Positive provider interventions for enhancing influenza vaccination uptake among Pacific Peoples in New Zealand

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Abstract

Despite having reported influenza vaccination rates similar to New Zealand Europeans, Pacific peoples have significantly higher rates of infection, hospitalisation and intensive care unit admission than any other group in New Zealand. Much of this may be due to the presence of comorbidities. However, it is in the interest of Pacific health to promote vaccination widely within this group. Little has been written about what prevents and encourages positive vaccination amongst Pacific peoples. This article reviews current themes about vaccination practices amongst ethnic minorities with a view to identifying positive vaccination strategies for Pacific peoples living in New Zealand.

In the 2009 H1N1 pandemic in New Zealand, Pacific peoples had the highest infection rates of any ethnic group within New Zealand with seroprevalence of 49.5% (CI: 35.1-64.0). Hospitalisation and intensive care unit admission rates also surpassed those of other groups. Further, those long-term conditions which are thought to make the consequences of influenza more severe (diabetes, hypertension, asthma and obesity) are rife amongst Pacific Island peoples in New Zealand.

This increased vulnerability to influenza reflects patterns observed in aboriginal and indigenous peoples in other parts of the world. Indigenous peoples in first-world countries consistently have much higher incidence of vaccination-preventable infectious disease than non-indigenous peoples in the same countries as well as worse outcomes.

American Indian and Alaska Native populations had a mortality rate ratio of 4.0 in a group of 12 US states. Similarly, Canadian Inuit had significantly higher rates of both hospital admissions and death from H1N1 infection. Seventy-four percent of those children hospitalised with H1N1 infection in New Caledonia were Melanesian, despite comprising only 57% of the population.

The high susceptibility to influenza is not driven by lack of vaccination alone. Pacific peoples had similar reported vaccination rates to European New Zealanders during the 2009 pandemic. Whilst New Zealand does not have vaccination targets as part of its influenza prevention strategy, it is clear that Pacific peoples would benefit from increased vaccine coverage in order to circumvent the high infection and complication rates experienced by this group.

The fact that Pacific peoples are amongst the better vaccinated of the general population suggests that there is potential to recruit higher participation in a vaccination programme, an option that this manuscript explores.
Little research has been undertaken on Pacific Island populations in New Zealand to understand their attitudes towards vaccinations, and identify both barriers and facilitators of vaccination. This essay uses a traditional narrative approach to the literature to locate a range of themes which NZ health providers might consider to enhance immunisation amongst Pacific peoples.

Our initial step was to search the PubMed and CINAHL databases using the terms vaccination, vaccine coverage, immunization; AND, Pacific, Polynesian and island and their derivatives. As is often the case with understudied populations, this search availed no results, and compelled us to expand our search to include other indigenous peoples, and ethnic minorities.

We hand searched to extend the thematic areas that our initial search revealed, and explored literatures which describe barriers to vaccination, and health promoting practices in other indigenous and minority ethnic groups. We also looked at local publications to contextualise these findings.

From this and from our experience with this population (our first author is a Samoan-born registered nurse), we make recommendations health practitioners in New Zealand might consider in relation to improving vaccination rates amongst Pacific island peoples.

**Ethnic minorities and vaccination**

Poor vaccination rates have been observed in minorities peoples in other nations, despite, like Pacific peoples in New Zealand, often being more frequently burdened with chronic illnesses that make influenza infection more likely to incur complications. Studies in the US show that white [sic] Americans have an adjusted odds ratio of influenza vaccination of 1.52 (95%CI=1.35–1.71) for influenza vaccination relative to African-Americans. Similar discrepancies are observed amongst Hispanic Americans.

In Australia, influenza vaccination coverage amongst indigenous adults is higher than in non-indigenous. Vaccination is, however, completely funded for indigenous peoples, and only for those 65 years of age and older in non-indigenous. This funding initiative was developed in response to the observation that indigenous peoples were seven times more likely to be hospitalised than their non-indigenous counterparts.

Less has been written about Polynesian peoples. Whilst Pacific peoples in Hawai‘i aged 50-64 had similar rates of vaccination to Caucasians (OR 1.1, 95% CI=0.8-1.5); those with chronic disease, on the other hand, had the lowest rates of vaccination of any ethnic group (OR: 0.7, 95%CI: 0.4–1.2).

Vaccination rates in the Pacific Islands may be higher than for Pacific Islanders living in New Zealand. The Cook Island achieved a H1N1 vaccination rate of approximately 98% during in 2010, with those declining due reportedly to religious reasons, or allergy to the vaccine. The H1N1 team made signed editorial newspaper appeals for the public to be vaccinated, reassuring them about the safety of the vaccination and its origins. Vaccination was free, and was delivered in schools, in drop-in clinics and to each of the outer islands.
In Australia, a similar pattern is noted in Aboriginal settings. Influenza vaccination rates, as well as pneumonia vaccinations were significantly higher in National Aboriginal and Torres Strait Islanders if they lived in remote, as opposed to non-remote areas (80% for remote and 52% for non-remote). This speaks to better vaccination practices in more homogenous and less marginalised population settings.

By way of comparison, in May 2010, Samoa received 28,000 doses of HINI vaccine and as of November 2010, 22,489 people had received the vaccination. Whilst this does not constitute a high percentage of the population (total population 180,000), it makes very full use of the limited vaccination which was made available to the country by the World Health Organization, which only provided 10% population vaccination coverage to developing countries.

The priority groups identified by the Samoan Ministry of Health were health workers, pregnant mothers, adolescent and people with chronic illnesses. The vaccination was delivered free by community nurses (outreach nurses) both in the city and rural area. Private clinic/medical centres also immunised clients who requested the HINI vaccine.

Understanding vaccination practices

Lay-professional relationships have been identified as pivotal to vaccine coverage in minority groups. Health professionals have been shown to fall short in providing adequate information about vaccinations to ethnic minorities; in establishing a trusting relationship which could enhance vaccination practices; and in adjusting their communication style to the ethnic group.

Herbert et al reported “missed vaccination opportunities” among ethnic minorities in the United States. African-American and Hispanic patients who visited a primary care service during vaccination weeks for a reason other than vaccination were twice as likely to remain unvaccinated than their white counterparts, even if they did not have “resistant” beliefs about vaccination. The authors describe this as a health care provider failure to provide information to minority groups, and propose that its rectification would result in significant gains in vaccine coverage. This lack of information is accentuated in groups who have English as a second language. Indeed, poor language proficiency was positively associated with lack of vaccination in older adults in the United States.

In New Zealand, the problem of “missed opportunities” has also been noted with childhood, as opposed to influenza, vaccinations, across many groups. Thirty-one percent of a cohort of Tongan children had missed vaccination opportunities (an office visit at which a scheduled immunisation was due but not given).

Speaking the same language, however, does not mean that health belief systems are aligned or that indigenous people and health professionals will understand one another’s position. Gruen and colleagues pointed out that not only were concepts of health, illness and medicine unfamiliar to Australian Aboriginal peoples, hospital staff had poor understanding and appreciation of the needs of indigenous people and communities. As Ngata and Pomare have written about Māori people, “For Māori people health & sickness are inseparable from social encounter, economic
endeavours, recreation pursuit, respect for the environment and the maintenance of traditional cultural beliefs and healing practices" (p. 50).

The relationship between providers and patients is linked to vaccination rate. The information-giving skills and accessibility of the general practitioner were positively associated with vaccination. Trust in the GP has featured as contributing to accessing other preventive services by low-income African-American women, emphasising the importance of the health care relationship. However, the time required to build these relationships and provide information is often lacking in high deprivation practices, which may also help explain poor vaccination practices amongst under-privileged ethnic minorities.

African American and Latino adults participating in a focus group echoed the fact that information from their GP was important to their decision to be vaccinated. They described inadequate information about vaccination, and reported insufficient direction from their primary health provider. This is borne out by Lindley et al’s study demonstrating that provider recommendation resulted in higher vaccination rates among patients with a negative attitude towards vaccination. African Americans were more likely to have a negative attitude to influenza vaccination. This point is also evident in studies which don’t consider ethnicity in particular, but which identify physician recommendation as the most important factor in patient choice to vaccinate, and in parental choice to vaccinate their children.

Vaccination rates are affected by deprivation. If individuals are not included in targeted groups, the cost of vaccination itself may be prohibitive. However, deprivation has effects which go beyond the cost of vaccination itself. Even when services are free, the expense and availability of transportation contributes to poor use of medical services in Australian Aboriginal communities.

**Encouraging vaccination**

These limited studies do raise issues which should resonate with health care providers in New Zealand who seek to improve vaccination rates among Pacific peoples. They also align with findings about Pacific peoples which have been associated with health matters other than vaccination.

Whilst the systemic barriers to vaccination present in the mainly North American contexts are different than in New Zealand, important factors are nonetheless similar. This brief review clearly highlights the role of the patient-health care provider relationship as it contributes to immunisation disparities with African-American and Hispanic peoples in America.

Improving the vaccination of minority group members involves optimising the opportunities to discuss the benefits of flu vaccine. As we have observed in our own primary practice and position in the Samoan community, personal beliefs of Pacific peoples may be based on misinformation, and may give rise to vaccination avoidance. For example, we have had patients report that the vaccine would result in more and worse complications in case of infection, and that friends and family members had suffered from side-effects.

Countering lay beliefs about the risk of vaccination can arise from better circulation of information between primary care providers, Pacific peoples, and the wider...
community. However providers must take the opportunities when they present to discuss flu vaccination with their clients. These are the opportunistic moments when patients visit their providers for other concerns. Waiting for fortuitous encounters alone is not adequate, particularly as Pacific peoples may not receive public health messages as effectively as the wider population.\textsuperscript{22} Sending reminder letters in the patient’s native language may encourage vaccination requests.

Language has been shown to impact Pacific people’s access to and use of health care services for other health concerns. Follow-up phone calls (from a Pacific nurse when possible) should optimise the potential for vaccination requests. Linked with this is the imperative that providers be aware of minority groups enrolled in their medical centre so they can recommend the flu vaccine, as patients are unlikely to ask for it.\textsuperscript{21}

Yet, we cannot separate the issues of information from those of trust and suitable communication style. Community leaders are a valuable asset to health prevention strategies in general, and vaccination drives in particular.\textsuperscript{23} Faith based leadership is particularly important within Pacific populations, and could increase trust in the vaccination message as has been demonstrated in Hispanic populations.\textsuperscript{24, 25} Within the primary practice, attempting to greet Pacific patients in their own language can enhance the patient-health care worker relationship.\textsuperscript{25}

Casting vaccination as a community responsibility with flow-on benefits to children and grand-children may be effective in vaccine acceptance. This has been acknowledged as a motivator amongst Pacific Peoples in New Zealand for other health-related decision-making. Keeping the children healthy was touted as a reason for adult smoking cessation by Pacific peoples.\textsuperscript{26} This has been seen in other close-knit ethnic communities; concern for families and community was part of the moral code for elderly Chinese people to vaccinate during the SARS epidemic, in adherence to principles of filial piety.\textsuperscript{27}

An additional advantage of using external community organisations in vaccination education delivery is that it circumvents practical barriers like transportation, language and family support. The church serves as a community hub; attendance at Sunday and other services is a social expectation to which a large number of the community adhere. If language presents a barrier for some individuals, making contact with them, or even offering vaccinations, in the church or in church-related activities ensures the presence of family members with better English proficiency.

However, community contact must extend to the other health professionals with whom Pacific peoples have regular interaction. Providers might consider working in collaboration with their local pharmacists and other health care workers already established in the community to ensure that the educational messages about the benefit of influenza vaccination are consistent and reinforced with clients not only at the medical centres, but in other health encounters.

Avoiding the missed opportunities highlighted by Herbert and colleagues involves not only educating Pacific peoples about the benefits of influenza vaccination, but educating health care providers about both the frequency and the manner in which they present this information to patients. Messages from health providers to minority peoples may not be tailored to their needs.\textsuperscript{12}
Reminder messages and postcards, for example, which are a common means of communicating health reminders within a practice, may not work effectively in a population which does not necessarily have English as a first language, and which may not have a strong level of trust in their non-Pacific health provider. With this in mind, the exploration of how we might expand effective message delivery in ways more suitable to this particular population. Using local knowledge provides a powerful support to primary care providers to ensure access to improve the number of vaccinated clients.

Such local knowledge may include understanding practices surprising for mainstream health providers such as praying, eating particular foods and employing traditional health practices. Caribbean islanders, for example, see Western medicine as a second, rather than first-tier approach to influenza prevention and treatment. The advice of elders (for example, the Cook Island tūpuna and the Samoan matai) may carry more weight than that of the health professional; enlisting their support would be useful.

Finally, recognising that deprivation may be a barrier to vaccination in Pacific Peoples, as it is to other forms of health care, must be considered. Influenza vaccination is only subsidized for targeted group including pregnant women, the morbidly obesity, those with some chronic diseases, aged over 65 or under 5 in high risk groups. Ensuring that every opportunity for subsidization is explored within this group may increase vaccination requests.

Actions which improve vaccination rates have the potential to provide significant health gains to the Pacific community. The unequal impact of the recent H1N1 pandemic on Pacific peoples punctuates the importance of vaccination in this vulnerable group.

Possible strategies for enhancing influenza vaccination for Pacific Peoples in New Zealand

- Increase opportunistic vaccination opportunities
- Target Pacific Peoples in their own language with reminders and telephone follow-up
- Work with community leaders—including faith-based local pharmacies and other trusted health care providers
- Provide vaccination opportunities in the community outside of the health care setting
- Stress the community benefit of individual vaccination
- Maximize subsidization opportunities
Competing interests: None.

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