenn, 2010).

> *(M2) It is expensive for us to prepare packs of tissues, hand sanitizer etc, we can make do with what we have got, we have some stuff in stock.*

While these comments focus on the immediate issue of cost, they are tapping into issues that people should have been thinking about in terms of their emergency preparedness generally.

4.3.2 Vaccinations

Attitudes towards having the flu vaccination varied greatly as did uptake. There were those who routinely have them and those who "*don't do flu shots" (G1)* Uptake rates ranged from none in the Tamariki Ora mothers group to over 90% of those present in the kaumātua group.

For some participants the decision whether or not to have the vaccination was clearly related to their perception of risk.

> *(G1) Yes. I normally do have it. But I insisted on having it early, even though the GP was only giving it to people who were in vulnerable groups, because of the fact that I was travelling ...*

There were others who, having identified themselves as being in an "at risk" group, still chose not to be vaccinated.

> *(G2) I've not really had a lot of colds either, for years. So I've never had a flu injection. And I'm diabetic as well, and I keep getting sent letters. get it, get it, get it. And I just, no. I don't want it. So if there's a new version, I'll just go, "Yeah. OK."*

> *(G2) And I probably should, because I'm (one of those people who should) get the flu jab. But just didn't get round to it this year.*

For these and others it appeared to be a balancing act between their perceived risk of influenza against the perceived risks associated with the vaccine itself. Paton et al., (2008) argue that "costs" and psychological and health "benefits" and expected outcome are all important issues that influence people when making a decision about whether to act on advice about a pandemic.

> *(G1) I'm kind of stuck on that one. I've certainly thought more about it this year, as to whether I should just take the risk; but I'm not going to. I'm still not having one.*

> *(G1) They (vaccinations) don't give you the flu?*

One of the Tamariki Ora mothers had a 16-year-old son with a heart condition. She was very apprehensive about this and felt that there was a "*lack of information"* regarding whether or not her son should be immunised. Several of these mothers were apprehensive and confused about the flu injection and wanted more information about "*immunisation for their children*" (Wenn, 2010).

> *(M2) If I had the flu in 2009 will I be immune or will I still get the H1N1?*
>
> *(M2) Will the current flu injection help us to stay immune for several years?*

Whilst cost was a significant factor for some, others elected not to have the vaccination even if it was free.

> *(G2) Well, last year my wife didn't get the flu jab, because we had to pay for it. And this year she did, because the swine flu is in there.*
>
> *(P2) I never had it, except this year.*
> *... that's like me.*
>
> *[IR] Why? Why did you change your mind?*
> *Because it go free.*
>
> *(G3) Yeah. We were offered it at our work, but I don't bother.*
> *...I don't want it.*

Similarly there was a general consensus from Kaumātua that as Tamiflu® would cost $70 it was generally felt to be "too expensive" (Wenn, 2010).

There was a degree of cynicism about the vaccination amongst those that reported not having had one.

> *(G2) ... we were all a bit, a little bit cynical, I think, about the effectiveness of the flu jab. It might be a bit different this year, because they have that particular strain in. But it was like, you know, get the flu jab, but it doesn't actually cover you for the swine flu, or this or that, or anything. It always seems to be a year behind. ... you know, it makes me wonder whether the swine flu has actually changed, to the point where the current jab isn't effective either.*

Similarly cynicism was expressed with respect to the issue of Tamiflu®.

> *(G2)Well, that's it. The whole Tamiflu... again, it makes me cynical, you know. Somebody was making a heck of a lot of money out of that, you know? Governments around the world would have been buying up, you know, everything they could get.*
>
> *(G3)... you know, like with the Tamiflu, didn't they run out? Then they got too much of it, then they couldn't get rid of it? And then there was this big campaign that everyone should have this vaccination, so then they could get rid of it.*

The reluctance to be vaccinated and the cynicism illustrated by these extracts is consistent with research showing that decisions to engage in preventive and avoidant behaviours is influenced by attitudes towards public health interventions (Vaughan &Tinker, 2009) including having confidence in the efficacy of the behaviour (Bish & Michie, 2010).

4.3.3 Staying Home and Social Distancing

Participants had clearly heard the social isolation/distancing message.

> *(G1) If you're sick, go home. And if you're sick and you're at home, stay there.*
> *...That's right. I'm quite vocal about that anyway. I hate seeing people sick around me.*
> *[agreement from several]*
>
> *(P1) Not to go into a place.*
> *...Yeah, that's the one. If you should flu, you stay home and not go to (gym) or the group, or anything.*
>
> *(P3) And I said to them (the kids), you know, try to avoid sitting next to people with colds, and if you have the sign of cold, I'm not sending you to school. Because I don't want to be the one, you know, spreading it to other people. So OK, you miss a couple of days, but I think that's a better idea than actually putting others at risk in case you had it.*
>
> *(G3) I have to say that last year, when all of this was kind of very much in your face in the media, when I went down to the doctor's, I didn't really want to sit near people that were coughing and sneezing.*

Although participants recognised that isolation is an important response strategy, the economic pressures to go to work instead of staying at home was a major concern. This is consistent with previous research showing that perceived or actual economic impact is a major factor in decisions around avoiding the flu (Blendon et al., 2008; Gupta et al., 2006; Reissman et al., 2006; Vaughan & Tinker, 2009). These comments provide insight into another issue that should be included in business planning.

> *(G1) Well, the question is, can you afford not to. Or "I'm sick and I'm out of sick-leave" is actually quite a big driver. Yeah.*
>
> *(G2) It's always a bit tricky [staying home] when you've got a restricted amount of sick leave, though.*
>
> *(G1) Maybe you should. Maybe everyone should stay home with this thing. But where do you draw the line? Well, it would get a bit old after a while, wouldn't it. You know, "I can't come to work today; I've got a bit of a cold."*
>
> *(P2) That's a big push, yeah, that's a big reason why people still go out, even though they know they have a cough.*
> *...Yeah, that pushes me (into employment).*
> *.....You send your kids to school sick.*
> *.....Yeah, because you haven't the time, yeah.*

Kaumātua believed should a person develop flu-like symptoms they should isolate themselves from other members of the community, however they were concerned that when individuals are isolated they may not be contacted by members of the community or whānau (Wenn, 2010). It was recommended that the DHB contract with organisations to check up on kaumātua living alone to ensure that they have not become ill.

Concerns were also expressed by this group about observing tikanga at powhiri, in relation to tangihanga, and in observing greeting protocols. They also agreed that if there were an outbreak of H1N1 whānau who became ill would be "*brought home and all cared for under one roof*" (Wenn, 2010). These issues reflect the role that cultural and sub-cultural membership has in people's understanding of risk (Lupton and Tulloch, 2003).

Participants wanted clear guidelines about who should stay home and when, and they wanted backing from their employers with respect to this issue.

> *(G2) The biggest thing for me, though, for all of this discussion, is there needs to be something from your employer to say, if you are going to take sick days off, for essential swine flu, that there's leniency in your (level) of days.*
>
> *(G2) That's them pushing you not to be there if you're sick. But often they may say that, but you know in reality that you've got four jobs lined up. If you don't turn up, things aren't going to get done, and there's no support there for... either the jobs get pushed back, or for someone else to do them for you. I mean, if you don't turn up, sometimes the job won't get done. So I think it's important that you get backing from the employer.*

Participants felt that they had been given contradictory information about when to stay home and when to go to work or school which left them feeling uncertain about what to do. As noted above, consistency of advice is a significant important factor in communications from key agencies (Bish & Michie, 2010).

> *(G1) Should we send our kids to child care, if their mother has got swine flu?*
>
> *(G1) So at what point do you say no, well if you feel unwell, you should stay home, or the whole household should just stay home for a week, or you know...*

A number of kaumātua were concerned about the advice given in 2009 to stay at home, keep warm and take Panadol if you felt unwell. They reported that when they did stay at home, and eventually had to seek medical intervention, it was "*too late to have Tamiflu prescribed"* (Wenn, 2010).

The following extract illustrates of the confusion and frustration that can arise from what are perceived to be conflicting messages.

> *(P2) So that would probably be the most scariest one to me ... here I was with my pregnant daughter, she had to help me dress, had to help me get up to go to the toilet, and all that time I just thought that was the worst flu I've ever had… But never did I think that I had the swine flu. It wasn't until I came here, and I talked to the doctor here, Pacific Health, what happened. She said, "You've had the swine flu." "Are you telling me that some lady up there, up in A and E, said I had an infection of the lower (oesophagus)... and I let my daughter, who was pregnant, and my dad, with one lung, come in and feed me and dress me, and all that time... they could have got it."*

4.4 Information Preferences

Participants were reasonably vocal about what it was that they wanted to know and their views about the "who" and "how" of delivering key messages. These views comprise the information preferences theme and 7 sub-themes: symptom details, facts, specific actions, targeted messages, timing and frequency of messages, effective communications and trust and honesty.

4.4.1 Symptom Details

A strong theme that emerged was "knowing the difference" between swine flu and other flu. This is consistent with previous reports of a strong desire form the public for symptom details about influenza (Gupta, et al., 2006) and the finding that public information about signs and symptoms are beneficial to public understanding of a pandemic (Janssen, et al., 2006). As the following extracts illustrate, participants across all groups wanted to know about the specific swine flu symptoms which they could use to identify it and protect themselves from possible infection.

> *(G1) I mean, the big thing is what are the symptoms, particularly what are the unique symptoms to whatever the pandemic is, that differentiates it from regular flu, or a cold? And how infectious is it, and what's the mechanism of infection?*
>
> *(G3) If you have flu-like symptoms, to get a clear answer on whether they are... a lot of people didn't know whether they had it or not.*
>
> *(G2) Well, you know, it seemed to spread a lot easier than the normal flu, I think. But apart... I don't think the symptoms... it seemed to me that from what I read or heard after the fact, that the symptoms weren't necessarily much worse than the normal flu.*
>
> *(P2) You know, the meningitis, they tell you what the symptoms of the... but comes to the swine flu, they just tell us that when you cough, you've got it and all, and you don't share this. Why can't they have that, to give us more alert, to know OK, this is... looks like it's the swine flu.*

The concern expressed in the extract above about needing some sort of "trigger" point or symptom was echoed by other participants.

> *(G1)... what symptoms should I actually worry about, that should send me off to the doctor?*
>
> *(G1) But what should I, as an asthmatic, be looking for when I've got flu symptoms that indicates that it's heading towards that... you're in a high risk, and therefore you should be worried about it?*
>
> *(G1) I guess you want to know what to look for, too, don't you. Like swine flu, for a lot of people, it was just the flu..... And for the small percentage... who were the small percentage that needed to look out for their symptoms getting worse? Or what did you rate as the normal level of symptoms? And if it deviated off that normal level, then you should be ringing Healthline, or doing whatever it was that you were supposed to do.*

While there was a general consensus about the difficulty of distinguishing between the types of flu, some participants reported experiencing symptoms that were clearly differentiable from a regular cold or flu.

(G1) Like what was the one thing that made this flu any different from the other flus that... that's what I mean.

> *(P2) Yeah, and then when I... like you were saying, if we knew the difference? I don't think I would have known the difference until I actually got the swine flu. And it's way different than just having the flu. Yeah, I was like I couldn't get out of bed, my body ached. It's like somebody's stretching every muscle in your body, for not just a day or two days, for a whole week. It was terrible.*

A related issue which was discussed in two groups was testing and monitoring. A number of participants felt that the Ministry should not have "cut off monitoring quite so early" and that the failure to test for the H1N1 after health services became inundated with patients undermined the advice that the Ministry of Health was giving. These concerns are consistent with the view that surveillance combined with good scientific information and operational research is crucial in limiting the spread of H1N1 (Tay et al., 2009)

> *(G1) Even for the severe cases, they weren't testing any more. They were treating symptoms, which is appropriate, I guess, but there was not even any simple "draw the blood and test for the disease," and see if we had got a big spread, or if we'd just got lots of people with the flu, who were panicking. So we lost any chance we ever had of seeing just how bad it was last year, because we can't tell any more.*
>
> *(G2) Last year, didn't they stop actually testing at some stage?*
> *...So they got to the actual point where people had the flu, but you still didn't actually know that it was swine flu or not.*
> *.....Yeah.*
> *.....And so the numbers couldn't necessarily be (administered).*
> *.....Yeah, and then they came out and basically said, "Oh yes, it's about as bad, really, as the normal flu."*

4.4.2 Facts

In addition to the desire for symptom details many participants wanted concrete facts, such as how many people were diagnosed with or dying from swine flu. Some participants wanted to know percentages.

> *(G2) What I'd be keen to know is what the percentages are of getting swine flu, and ultimate deaths.*
>
> *(G2) So if there'd been 60% of the people that get the flu, that are exposed to the flu, without vaccination will die, ...Or the 2%, or 1% of people exposed to the flu, without vaccination, will die.*

Other participants preferred the information to be given as numbers because they found percentages confusing. One participant in the Pacific Peoples group felt that older people in particular have difficulty understanding this type of information.

> *(P2) Well one thing I remember is just, it's like they're giving us statistics of how many people are dying in different countries. They [older people] know by the number of people dying. If you said, this (number will die), this is how many people are in hospital, but if you say that "This percentage..." he'll go, "That's nice. That's very nice."*
>
> *(P3) Yeah. Percentages... wouldn't have any idea of that. Two out of ten, I think well, that would be better.*

For many participants it was not necessarily numbers they wanted but information that helped them judge the "seriousness" of the pandemic and their level of personal risk.

> *(G1) I mean not knowing that what the contagion mechanism was, in the early days, I think was the more alarming thing. ...how it was spreading, whether you'd been exposed, whether that was something to worry about.*

There was general agreement in Pacific group 2 that simplicity in the framing of messages was important. This is consistent with Fischhoff (2005) who contends that people can absorb only a small amount of information at a time and have difficulty understanding some kinds of information. He argues that risk communication, should therefore, take this into account and must identify the most critical facts.

The difficulty people have understanding some kinds of information was also illustrated by discussions about contagiousness and virulence. Focus group participants were asked about what they would be more worried or concerned about: something that spreads really quickly or something that may make people very sick but only kill a few people. Their responses reflected a limited understanding of these concepts with no distinction being made in terms of their relative seriousness.

> *(G1) Yeah. So it's not about proportions, it's about absolute numbers. You know, and...*
> *But I mean if there is no death risk at all, it's just like everybody gets it but it's gone, then...*
> *...Big deal.*
>
> *(G1) But the other thing too is it depends on how severe... just because something is extremely contagious... I mean, if it's just like a mild headache, and then it's gone, who cares? But if it's... yeah, if it makes you very sick, and it puts some people at risk of death because of it, then that's much more of a concern.*
>
> *Yeah, yeah. If we are not careful, it will spread.*
> *[IR] So what would get you more worried in your neighbourhood - lots of people getting sick, or a few people dying?*
> *.....Yeah. Getting sick.*
>
> *(G3) Mmm. A lot of people getting ill.*
> *...A few people dying.*
> *.....Dying.*
> *[IR] That contagiousness?*

...Mmm.
.....Yeah.

(P3) I think affects many people.
...Many people. Yeah.

4.4.3 Trust and Honesty

It is apparent from previous research that trust in authorities and satisfaction with communications received are associated with compliance of preventive, avoidant, and management behaviours (Bish & Michie, 2010., Paton, 2008.,Reissman et al., 2006;). Fischhoff (2005) states that people want the truth, even if it is worrisome, so honesty is crucial. Certainly our participants wanted to be told the truth, even if that meant being told "*we don't know, at this stage" (G2)*.

> *(P3) Give it to us the way it is. Because I'm sure adults are capable of dealing with that information, and then, you know, making their own choices later of how they deal with the information, but to actually be given that information, without any drama, and yet not being, you know, pushed under the rug somewhere.*
>
> *(G1) Yeah. I mean, they definitely shouldn't be lying to people, and saying that it's not a problem, when they don't know if it's a problem. Because that sort of thing, I think that destroys confidence.*

While some participants expressed confidence in the organisations providing information, others felt that they were not being given all the facts and that this affected their ability to make informed decisions. Trust in the information given is important because it affects the perceived credibility of risk assessments from authorities which in turn can influence response behaviours (Bish & Michie, 2010).

> *(G2) Well, I'm always dubious about the... particularly the death rates that... that was not real. A lot of the... from what I understand, a lot of people that died had pre-existing conditions. Asthmatics, severe asthmatics, severely obese, or whatever. But there's other factors involved in their death. Whereas if those death statistics were saying that lots of 35-year-old males with no previous medical conditions were dying, that relates to me a lot further, and maybe I would... maybe it would have a greater impact on my feelings towards looking after myself and my family.*

These views are consistent with previous research that shows transparency and honest communication where both good and bad news is conveyed empowers the public to make their own decision (Menon, 2008) and that openness of government communication and acknowledging uncertainty is important for fostering trust (Bish & Michie, 2010).

Consistency of advice also appears to be an important factor in communications from key agencies (Bish & Michie, 2010). Participants provided a number of examples where conflicting information or advice led to a feeling of confusion and frustration.

> *(G3) I think everybody kind of got confused, because there were so many different interpretations. Like if you've got this one... like TV1 was saying, "Yes, you've got this, this, this and this", and you can flick to TV3, and they're like, "Well, no, actually you've got this and this." ... You know. Just like, "Wait, aren't*

we talking about the same thing?" So you just ended up confused. Just kind of like, "Can't be bothered now."

(P1) ...at the beginning of the swine flu, the communication breakdown between the hospital and the local GP services. Because people were coming to the GPs, and they were referring them to the hospital, and then they were... (saying "No, we only take emergencies"), there's a lot of confusion.

Dissatisfaction with health providers was not limited to poor inter-agency communication. Just getting an appointment with a GP was difficult for some and others had concerns about how they were treated and the advice which they were given. Clearly for some participants there was a distinct lack of trust or confidence in their health provider.

(P2) And get an appointment. Even to get an appointment sometimes.
[general agreement]
...And then they get the nurse to ring you, and she judges whether you're sick enough. Well, you might not be sick enough today, but tomorrow you might be flat. So even to get an appointment is another thing, as well.
.....It's hard.

(G2) It was my experience with the bloody GP with the flu was like, "Oh yeah, you've got a virus. Drink lots of water, Panadol, .
...Except that it was different with (the swine flu).

(P1) And the assistance to our people - very slow to come. And they would be sent home, and they were waiting anxiously at home. Then there's this 0800 number that's been given, and the response was just the anxious wait.

The issue of financial impact is also relevant to seeking medical assistance with a number of participants reporting that the high cost of a doctor's appointment was definitely a deterrent to seeking treatment.

(G2) I mean I think it depends on how bad you feel you're hit by it. I even possibly contemplate going to the doctor, or whatever, and seeing how much GPs in Wellington charge.

(G2) I wouldn't go to the doctor unless I was dying now. $45, it's not too good.

The final word on trust is from a woman who believes she was misdiagnosed in the emergency department putting vulnerable family members at risk.

(P2) I don't think she knew what I had. I just think she wanted to go tick, "Goodbye, here's the antibiotic." ... and I believed her. And that's how naive I was. I should have gone again, but I thought, "Oh no, she's got the ticket. She's got the certificate that says 'doctor'." I trusted her. Well I mean, to be honest, when I came here further, I had the swine flu, I just wanted to get out and go back up there and find that little lady, and taking her and her certificate, and bang her up the side of the head and say, "You could have taken out my granddaughter, my daughter, and my father, because you were in too much of a hurry to go tick, tick, tick."

4.4.4 Specific Actions

Focus group participants expressed a desire for practical information to guide their responses to the influenza threat.

> *(G2) I mean, you can talk about prevention that's needed. Yeah …. I mean, I see posters up on how you could prevent spreading flu, and I think that's quite effective. You know, you just see diagrams, and it's (not) in your face all the time.*
>
> *(G1) Some clearer guidelines on when we're expected to stay home, and workplaces shut down, and this sort of thing.*
>
> *(P1) I think I'd like to hear them explaining about vaccinations. Not only to protect you, but the... you know, just encourage people to go ahead and have it... But not 100% telling them, "If you have it, you will be alright. You are not affected."*

These views are consistent with previous reports of research participants preferring risk messages that empower with information about actions that could reduce risk and/or mitigate consequences (Bürgelt, Paton & Johnston, 2009; Mackie, 2009; Rubin et al., 2009). People want to know how to protect themselves and their families during an influenza pandemic and the ability to act provides a sense of relief that "they could do something" (Janssen et al., 2006). According to Janssen et al. (2006), participants who received little or no information about protective actions they could take, expressed helplessness and frustration.

Tamariki Ora mothers generally felt that there is a *"lack of information,"* particularly that pertaining to children at risk of H1N1 and in relation to "*immunisation"*. Another question was raised regarding the ability of a mother to continue to breastfeed her baby should she become ill (Wenn, 2010).

4.4.5 Targeted Messages

Consistent with previous findings that language preference is an important factor in satisfaction with risk communications (Bürgelt, Paton, and Johnston, 2009). Participants in the Pacific Peoples groups stated strongly that messages should be communicated in an appropriate language.

> *(P1) ... they have to do it in their own language, which is more appreciated by the people. For example, for the Tongan. For example, for our people, they don't really understand, or they only understand less English. When they present in Tongan, they go become happy with the information.*
>
> *(P2) Sometimes our older folk, they don't understand English. They have to be in original languages. The diversity of the Pacific - I mean, for some of our older people, because it's their cultural background, and it's so hard for them to understand. I mean, if I'm a Cook Islander, I speak Cook Island to a Tongan, I don't think so that Tongan will understand what I'm trying to say. So maybe if it was put in advertisement or anything that goes on, that the languages also be put on. Like the three main Islanders. ...Samoan, Tongan, Cook Islands.*

There was agreement in one of the groups that the HPV campaign was effective due to the use of different ethnic groups and languages.

> *(P2) They're using the Pacific People, and the different languages. Like after the Cook Island one, they have a Cook Island lady saying...*

Discussions about language highlight the importance of disseminating information through community mechanisms (see Community Strategies).

As Vaughan and Tinker (2009) note, the acceptance of public health messages can be affected by factors such as socio-cultural behaviours, gender roles, generational differences, religious beliefs and language preferences. The following extract also supports the argument that emotions can also cloud people's decision making, so communicators must treat audiences respectfully (Fischhoff, 2005). In order to accommodate these cultural and demographic factors it is important to work through communities.

> *(P2) Sometimes I don't think it's just not only their language, but the way a Parangi would speak. My dad would say, "Oh, they talk like machine-gun. I don't know." ... And a lot of our Pacific Island people speak English well. It's the way you use your language. You speak too fast, your English words are beyond me. And they're not dumb, the people. They don't sit around with a dictionary, either. Sometimes it's just the way you... your tone. If you talk to them like they're dumb, well they'll just...They'll shut up.*

The following comment from a kaumātua also supports the argument that key health information and advice must take into account factors such as socio-cultural behaviours, spiritual beliefs and language preferences. In the event of an outbreak or pandemic, it would be difficult for kaumātua not to observe the protocols that are very much part of their traditional practices (Wenn, 2010).

> *(M1) If there was a outbreak we would have been ok, we were concerned at the lack of knowledge of tikanga Māori and it is not usual to have to stay away from marae or to stay at home, the thought of mass burials in a pandemic was culturally irresponsible.*

4.4.6 Timing and Frequency of Messages

Discussions around preferences for the timing and frequency of key health messages were contradictory. On one hand participants, especially those in one Pacific Peoples group expressed a desire to be given early information through frequent messages. Other participants however, felt that they were being "bombarded" with too much information too soon.

The following statements support the view that occasional media reports are insufficient to adequately inform individuals about pandemic preparedness, and interventions are needed *before* a pandemic occurs to improve public awareness, promote effective coping responses and help in the successful implementation of plans (Watkins et al., 2007). The participants wanted to be warned about potential risk well in advance to allow time for them to prepare.

> *(P2) Yeah, definitely beforehand (a few months before)*

> *(P1) Often. For me, often.*

...Mmm. Often.
.....Very important. Because people, you do slip away sometime... when it's very often people will keep reminding of people, then, about it.

(P1) Well, like I said, get ready before the winter months. That's what I want. By January let them tell us, not when is now, when we have the flu. That's when we tell, we already have the flu.

(P1) Not enough time. Not enough time for preparation.

(P3) It's better to be prepared and informed. And then it doesn't happen, it's good luck.
...Yeah.
.....You know, rather than not knowing, then suddenly being surprised by it.

In contrast others thought it would be better if information was given much closer to the actual event. This is consistent with previous research that found participants preferred "just in time" delivery of information to avoid having to think about pandemic influenza unless they had to or unless a pandemic was imminent (Janssen et al., 2006). Reissman et al., (2006) reported that "just-in-time" messaging that included technical terms, risks, health benefits and protective actions helped align public perception with realistic assessments of pandemic threat.

(G1) I don't know we should say anything unless there's a clear danger, because otherwise you just get used to it. I mean you ignore it.

The extract above illustrates the serious problem that arises from warning fatigue. Brown (2003) observed that too many early warnings can also result in cynicism, disengagement and a decline in trust in science and science-based policies. The exaggeration of risk can cause an undermining of trust (Sandman, 1993); people "get sick of hearing it" and are likely to "switch off" and ignore future warnings.

(G3) The thing is, the Council actually, through our intranet system, actually gave you all that information. And it was every single day we were bombarded with it. And I think if you get overloaded with stuff that you don't fully understand, then people actually just switch off after a while.

(G2) I mean, it's just all part of a larger condition, and I think it's one that's really hard for like disaster preparedness organisations, to actually penetrate through to get their message home. Because there are 400 other organisations trying to push their message home to every person, and it just becomes overload. So it's easier to not do anything.

(G2) We're bombarded by so much information. I mean some part of dealing with the 21st century, and certainly working in IT, I think, is you know, you have to filter the message so much that it's just... you know... it becomes the default state.
...You just go, "You've told me something. Does it affect me? Yes/no; discard."
.....Exactly. And you make a quick assessment of it, and a lot of it just becomes background noise.

(G3) But I think part of it is, that we've had so many health scares in the past decade. like SARS, , and different types of flu, and it's all this big media hype thing. And then it just kind of disappears.

4.4.7 Effective Communications

Focus group discussion about other information campaigns highlighted some differences between what participants considered to be effective communications and from who they wanted to hear important messages. Some advertisements were seen as very effective because they were "*straight-up, to the point" (P2)* and included people to whom the participants could relate.

(G2) I think that the alcoholic advert is good, really effective as well, actually.
... saying, "Next time you come, just don't bring your mate" ... the talent they chose for them, the way they've scripted them, it works really, really well.

(P2) [The HPV advertisement] I feel that is (very effective) . Because they're using the Pacific People, and the different languages. Like after the Cook Island one, they have a Cook Island lady saying, ("Don't have hesitation").

The perceived success of other campaigns was clearly associated with the person fronting that campaign as much as the quality of the presentation.

(G1) Going back to those first John Kirwan ads, they were just really nicely shot, with someone that... most New Zealand men would respect John Kirwan. He was the ideal person.

(G3) I think John Kirwan's a little bit different, because he's actually suffered from depression. So instead of just being a person that fronting it, he's actually going through it. And he is a famous person, so that's a little bit different. And yeah, he's a fantastic person to be fronting mental health.

When recalling the Civil Defence disaster preparedness advertisements, the participants were less certain about the identity of the presenter but did recall the general messages conveyed.

(G1) There was that ad on the TV, with that guy who does... Peter Elliott, is that his name?
...Oh yeah, yeah. He's one of those faces that reads things.
.....Yeah, so you have to be OK to be on your own for three to five days before someone is going to come and help you.

(G3) …you know, there's that actor that does the... I shouldn't say muddling through. Getting through whatever it is that that...
...Oh, the guy that used to be on Shortland Street.

(P2) Oh, packing up canned foods, water, batteries, portable radios.
...Batteries.
.....Light. Flashlight.
.....Making sure you know where your family will meet, in case of...

Not everyone felt that these types of advertisements were successful and a number of "problems" were identified. These highlight the problems associated with the passive

dissemination of information through the mass media which assumes that the audience is passive and will “hear” any messages that are given to them.

> *(G2) Those ads (disaster preparedness) just need to go further. All they say is, "I will be back to show you how", or something like that, but he never comes back, and there's never any of the instructional videos to go with... how to survive a...*
>
> *(G3) They have those adverts (disaster preparedness), and they put them on, and it's again, people look at it and go, "I'll do it next week. Oh, it won't happen to me.”*
>
> *(G2) There is a problem for some of these ads, is, they are a kind of a bit of the abstract stuff. Maybe what they need is just refocused, with 30 seconds of telling you some really important information. And it might not be the most interesting ad you've ever seen, but it might be actually useful.*

It was clear from the discussions that the front person was an important factor in presenting important messages. There was some interesting debate about who could “be trusted” and who was “believable”. Some participants felt that important messages should come from medical professionals or official agencies such as the Ministry of Health, DHB or WHO. This view highlights the importance of credibility which is regarded in the literature as a critical element in effective risk management and communication (Covello et al. 1989; Rimer & Kreuter, 2006). Communicators who are also scientists and perceived as being impartial and knowledgeable are more likely to be regarded as credible (Covello et al., 1989).

> *(G2) Someone medical, say a doctor in a white coat...*
>
> *(P1) Doctor. And the nurses, like...*
>
> *(G3) Well, the Ministry of Health, ideally, should front it, because you know, they're the national organisation.*
>
> *(G3) But you can imagine a... like a man at a table, with a World Health slogan. And (listen, I'd switch over to that).*
>
> *(G1) Yeah, a credible source, I think, is the thing. You know, not some blogger on the internet, for heaven's sake.*

Others disagreed and argued that the front person should be a role model, or someone recognisable to the public at large.

> *(P1) Or Judy Bailey. We all trust her.*
> *[laughter]*
> *...If she was fronting it, I'd feel far more trusting.*
> *.....True.*
> *.....I think it might stick in your mind a lot more if you'd got someone that looks familiar to you telling you the information. And I think that we do actually trust someone that maybe is a household name, more than someone that they have no idea who they are.*

The following extract is a good illustration of the debate.

> *(G1) (If) you know that the (spokesperson) .. it's actually an official. I mean, even though they don't have the media presence, … If it's the Director-General of Health, or one of his minions...*
> *...Oh, no, no, no.*
> *.....Or Selwyn Toogood.*
> *.....Yeah. You know, Selwyn... I know, but this isn't the...*
> *.....He'd be even more believable.*
> *[laughter]*
> *.....I mean, the question is, what the hell would he actually know about health? The same with John Kirwan yeah.*
> *.....Oh, they just need to read out a cue card.*
> *.....No, I'd rather have somebody there that knows, that knows about the issues, and can answer intelligent questions.*
> *... Not somebody who just knows what's written down in front of them.*
> *.....Yeah. Mmm.*
> *.....And somebody who's prepared to say, "We don't know, at this stage."*
> *.....Yeah. Preferably ."..and we'll find out."*

As some participants pointed out, it may be that a variety of communicators may be best. Indeed there is support in the literature for employing a multidisciplinary approach to risk communication with input from a range of experts (Fischhoff, 2005; Menon, 2008).

> *(G3) So there's that trying to find that mix, I think. It's about the mix of well-known role models, against (General Joe), of average public.*

> *(G2) I think the same message needs to come from a whole pile of different people.*
> *...Yeah. Talking the same message.*
> *.....Different people.*
> *.....Different ages.*

These comments confirm previous research that shows that people are more likely to act when information comes from within their own community; community leaders are highly credible sources of information and people would prefer them to be trained in issues of pandemic risk management (Lasker, 2004).

> *(P2) And the pastors is one of the key people that talks into the community.*

5.0 SUMMARY OF FINDINGS

5.1 Risk

National preparedness and risk

- New Zealand was seen by some as a relatively safe place to be in the event of a pandemic due to our geographic isolation and a perception of a fairly high level of disaster awareness.

Concern and risk acceptance

- Many saw the 2009 H1N1 pandemic as an overreaction and felt that it did not warrant being called a “pandemic.”
- Others took the threat seriously reporting feelings of anxiety, fear or panic, particularly once New Zealand cases were reported and/or when flu-related deaths occurred.
- There was cynicism about the veracity of media reports and a strong feeling that the media had a central role in the “overhyping” pandemic risk as it has with other events, such as tsunami.

Contextualisation and saliency

- Other risks, including illnesses such as heart disease, cancer, meningitis, respiratory disease were of more concern than a pandemic.

Risk perception

- Some perceived their risk of influenza to be low based on their history of rarely having experienced flu.
- Due to their personal circumstances and/or health history others perceived their risk to be higher.
- Awareness of “high risk” or vulnerable groups was high but some of those who identified themselves as “high risk” seemed uncertain about what this meant for them.
- Perceived dangers inherent in travel resulted in a variety of responses including cancelling travel plans.

5.2 Building Community Understanding

Key health messages

- General recall of key health messages varied but most were aware of hygiene measures such as hand washing, sanitiser use, covering coughs and sneezes, and staying home.
- There was little recall of the 2009 posters and there was concern about their accuracy and overuse and even less recall of the 2009 television advertisements and the messages in them.
- Generally information recall from 2009 did not result in reports of being better prepared or having changed behaviours.
- Where lessons had been learnt from the previous year, these were mostly related to improved personal hygiene measures, in particular hand washing and the use of sanitisers.
- Awareness of the 2010 campaign was scant and what was recalled tended to be from commercial advertising, for example for flu vaccinations and to get the jab with a smaller needle.

Information sources

- Media sources of pandemic information included newspapers, TV, radio and the internet.
- The primary source of information for participants was their workplace and/or community.
- The primary source of information for the general population groups tended be work, including workplace intranets.
- Pacific Peoples primary sources of information were the community, including social networks and family, regular forums and meetings, church groups and health centres.
- Kaumātua and Tamariki Ora groups felt that information was not readily accessible was a distinct lack of information and the current campaigns appear to have gone largely unnoticed.
- Kaumātua felt that in 2010 existing initiatives need to be revisited and updated and that information is best disseminated to places of work, kura, kohanga reo, whānau and to Māori health providers.

Community strategies

- While some were aware of general plans or the existence of emergency supplies at work, most had little or no knowledge of workplace pandemic or disaster response plans.
- Some felt that employers saw emergency preparedness as “individual responsibility”.

5.3 Responsiveness

Preparedness

- Few participants had stocked up on emergency supplies or prepared for the pandemic other ways but some had stocked up on food and essential supplies and/or had a family disaster plan.
- Some referred to “civil defence bags” which they had seen or had been given and there were mixed views on the effectiveness and usefulness of these.
- Participants were aware of advice to stock-up on pharmaceutical products, but a number found the array of over the counter products available very confusing.
- Many participants expressed concern that the cost of emergency kits could be a barrier for low income families and that some sort of financial assistance should be available.

Vaccinations

- Uptake of the annual vaccination varied greatly between focus groups and ranged from none (Tamariki Ora mothers) to almost everyone (kaumātua).
- Attitudes towards being vaccinated ranged from those who routinely have them to those who don't do flu shots.
- For some participants the decision whether or not to have the vaccination was clearly related to their perception of susceptibility or a lack of knowledge about the vaccinations.
- Some identified themselves as being in an “at risk” group still chose not to be vaccinated.
- Whilst cost was a factor for some in the vaccination decision, others chose not to even if it was free.
- There was a degree of cynicism about the effectiveness of the flu jab and about Tamiflu, in particular people making money out of it.

Staying Home and Social Distancing

- The social isolation/distancing message had clearly been hear but the economic pressures to go to work instead of staying at home was a major concern.
- Kaumātua were concerned that when individuals are isolated they may not be contacted by members of the community or whanau.

- Kaumātua were also concerned about observing tikanga at powhiri, in relation to tangihanga, and in observing greeting protocols and agreed that if there were an outbreak of H1N1 whānau who became ill would be brought home and all cared for under one roof.
- Participants wanted clear guidelines about who should stay home and when, and they wanted backing from their employers with respect to this issue.
- Many felt that they had been given contradictory information about when to stay home and when to go to work or school which left them feeling uncertain about what to do.

5.4 Information preferences

Symptom details

- A strong theme that emerged was “knowing the difference”. They wanted to know about specific symptoms of swine flu which they could use to identify it. They wanted to know what to look for, particularly the unique symptoms that differentiate it from regular flu or a cold.
- While there was a general consensus about a “sameness” between the types of flu, some participants reported experiencing symptoms that were clearly differentiable from a regular cold or flu.
- A number of participants felt that the MoH should not have cut off monitoring quite so early, that the failure to test for the H1N1 undermined the advice that the MoH was giving.

Facts

- Many participants wanted concrete facts, such as how many people were diagnosed with or dying from swine flu. Some participants wanted to know percentages but others preferred the information as numbers because they found percentages confusing.
- Some wanted information that helped them judge the “seriousness” of the pandemic and their level of personal risk or susceptibility, issues such as how it was spreading.
- There was general agreement in the 2nd Pacific group that simplicity in the message was important.
- Most did not understand “contagiousness” and “virulence”.

Trust and Honesty

- Honesty was seen as crucial. Participants wanted to be told the truth, even if it was worrisome or meant being told “we don't know, at this stage.”
- While some participants expressed confidence in the organisations providing information, others felt that they were not being given all the facts and that this affected their ability to make informed decisions.
- There were concerns about the lack of consistency of advice and a number of examples were given showing how conflicting information or advice led to confusion and frustration.
- Dissatisfaction with health providers was not limited to poor inter-agency communication. Just getting an appointment with a GP was difficult for some and others had concerns about how they were treated and the advice which they were given.
- For some participants the cost of a doctor’s appointment was a deterrent to seeking treatment.

Specific actions

- There was a desire for practical information to guide responses to influenza threat, such as when to stay away from work or school and information about vaccinations.

Targeted messages

- Pacific Peoples participants stated strongly that messages should be communicated in an appropriate language. There was agreement in one of the groups that the HPV campaign was effective due to the use of different ethnic groups and languages.
- Kaumātua views supported the argument that key health information and advice must take into account factors such as socio-cultural behaviours, spiritual beliefs and language preferences.

Timing and frequency of messages

- While some wanted to be given early information through frequent messages, others that they were being "bombarded" with too much information too soon and preferred "just-in-time" messages.
- Warning fatigue was reflected in many comments about feeling bombarded and overloaded with information and "switching off".

Effective communications

- In terms of other information campaigns, some advertisements were seen as very effective because they were direct and included people to whom the participants could relate.
- The perceived success of some campaigns was attributed to the presenter and there was some debate about who a credible or trustworthy front person would be.
- Some participants felt that important messages should come from medical professionals or official agencies such as the Ministry of Health, DHB or WHO.
- Others disagreed and argued that the front person should be a role model, such as John Kirwan, a variety of communicators, including "ordinary" people.
- There was some recall of the messages from civil defence disaster preparedness advertisements, such as having emergency supplies and having family plans.

6.0 QUESTIONNAIRE DEVELOPMENT

The secondary objective of the project was to develop a draft questionnaire to monitor people's responses to the 2010 wave. This was developed concurrently with, and informed by the focus group findings and previous research. As agreed with the Ministry of Health, the draft questionnaire will be made available as required.

The implementation of the questionnaire is not included in the current phase of the work. Any further development of the draft questionnaire should only to be undertaken when there are clear objectives for its purpose. The research team will be happy to assist with this phase.

7.0 DISCUSSION

7.1 Community engagement

Participants for this study represented diverse cultures and ethnicities. Some differences were identified in the analysis, such as a preference amongst Pacific Peoples for advanced warnings rather than the “just-in-time” messaging preferred by the general population groups. These are identified in the analysis section. The importance of these differences is not the differences per se but it is that they highlight the problem with a “one size fits all” pandemic warning strategy. Agencies must acknowledge that the public are diverse and need to be involved in the development and management of pandemic response initiatives appropriate for different communities.

The responses from all groups endorsed the need for community-based risk management including, information dissemination and shows that a one-size-fits-all approach risks antagonising and distancing communities and thereby reducing trust in agencies and the likelihood that advice will be followed. Social distancing, for example, is a protective mechanism that does not fit well with some cultural practices. It is therefore essential to develop risk management strategies that will be effective within the parameters of existing cultural and/or spiritual practices.

Community engagement is the most cost-effective way to accommodate high levels of cultural, demographic and ethnic diversity. Community strategies are important because research demonstrates that peoples risk beliefs and their commitment to act to manage their risk is socially constructed. When faced with uncertainty, people turn first to others to reduce their uncertainty and guide their preparation; often these are family and friends, but also health agencies with whom they have a direct relationship. They then turn to expert sources if they can not get the information in their community.

This was clearly reflected in participant responses; in particular those in Pacific Peoples and Māori focus groups. These groups identified community institutions such as forum, church groups and marae with established mechanisms which could provide useful vehicles for the dissemination of information and engaging with the community.

Engagement is more than the provision of information. With a community engagement perspective the role of the MoH would be that of consultant to the community or a change agent rather than trying to disseminate directly to the public in a top-down approach. The

phenomenon of unrealistic optimism is more likely to break down when people can talk to others about perceptions of risk and what they can do about it. The process of community engagement would facilitate discussion and provide opportunities for people to identify what others have done and revise their individual perceptions of risk.

The tendency for individuals to feel that they don't need to take preparedness actions because official agencies are doing so (risk homeostasis), can also be reduced through community engagement. It is important for agencies to identify what members of the public need to do and that individuals are able to differentiate between agency response and public response. Community engagement provides better opportunities to identify how respective agency and community strategies can compliment each other and jointly contribute to a more resilient society.

Developing community strategies could be facilitated through the training of existing community leaders in pandemic risk management. Given the community diversity in New Zealand this would require further research and consideration.

7.1.1 Workplace strategies

The apparent lack of pandemic planning in the workplace also calls for an engagement approach. Due to the diversity in New Zealand business, in type and regionally, a one-size-fits-all approach becomes problematic. The Ministry of Health needs to engage with organisations such as small business associations, chambers of commerce, industry forums, Lions and Rotary to support local businesses to better prepare for pandemics. For example, in areas reliant on tourism businesses are likely to be significantly affected by a pandemic and local organisations better understand the local context in which pandemic preparedness and planning needs to occur.

7.1.2 Societal preparedness

Cost was seen as significant factor in decisions whether or not to comply with recommendations. However, apart from vaccinations and antiviral use, most of these concerns referred to issues that also relate to other risk events, such as natural hazards. For example, the lack of planning for home quarantine is an issue that relates to emergency preparedness generally, not just pandemics.
Pandemic management strategies need to be seen in relation to the wider context of overall societal emergency preparedness. To this end the MoH needs to work with other agencies to consolidate risk communication and managements strategies wherever possible.

Preparedness for specific events, such as pandemics, might be better situated within more general risk campaigns rather than as stand alone approaches. Such a collaborative approach would also help reduce the sense that people have of being bombarded with information from multiple sources.

7.1.4 Framing messages

Information alone is insufficient to motivate people to prepare. The way in which information is presented or conveyed is an important factor in determining an individual's response.

People wanted messages about specific actions that they could take to protect themselves and their families and to mitigate any consequences. They wanted transparent and honest communication where both good and bad news is conveyed. There was a clear desire across all groups for clear and specific information, such as infection and/or death rates and defining symptoms. This reflects a failure to distinguish between the pandemic and its consequences and the importance of doing so in risk communications. Although participants said they wanted information about numbers or rates of influenza-related death, it is more important to convey the reasons why people die. Clearly it is necessary to think about how best to present technical/statistical information. This is an issue that warrants further research attention.

Risk communication should provide information that helps people differentiate between uncontrollable causes and controllable consequences and it is particularly important that the media echo these For example, influenza is something that is highly contagious but social isolation can reduce the risk of infection. Concerns and cynicism expressed about vaccination and anti-viral use suggests that more public education is required to respond to the lack of understanding of the functions and benefits of vaccination and anti-virals in managing pandemics.

Further research is needed to explore the complexities involved in the way in which the framing of risk messages impacts of people's perception of risk and subsequent preparedness and response behaviours.

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www.gns.cri.nz

Principal Location

1 Fairway Drive
Avalon
PO Box 30368
Lower Hutt
New Zealand
T +64-4-570 1444
F +64-4-570 4600

Other Locations

Dunedin Research Centre
764 Cumberland Street
Private Bag 1930
Dunedin
New Zealand
T +64-3-477 4050
F +64-3-477 5232

Wairakei Research Centre
114 Karetoto Road
Wairakei
Private Bag 2000, Taupo
New Zealand
T +64-7-374 8211
F +64-7-374 8199

National Isotope Centre
30 Gracefield Road
PO Box 31312
Lower Hutt
New Zealand
T +64-4-570 1444
F +64-4-570 4657