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“Health is Wealth”: co-designing and piloting a respiratory winter preparedness intervention with a Samoan church community in Aotearoa New Zealand

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Abstract

In Aotearoa New Zealand respiratory infections disproportionately burden Samoan communities. Community-based initiatives involving Samoan church groups demonstrated effectiveness during COVID-19, highlighting the potential of faith-based partnerships. Following a local church's request, a community-research partnership was formed to co-design a respiratory winter preparedness conference. The conference integrated Samoan language, culturally tailored health education, and on-site primary care services (e.g. free vaccines). Feasibility was evaluated through pre- and post-conference questionnaires, interviews with attendees, and post-conference research-partner meetings (talanoa). Over 300 church members attended. Talanoa with attendees, post-conference research partner talanoa, and questionnaires demonstrated enthusiastic acceptance and preliminary evidence of improved health knowledge, increased immunisation uptake, and enhanced primary care access. Delivering respiratory health content within a broader, holistic health framework, which is consistent with Samoan cultural values, was identified as a key enabler of engagement. This community-partnered, culturally grounded approach offers a promising model for addressing respiratory health disparities in Pacific communities.

Background

Acute respiratory infections, including influenza and Respiratory Syncytial Virus (RSV), result in a significant seasonal health burden in Aotearoa New Zealand (NZ), typically between May and November[1,2]. These infections disproportionately affect vulnerable groups, including young children, older adults, the immunocompromised, and Māori and Pacific peoples[2,3]. Pacific communities face particularly stark disparities: estimated influenza hospitalisation rates are higher in Pacific people than in European and other ethnicities (83.3 vs 58.1 per 100,000)[2], and RSV-related hospitalisations remain higher in Pacific adults even after adjusting for age and socioeconomic status (SES) (relative risk [RR] 3.5; 95% CI 2.6–4.7)[1]. Pacific and Māori children are also more likely to present to emergency departments with respiratory virus infections compared with other populations[4]. These disparities underscore the need for health interventions that are designed with and for Pacific communities — an approach already proven effective in NZ through programmes such as Pacific Heartbeat (Heart Foundation NZ)[5].

Pacific people constitute the fourth largest population group in NZ[6], of whom 48.1% are Samoan[7], with most residing in Auckland, the country's largest city. Over two thirds of Pacific people living in NZ identify as Christian[6], making churches a central pillar of Pacific social life: spaces where "cultural practices and language are encouraged and reinforced, and community cohesion and identity created, reinforced and sustained"[8]. This social infrastructure positions faith-based settings as natural and trusted entry points for health intervention.

The potential of church-based health initiatives was clearly demonstrated during COVID-19, when Pacific churches hosted vaccination stations that enabled parishioners and the broader community to access health services in familiar, welcoming environments[9]. This experience reinforced the value of bringing

Pacific peoples together "to support one another for health and community development"[10], and highlighted the church's role as a trusted intermediary between health systems and communities. The generally large congregation sizes of Pacific churches in Auckland further amplify this reach, offering an opportunity to engage individuals, including those who might otherwise be hesitant to participate in health-related activities[11], through established bonds of trust and community.

While faith-based health promotion is not new, the community-partnered research conference model remains underutilised in this context, despite its potential to reduce health disparities in underserved communities[12]. This model enables community members to engage with research and knowledge, similar to participants in academic conferences,[12] while simultaneously equipping them with practical tools to promote health within their own networks. Crucially, it elevates community voices, increases the visibility and accessibility of the research process, and improves the translation of research findings back to the community[13]. Community members become active participants in the research process[14], and community capacity is built through evidence-based training, co-led presentations, and meaningful input into how findings are interpreted and applied[12,13].

Researchers from the Universities of Auckland and Otago, in collaboration with Moana Connect, a Pacific-owned organisation specialising in research, evaluation, learning and community initiatives - alongside leaders from a South Auckland Samoan church, designed and piloted a winter respiratory preparedness intervention using this community-partnered conference model. The initiative aimed to investigate its impact on knowledge, attitudes, and intended behaviours related to managing and reducing the spread of respiratory viruses during the 2024 winter season, while intentionally enhancing community engagement, fostering research participation, and promoting shared project ownership.

Methods

Study design and community partnership

The research was grounded in a community-based participatory action approach[15], undertaken in partnership with a Pacific church community based in Māngere, South Auckland. Community-based participatory action research is grounded in equity, and values community participation that often 'blurs' the lines between researcher and research participants, which aims to minimise power imbalances and promote the sustainability of research aims and benefits beyond the study timeframe[15]. This overarching methodology was further underpinned by Pacific values and research approaches, which emphasise relationality, reciprocity, and collective ways of knowing, and research methods, including talanoa[16], for data collection.

This approach was enacted through a collaborative partnership between researchers from the Universities of Auckland and Otago, Moana Connect and leaders from the Māngere Samoan church. The partnership was intentionally designed to promote shared ownership of the research process, elevate community voices, and ensure the intervention was culturally grounded and community led. Findings

were subsequently disseminated back to the community at a celebration event on the 23rd of September 2025, which was attended by approximately 100 community members. The event included food, singing, and communal gathering, which reflected the community's cultural values and ways of coming together.

Ethical approval was obtained from the University of Auckland Human Participants Ethics Committee (UAHPEC27806).

Formative work and intervention development

Building the research relationship: The community partnership underpinning this study grew organically from a prior research project investigating emerging respiratory virus infections in community groups following COVID-19, during which respiratory virus testing was conducted with the Māngere Samoan church community. At the conclusion of that project, a meeting was held between Moana Connect, the research team, and the church, at which point the church community itself raised the idea of hosting a health conference focused on respiratory winter preparedness for South Auckland churches. The research team developed an initial concept and brought it back to the church community to discuss and shape collaboratively.

Consultation and intervention development: To ensure the conference aligned with the needs and aspirations of the church community, Moana Connect and the research team undertook a series of facilitated meetings with the church's lead representative and church elders. These meetings served as a platform for active participation and knowledge sharing, allowing the research team to be guided by the community's own expectations and priorities. The process aimed to seek advice, build trusting relationships, and secure the acceptance and support of community leaders. A community champion within the church played a crucial role throughout, facilitating communication between church leaders, the broader community, and the research team.

The content and structure of the "Health is Wealth" conference were directly shaped by these consultations. Notably, although the conference was initially conceived as focused on respiratory illness and influenza, the community expressed a preference for addressing broader health issues including gout, diabetes, and cardiovascular disease, reflecting a more holistic view of health[17]. Church elders requested a range of keynote topics, the presence of primary care providers and community services (including vaccinations and dental care), and Samoan-speaking or Pacific clinicians wherever possible. Interactive elements such as Zumba, cultural performances by the church youth group, and live music were also requested, reflecting the community's desire for the day to be engaging, entertaining, and inclusive of all age groups. These pre-conference talanoa were therefore central to ensuring the event would be relevant, culturally appropriate, and genuinely community led.

Finally, a series of action group meetings, involving members from the church, Moana Connect, and the Universities of Auckland and Otago, were held to finalise the details of the winter preparedness intervention and confirm the conference programme.

Conference design and delivery

The "Health is Wealth" Māngere Samoan Church conference, as named by the community, was held on Saturday, 8 June 2024. Moana Connect collaborated closely with their internal community team, leveraging existing relationships to coordinate the participation of 19 services across primary care, social services, and community groups (**Table 1**). An introductory information video was shown at the beginning of the conference, orienting attendees to the conference programme, the research team, and the services available on the day.

<< Insert Table 1 about here >>

Six speakers presented on topics directly relevant to the community's health needs: gout, diabetes, influenza, vaccinations, cardiovascular health, and rheumatic fever. A video featuring Pacific clinicians discussing influenza and offering practical health tips was screened during the event to further support influenza awareness.

A free vaccination station was established by a local health provider, offering all NZ national schedule vaccines, including childhood immunisations and influenza. Dental health checks were also available for children.

Study participants and recruitment

Participants were recruited directly through the church and via radio promotion, which was undertaken through Radio Samoa, with representatives from both Moana Connect and the Māngere church community promoting the Health is Wealth event and outlining the services that would be available. The conference was open to church members and their friends and family, and all age groups, with all attendees were welcome to participate in the activities offered on the day. However, only those who provided informed consent contributed data to the study. All attendees aged 16 years or older were invited to participate in the research component of the day. Inclusion criteria required participants to be aged 16 or older, able to read and understand Samoan or English, and to have attended the "Health is Wealth" conference with the intention of remaining at the conference for the full day. Participation in the church elders' talanoa, held approximately two weeks after the conference, required participants to be a senior church leader.

Participant Information Sheets (PIS) and Consent Forms were distributed at the conference entrance and were available in both English and Samoan. A QR code was provided so that potential participants could access these documents online. Members of the Moana Connect team were present with tablet computers to assist with study enrolment. The introductory information video shown at the start of the conference was also designed to support the informed consent process. Participants read the PIS and provided consent prior to participating in any data collection activity. A similar process was used for the short talanoa interviews.

Quantitative data collection and analysis

Quantitative data were collected via a study-specific questionnaire exploring knowledge and attitudes regarding influenza and the influenza vaccine, as well as feedback about the conference. The questionnaire was administered either as a paper-based survey or online via Qualtrics, with an estimated completion time of four minutes. The survey was available in both Samoan and English. .

To enable linkage of pre- and post-conference responses while preserving anonymity, participants self-generated a unique six-character alphanumeric identifier at the beginning of both surveys. Participants re-entered this identifier when completing the post-conference questionnaire at the end of the day.

Baseline results are reported for all participants who completed the pre-conference survey. For pre-post comparisons, only participants with matched pre- and post-conference surveys were included. All quantitative measures were summarised using descriptive statistics, with categorical variables presented as frequencies and percentages. Paired-samples proportions t-tests were used to assess changes from baseline in knowledge-related items. All statistical tests were two-sided with a significance level of 5%. No imputation was performed; missing data were excluded on a per-item basis, and results are presented as proportions of respondents who provided valid responses to each item.

Qualitative data collection and analysis

Short talanoa (interviews): Talanoa were conducted throughout the conference day across two booths set up in a room adjacent to the main conference space. Booth One explored participants' views of the event, including what they most enjoyed, the most important or surprising thing they had learned, and any suggestions for improvement. Booth Two focused on participants' understanding of influenza and their experiences with the influenza vaccine. Interviews were approximately two minutes in duration, audio-recorded, and conducted in either English or Samoan according to participant preference.

Church Elders Talanoa: A talanoa with senior church leaders was held approximately two weeks after the conference (Fig. 1). This session explored the elders' own experiences of the conference and any feedback they had received from church members in the intervening period. A Samoan-speaking facilitator led the talanoa, with Moana Connect delivering a presentation in the Samoan language.

Audio recordings from both the short talanoa sessions and the post-conference talanoa were transcribed. Transcriptions were coded using QualCoder and themes were developed through collaborative sense-making sessions among the research team. Analysis was predominantly deductive, guided by the predetermined questions and themes that had structured data collection.

Results

Over 300 Church members attended the “Health is Wealth” conference. Unfortunately, as people came and went throughout the day, and not everyone participated in the study, we were unable to record the exact number of participants.

Pre-conference survey

A total of 206 surveys were distributed (155 English, 51 Samoan). After excluding respondents who did not meet inclusion criteria (n=45 English, n=7 Samoan) and removing one duplicate response (a respondent who completed the survey in both languages), 153 valid pre-conference surveys were retained (109 English, 44 Samoan). Demographic characteristics of pre-conference respondents are summarised in **Table 2**, reflecting a diverse age range among participants. Note: all questions were optional, as such, the number of responders differed between questions.

<< Insert Table 2 about here >>

Participants demonstrated generally high awareness of influenza risks, particularly for vulnerable populations such as older adults and pregnant women (**Table 3**).

<< Insert Table 3 about here >>

Regarding vaccination behaviour, approximately half of respondents (49.7%, 76/153) reported receiving the influenza vaccine every year, while 28.1% (43/153) reported vaccinating in some years, 19.6% (30/153) reported never vaccinating, and 2.6% (4/153) were unsure of their vaccination status. The primary reasons for receiving or declining the influenza vaccine are detailed in **Table 4**.

<< Insert Table 4 about here >>

Among those who vaccinate, the desire to avoid illness (84.9%, 101/119) and to protect others (68.1%, 81/119) were the most commonly cited motivators. Among those who do not vaccinate, aversion to needles (29.4%, 10/34) and concerns about side effects (23.5%, 8/34) were the most frequently reported barriers.

When asked about their vaccination intentions for the current season, the majority of participants had either already received the vaccine (34.6%, 53/145) or planned to do so (31.7%, 47/145). A further 12.4% (19/145) indicated they would probably vaccinate but had not yet done so. The remaining participants indicated they would not vaccinate (6.5%, 10/145), would probably not vaccinate (5.9%, 9/145), or were unsure (4.6%, 7/145).

Post Conference survey

- A total of 144 post-conference surveys were collected (47 Samoan, 97 English). After excluding respondents who did not meet inclusion criteria (n=14 Samoan=10 English), 120 valid post-conference surveys were retained. Of these, 82 participants had completed both the pre- and post-conference surveys, enabling paired pre-post comparison. The results indicate meaningful shifts in participant knowledge and attitudes following the conference, particularly regarding improved understanding of recommended ages for funded flu vaccines and influenza risks for pregnant women (**Table 5**).

<< Insert Table 5 about here >>

Short interviews, Talanoa, and celebratory event findings

Thirty-one short talanoa (interviews) were conducted on the day of the conference (17 in Booth One, 16 in Booth Two), and a talanoa was held with 38 senior church leaders approximately two weeks later. Findings from both data sources were broadly consistent and are presented together below, organised around four narrative threads. Where the two sources converge, this is noted explicitly.

Acceptability & Engagement

The conference was enthusiastically received by both attendees and church leaders. Participants praised the organisation and energy of the event, noting that the clear structure and speakers contributed to a positive atmosphere throughout the day:

"I was impressed by how well-structured the event was. The schedule was clear, and the speakers were timely. It really helped keep the energy high throughout the day." (Participant 240608 9101)

The participatory nature of the event, including interactive elements such as Zumba and cultural performances by the church youth group, was particularly well received. Church leaders echoed this sentiment in the talanoa, expressing gratitude that their voices had been genuinely heard in the design of the conference and noting that the format had created an environment conducive to trusted sharing and open dialogue. The involvement of Samoan and Pacific clinicians was highlighted by both attendees and church leaders as central to the event's success, ensuring that health content felt culturally relevant and relatable rather than imposed from outside the community. The educational sessions were praised for their clarity and practical relevance, with participants noting they had gained actionable insights applicable to their daily lives:

"Today was very useful... hearing information and the explanation of the usefulness of the vaccine." (Participant 240608 608)

Access to on-site health services, including immunisations, oral health checks, and screening, was also highlighted as a major strength of the day by church leaders, who noted that these services addressed both immediate health needs and longer-term preventive care.

Language, Culture, and Health Literacy

A particularly strong finding across both data sources was the critical importance of language in enabling meaningful engagement with health information. Many interview participants spoke of the profound difference that having speakers present in Samoan made to their understanding and sense of connection with the content:

"Having the speakers communicate in Samoan made a huge difference. It allowed us to fully understand the topics and engage more deeply. Language is a bridge, and it helps us connect with information on a personal level." (Participant 240608 3345)

Church leaders similarly emphasised that the use of Samoan throughout the sessions was crucial in ensuring that all participants felt comfortable, empowered, and able to fully engage. This finding underscores the role of language not merely as a practical tool for comprehension, but as a mechanism for cultural connection and trust.

A small number of non-Samoan attendees noted, however, that they would have benefited from more English-language content:

"I would like to see more English... just to make non-Samoan people understand." (Participant 240608 478)

This highlights language accessibility as an important consideration for future events, particularly as the conference model is expanded to broader and more diverse audiences.

The decision, which was made during the formative consultation phase, to broaden the conference beyond respiratory health to encompass conditions such as gout, diabetes, and cardiovascular disease was also reflected in participants' responses. Attendees and church leaders alike affirmed that addressing health holistically, within the context of the community's lived experience, was more meaningful and engaging than a narrower clinical focus would have been:

The desire for more speakers and more diverse health perspectives was also noted, suggesting that the community's /for health knowledge may extend beyond what a single-day conference can accommodate:

"It would be great to have more speakers share their expertise on various health topics. The more voices we hear, the richer our understanding becomes." (Participant 240608 3345)

Community needs and future directions

Participants offered substantive and constructive feedback that points toward the broader health and social needs of the community. Several attendees raised the importance of addressing topics that remain stigmatised or unspoken within the community, including mental health and sexual health:

"Mental health is often overlooked in our community. We need to talk about it more openly and provide resources for those who are struggling. It's crucial for our wellbeing and for breaking the stigma." (Participant 2406081)

"It would be good to talk about sexual health... it's totally unspoken." (Participant 240608 451)

Church leaders i echoed the desire for expanded services, with specific requests for greater support around housing assistance and engagement with local police, reflecting a community-level recognition of the broader social determinants of health and a desire for a more integrated support system.

Practical suggestions for improving future events were also offered, including better promotion through social media, community newsletters, and local radio to reach a wider audience, as well as clearer communication around event logistics such as schedules and speaker line-ups.

Community Response to Research Findings

On the 23rd of September 2024, the research findings were disseminated back to the community at a celebratory event held at St. Therese Māngere Catholic Church Hall, attended by over 100 community members including church leaders, congregation members, and members of the research team. Consistent with the community-based participatory action approach underpinning this study, the dissemination was framed as a communal celebration, which incorporated food, singing, and shared reflection, in addition to a more formal research presentation. This format fostered a sense of collective achievement and encouraged meaningful dialogue about the findings, while also normalising the research process. This approach was also guided by the Pacific value of reciprocity, recognising the importance of giving back to the community through the sharing of knowledge, resources, and services generated through the study.

Participants reported that the presentation deepened their understanding of the research process, including the survey methodology and the implications of the data collected. For example, some had not previously understood why the survey was repeated pre- and post- the conference events. (This feedback also prompted the research team to consider how to improve their explanations to participants at future similar events). The participants' increase in research literacy was itself identified as a meaningful outcome of the project, reflecting the capacity-building aspirations of the community-partnered approach. The dialogue generated at the event also produced an important recommendation for future iterations of the conference: that the event be expanded to two days, with the first day focused on health information and education, and the second dedicated to social services such as housing and community support. This recommendation reflects the community's recognition of the interconnectedness of health literacy and service access, and their desire for an approach that addresses both.

Discussion

This study employed a community-based participatory research (CBPR) framework[15] to co-design, deliver, and evaluate a winter respiratory preparedness conference . CBPR is grounded in principles of equity and shared ownership, and is characterised by the intentional blurring of boundaries between researcher and researched — minimising power imbalances and promoting the sustainability of research benefits beyond the study timeframe[15]. The present study reflects these principles across all phases of the research process, from initial conception through to community dissemination of findings.

The study is itself illustrative of authentic community partnership. Rather than a research team identifying a gap and seeking community participation, the impetus for this conference came directly from the church community, who, at the conclusion of a prior respiratory virus study, articulated a desire for a health conference focused on winter preparedness. This ground-up origin is a meaningful marker of genuine partnership and community agency[18].

During the formative consultation phase, the community highlighted the importance of embedding respiratory health within a wider construct of wellbeing, the importance of which has been previously acknowledged[10], identifying other health priorities that disproportionately affect their own communities, including diabetes[19], gout[20], and rheumatic fever[21]. In response, a collective decision was made across all three partnership groups to broaden the conference focus, resulting in the "Health is Wealth" concept. This shift, from a researcher-led respiratory focus to a community-directed holistic health framework, is a concrete example of CBPR in action, and qualitative feedback from both the conference day and the subsequent talanoa affirmed that this approach was consistent with the community's collective vision for health and wellbeing.

The design and conduct of the research process were similarly iterative and collaborative. While the research team had initial ideas about data collection, these were appropriately tempered by feedback from the church community and Moana Connect, who emphasised the importance of minimising the burden of quantitative data collection and prioritising Pacific values and research methods such as talanoa. Working directly with the community and ensuring their voice was meaningfully incorporated into the conference design proved vital to its success. Community-directed requests, including the presence of primary care agencies, free dental services for children, a vaccination station, a church-based venue, Samoan-speaking and Pacific health providers, and Zumba exercise sessions, were all enacted and subsequently identified by attendees as central to the conference's success.

The final celebratory dissemination event exemplified the reciprocal nature of the CBPR approach. Facilitated by a church leader and involving all partnership members, this event provided a culturally appropriate and community-endorsed platform for sharing research findings[15]. Critically, community members reflected that the dissemination event had deepened their understanding of research and the research process, and that, as a result, they would be more willing to engage with future research activities, including completing questionnaires, now that they understood the value of such data collection. This represents a meaningful capacity-building outcome that extends beyond the immediate findings of the study.

This study's findings also align closely with the approach advocated by Pritchard (2011)[22], who identified several key strategies for increasing uptake of health services by Pacific communities, in this case specifically regarding the influenza vaccine. Key strategies included providing vaccinations in community settings outside of traditional health care environments, ensuring the use of community languages, and engaging community and faith-based leaders. Each of these strategies was embedded within the design of the present study, not as a deliberate translation of Pritchard's recommendations, but as a natural outcome of a community-directed co-design process. This convergence strengthens the case for this model as an evidence-aligned approach to addressing vaccine inequity in Pacific communities.

Knowledge and Attitudes

Key gaps in the community's knowledge of influenza and the influenza vaccine were identified through the pre-conference survey. While participants were generally able to identify those at greatest risk of

severe influenza outcomes, including older adults and pregnant women, important misconceptions were prevalent. Over half incorrectly believed that the common cold and influenza are the same illness, while just over one third of participants correctly identified six months as the age from which the influenza vaccine is recommended in NZ. Most notably, almost three quarters of respondents believed that the influenza vaccine could cause influenza, a widely held misconception that represents a significant barrier to vaccine uptake[23]. These findings highlight the need for improved, accessible, and culturally tailored public health education resources around influenza and influenza vaccination in NZ. However, educational materials should be pre-tested in the population of interest, given evidence that directly correcting the myth that the influenza vaccine causes influenza may actually backfire[24].

Despite these knowledge gaps, attitudinal findings were encouraging. The majority of participants (>90%) agreed that the opinion of their general practitioner, nurse, or other health provider was important in their influenza vaccine decision, that the influenza vaccine was safe, and that they trusted the information they received about vaccines. This high degree of provider trust and vaccine confidence is a meaningful finding, suggesting that knowledge gaps, rather than vaccine hesitancy per se, may be the primary modifiable barrier to improved vaccine uptake in this community. Targeted, trusted, and culturally appropriate education, delivered through respected community channels such as those utilised in this study, may therefore be particularly effective.

The conference produced preliminary evidence of improvement in some areas of knowledge. Statistically significant improvements from baseline were observed in the proportion of participants correctly identifying pregnant women as being at increased risk of influenza complications, and in correctly identifying six months as the recommended age for influenza vaccination. However, other knowledge domains did not improve significantly from baseline. It is plausible that the reach and impact of the influenza-specific educational session was attenuated by the fact that many attendees arrived at the conference at different points throughout the day, and therefore may not have been present for all sessions. Future iterations of the conference should consider how to ensure key health messages are reinforced across multiple touchpoints throughout the day, rather than confined to a single session. The use of interactive approaches, such as a brief knowledge quiz at the beginning of the influenza session to surface misconceptions and engage participants, may also enhance learning outcomes.

Vaccine-Related Behaviours

Survey respondents were asked to self-report influenza vaccine uptake, and rates appeared broadly comparable to national data, though direct comparison is limited by differences in response options and eligibility criteria. For the 2024 influenza season in NZ, uptake of the influenza vaccine among older Pacific people eligible for a funded vaccine was 52%[25]. In the present study, approximately half of respondents reported receiving the influenza vaccine every year, while just over one quarter reported vaccinating in some years, and approximately 20% reported never vaccinating. It is important to note that these figures reflect all respondents, not only those eligible for a funded vaccine, which limits direct comparison with national data.

The motivations reported for receiving the influenza vaccine are noteworthy. The top three reasons, which included not wanting to get sick, wanting to protect others, and receiving a recommendation from a healthcare provider, reflect both individual and collective health values. The prominence of protecting others as a motivator is particularly resonant within the Samoan cultural context, where collective wellbeing and community responsibility are deeply held values[26]. This finding suggests that health messaging framed around community protection, rather than individual benefit alone, may be particularly effective in this population.

The most cited reason for not receiving the influenza vaccine was a fear of needles, a barrier that may be underappreciated in NZ's current vaccination programme. Unlike some other countries, NZ does not currently offer an intranasal influenza vaccine for younger people, which could represent a meaningful alternative for needle-averse individuals. This finding warrants consideration in national vaccine programme planning.

The provision of an on-site vaccination station at the conference, consistent with Pritchard's (2011)[22] recommendation for opportunistic, community-based vaccination, is likely to have contributed to vaccine uptake on the day, though uptake was not formally measured as an outcome of this study. Future iterations should include formal measurement of on-the-day vaccination rates as a primary outcome.

Strengths and Limitations

This study has several notable strengths. The community-partnered design, grounded in CBPR principles and co-developed with a well-established, well-networked Samoan church community, ensured that the intervention was culturally grounded, community-endorsed, and meaningfully co-owned by all partners. The involvement of Moana Connect, a Pacific-owned and led organisation with existing relationships within the community, was instrumental in building trust and ensuring cultural integrity across all phases of the study. The use of both English and Samoan language materials and speakers was a deliberate and well-received design choice that enhanced accessibility and engagement.

The mixed-methods design, combining quantitative surveys with short qualitative talanoa and a post-conference talanoa, enabled a richer and more nuanced understanding of the conference's impact than either method alone could have provided. The convergence of findings across the short qualitative and post-conference talanoa strengthens confidence in the qualitative findings. The study also demonstrated the feasibility of conducting research within a community celebration context, an approach that may serve as a model for future health interventions with Pacific and other community groups.

The large attendance, over 300 church members, is itself a testament to the strength of the community partnership and the resonance of the "Health is Wealth" concept with the community's own health values and priorities.

Several limitations should also be acknowledged. First, this was a single-site, single-community study involving one ethnic-specific church congregation in South Auckland. While this enabled deep and

authentic partnership, the findings may not be directly transferable to other Pacific communities, other church groups, or other geographic settings. Communities with more fragmented leadership structures, greater linguistic diversity, or less established relationships with research institutions may face additional challenges in replicating this model.

Second, the study was designed as a feasibility and pilot study, and the sample sizes, particularly for paired pre-post survey comparisons (n=82), limit the statistical power available to detect changes in knowledge and attitudes. The modest paired sample size was in part a consequence of an important logistical challenge: the assumption that attendees would remain for the full day proved incorrect, with many community members arriving and departing at various points throughout the event. This not only reduced the number of participants who completed both surveys but also meant that a proportion of attendees may not have been present for the influenza-specific educational session, potentially attenuating the observed knowledge gains. Future studies should account for the fluid attendance patterns typical of community events in both their design and analytical approach.

Third, all outcome data were self-reported and collected on a single day, with no long-term follow-up to assess whether knowledge gains, attitudinal shifts, or behavioural intentions were sustained over time. Fourth, the questionnaire was developed specifically for this study and has not been validated, which limits the comparability of findings with other studies. Finally, while the dissemination event provided valuable community feedback, the research team did not formally investigate whether the community had developed sufficient knowledge, skills, and confidence to sustain a similar initiative independently, which is an important question for future research.

Learnings for the Research Team

This study generated several important learnings for the research team that are relevant to others considering a CBPR approach in similar community settings. Sustaining community engagement beyond the funding cycle presented one of the most significant challenges of this work. A fundamental tension within CBPR is the expectation of ongoing, reciprocal partnership with community groups, set against the reality of time-limited research funding. The research team found that maintaining meaningful engagement with the community between funded activities required considerable effort and goodwill, and that the absence of dedicated resources for community liaison risked undermining the trust and momentum built during the study. This challenge is unlikely to be unique to this project, but it is particularly acute in community-partnered research where relationships are foundational to the research process. Future projects of this kind should build explicit and adequately resourced community engagement activities across the full duration of the study and should develop transition plans to support the community's continued work beyond the research timeframe.

Relatedly, the research team recognised in retrospect that it had not formally returned to the community to assess whether they had developed sufficient capacity, confidence, and infrastructure to sustain a similar initiative independently. This represents a gap in the realisation of CBPR's sustainability aspirations and is identified as a priority for future work.

The importance of a holistic approach to health was one of the most significant and generative learnings of the project. While the research team had incorporated a degree of health breadth into the conference design, expanding beyond respiratory health to include gout, diabetes, cardiovascular disease, and rheumatic fever, the community's feedback revealed that this holistic framing could be extended further still. Notably, mental health and sexual health were topics identified by conference attendees as both important and under-addressed, and yet absent from the programme. These omissions reflect the inherent tension between a focused, evaluable intervention and a genuinely community-directed health agenda. Future iterations should consider how to create space for these conversations in a culturally safe and appropriately supported way.

The value of health intervention as celebration was perhaps the most generative methodological learning of the project. The deliberate integration of elements typically associated with community celebration, including live music, cultural performances by the church youth group, Zumba exercise sessions, and face painting for children, did not diminish the health and research outcomes of the day. On the contrary, these elements appeared to enhance engagement, attendance, and the overall sense of collective purpose. Framing health intervention as festivity, rather than as a clinical or didactic exercise, reflects and honours the cultural strengths of the Samoan community, including their vibrancy, creativity, and deep sense of collective identity. This approach merits further exploration as a model for community health intervention design.

The collective strength of well-networked communities was made powerfully evident throughout this project. The Samoan church community's strong social networks, consolidated leadership structures, and shared cultural identity were not simply contextual features of the study but active enablers of its success. The finding that protecting the health of others was among the most commonly cited reasons for receiving the influenza vaccine speaks directly to the collective orientation that characterises this community and that can be thoughtfully engaged in the design of health promotion initiatives. Researchers working with similarly cohesive communities are well-positioned to draw on these existing strengths, approaching the community as a partner with its own assets, expertise, and agency, rather than as a passive recipient of health intervention.

Future Directions

The feasibility and enthusiastic community reception of the "Health is Wealth" conference provide a strong foundation for future development of this model. Several directions for future work are identified.

Expansion and replication: Community members and church leaders expressed strong enthusiasm for continuing the conference in future years, and interest was expressed on multiple occasions in expanding the model to sister church communities, including Tongan church groups. This suggests that the "Health is Wealth" model has potential as a replicable community health platform across Pacific faith communities in South Auckland and beyond. However, adaptation for communities with more diverse leadership structures, greater linguistic heterogeneity, or less established relationships with research institutions will require careful co-design and should not be assumed to be straightforward.

Programme development: Feedback from attendees and church leaders identified several areas for programme enhancement in future iterations. These included a broader range of health and social topics, with specific requests for child health, housing support, and engagement with agencies such as New Zealand Police and social services (Work and Income New Zealand (WINZ)), reflecting the community's recognition of the social determinants of health and their desire for a more integrated support system. A two-day conference format was also proposed, with the first day dedicated to health education and the second to social services and community support. Future planning should also improve coordination between the research team, event organisers, and the community master of ceremonies to ensure attendees have a clear understanding of the day's structure, the research component, and how to participate.

Improving reach and promotion: Participants recommended greater use of community communication channels, including social media, community newsletters, and local radio, to promote future events and reach community members who may not be regular church attendees. Improved promotion would also support higher attendance at specific sessions, addressing the challenge of fluid attendance patterns observed in this study.

Formal evaluation of health outcomes: This study was designed as a feasibility and pilot study, and while preliminary indicators of health knowledge improvement, vaccination uptake, and primary care access were identified, a rigorous evaluation of health outcomes was beyond the scope of the current work. Future iterations should incorporate a formal implementation science evaluation framework, with pragmatic measurement of acceptability, appropriateness, feasibility, and fidelity. Specific outcome measures should include on-the-day vaccination rates, longer-term influenza vaccination uptake across the winter season, and sustained changes in health knowledge and health-seeking behaviour. The indicators from this study are promising, but deliberate and adequately powered evaluation is needed to establish the model's effectiveness.

Sustaining the partnership: As discussed above, sustaining meaningful community engagement beyond the research funding cycle is a critical challenge for future work. Future grant applications and project designs should explicitly account for the resourcing requirements of genuine community partnership, including dedicated funding for community liaison, co-investigator roles for community partners, and transition planning to support community-led continuation of the initiative.

Conclusion

The "Health is Wealth" conference demonstrated that a community-partnered, culturally grounded approach to respiratory winter preparedness is both feasible and enthusiastically embraced by an ethnic-specific urban church community. Grounded in CBPR principles and co-designed with the community from inception, the conference achieved strong attendance, generated preliminary evidence of improved health knowledge and vaccination uptake, and produced qualitative findings that affirm the value of delivering health content within a holistic, community-directed, and celebratory framework. The "Health is Wealth" model offers a promising and potentially replicable platform for addressing respiratory health

disparities in Pacific communities in NZ. With further development, rigorous evaluation, and sustained investment in community partnership, this approach has the potential to contribute meaningfully to reducing the disproportionate burden of respiratory illness experienced by Pacific peoples, and to demonstrate that health, at its most effective, is inseparable from culture, community, and collective strength.

Declarations

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Competing interests

All authors declare no financial or non-financial competing interests.

Data availability

The data supporting this study are unable to be submitted to a public repository as participants in the study did not consent to this. All requests for anonymous participant data or project documents will be considered, where the proposed use aligns with the ethical approval and participant consenting for the project, aligns with public good purposes, does not conflict with other requests, or planned use by the Project Steering Committee, and the requestor is willing to sign a data access agreement and has sought relevant ethical approvals. All requests for data access go to Professor Nikki Turner. The data sharing policy does not allow for Maori-specific data to be sent overseas. To ensure data sovereignty in light of, for example, the global directives on Indigenous rights and local treaties such as Te Tiriti o Waitangi in Aotearoa New Zealand, we do not make indigenous data available in public repositories but will consider requests where the proposal meets the agreement with the Kaitiaki (Guardians) of data to ensure that datasets are analysed in accordance with tikanga Māori.

Author Contribution

S.M., N.T., T.D., M.S., J.H., K.W., L.C., S.T., F.A., M.R. and A.T. developed the conceptualization. S.M., T.D., M.S., J.H., K.W.S., S.T., F.A., M.R. and A.T. prepared the methodology. S.M., J.H., K.W., F.A. and M.R carried out the investigation. S.M., J.H., K.W., F.A., M.R. and A.T. carried out the formal analysis. S.M., K.W., and A.T. wrote the original draft. N.T., T.D., M.S., J.H., F.A. and M.R. carried out the review and editing of the original draft. N.T. acquired the funding. L.C. carried out the project administration. All authors reviewed the manuscript.

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Data Availability

All data supporting the findings of this study are available within the paper and its Supplementary Information.

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Tables

Table 1: Service Providers and Offered Services

Type of service	Service offered on the day
Pacific Health Provider	Immunisations
Pacific Social Services and Health Provider	Immunisations
Pacific Health Provider	Health promotion on asthma
Immunisation Advice	Health promotion on immunisations
Health Organisation	Education on heart health and support for heart disease patients.
Preventive Health Services	Follow-up screening and referrals for breast and cervical cancer to promote early detection and treatment.
Health Education and Support	Information on managing allergies, anaphylaxis training, and support for individuals with severe allergies.
Dental health services	Preventative and restorative dental care, education on oral hygiene, and community dental health van. Free dental checks for children 18 years and under.
Health and social services	Information about programmes and resources to help individuals quit smoking, including counselling and support groups tailored to Pacific communities.
Health and social services	Information about support for Pacific families, including mental health services, youth programmes, and community health initiatives.
Health Organisation	Education on stroke prevention, support for stroke survivors, and advocacy for stroke-related health initiatives.
Health service	Information about bowel cancer screening programmes aimed at early detection and prevention within the community.
Community Vaka	Provided Wellbeing Outreach Packs and information for community groups.
Community development	Information about housing development and regeneration projects aimed at improving living conditions and community infrastructure.
Charitable Foundation	Provided warm clothing & blankets for children for the event.
Domestic violence support services	Provided information about safe accommodation, support services, counselling, and advocacy for Pacific women and children experiencing domestic violence.
Health organisation	Support and education for individuals with arthritis, including resources for managing symptoms and improving quality of life.
Healthcare Youth service	Offers various support services for the wellbeing, academic support, and development of young people.

Table 2: Age of respondents (N=145)

Age Group	N = 145	Percentage (%)
16-24 years	31	21.4
25-34 years	34	23.4
35-44 years	23	15.9
45-54 years	30	20.7
55-64 years	17	11.7
65+ years	10	6.9

Table 3: Knowledge and attitudes towards influenza and the influenza vaccine

QUESTION	RESPONSE	n	%
Knowledge-based questions			
Colds and flu are the same thing (n=150)	Agree	85	56.7
	Disagree	**65**	**43.3**
People who are ≥65 years are at higher risk for flu complications (n=148)	**Agree**	**139**	**90.8**
	Disagree	9	5.9
Pregnant women are at higher risk for flu complications (n=150)	**Agree**	**126**	**84.0**
	Disagree	24	16.0
Sometimes the flu vaccine gives you the flu (n=150)	Agree	111	74.0
	Disagree	**39**	**26.0**
Healthy children are not at risk of developing serious problems from flu (n=150)	Agree	53	35.3
	Disagree	**97**	**64.7**
From what age is it recommended to get the flu vaccine in NZ (n=145)	From birth	26	18.0
	≥6 months *	**54**	**37.5**
	≥5 years	36	25.0
	≥18 years	24	16.7
	≥65 years	4	2.8
Attitude-based questions			
The opinion of my GP, nurse, or other health provider is important for my flu vaccine decision	Agree	138	92.0
	Disagree	12	8.0
The flu vaccine is safe*	Agree	136	91.3
	Disagree	13	8.7
I trust the information I receive about shots/vaccines	Agree	138	92.6
	Disagree	11	7.4

Correct responses are represented by bold text. *As the safety question reflects respondent's perception of the flu vaccine, and is therefore classified as an 'Attitude'.

Table 4: Reasons for receiving or not receiving the influenza vaccine

Reasons for Receiving Influenza Vaccine	N=119	%
I do not want to get sick from flu	101	84.9
To protect the health of others	81	68.1
It's recommended by my health care provider	74	62.2
Encouraged by family members, colleagues, or friends	64	53.8
It's just something I've always done	60	50.4
I am at risk because of my health condition	48	40.3
Encouraged by my church leaders	40	33.6
I am at risk because of my age	38	31.9
Reasons for not receiving influenza vaccine	**N=34**	**%**
I don't like injections.	10	29.4
I am worried about the flu vaccine and its side effects.	8	23.5
I forget or don't get around to it.	7	20.6
I never get the flu, so I don't need it.	5	14.7
I don't believe in vaccines.	3	8.8
Flu vaccines don't work.	3	8.8
I am healthy, so I don't need it.	2	5.9
Getting the flu doesn't make me that sick.	2	5.7
It is too expensive.	1	2.9
A health professional told me not to get it.	1	2.9
It's difficult to get to the clinic or make an appointment.	1	2.9

Table 5: Change in knowledge between morning and afternoon surveys

Question	Correct response				Difference
	Morning (n=82)		Afternoon (n=82)		p-value
		%	n	%	
Colds and flu are the same thing	40	51%	38	48%	n.s
People who are >=65 years are at higher risk for flu complications	72	92.3%	72	92.3%	n.s
Pregnant women are at higher risk for flu complications	63	80.8%	71	91.0%	**p<.05**
Sometimes the flu vaccine gives you flu.	19	24.1%	20	25.3%	n.s
Healthy children are not at risk of developing serious problems from flu.	51	65.4%	46	59.0%	n.s
The flu vaccine is safe.	74	93.7%	70	88.6%	n.s
Recommended age in New Zealand for influenza vaccine	28	35.4%	37	46.8%	**p<.02**

Figures



Figure 1

Photos taken at the post conference talanoa of researchers and the community. Photos A, B and C are of the collective listening to the presentation. Photo D shows researchers and members of the community who attended the post conference talanoa.