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COVID-19 VACCINE UPTAKE IN PAPUA NEW GUINEA: EXPLORING KEY OPTIONS TO AN UPHILL CHALLENGE

Badrul Hassan
Development and Communication Expert, Dhaka, Bangladesh, *badrulsocial@gmail.com*

Deepak Gupta
Sr. Consulting Adviser (Programmes & Strategic Communication), New Delhi, India, *drguptad11@gmail.com*

Abstract

Papua New Guinea (PNG) has one of the poorest COVID-19 vaccine uptakes, when compared with the global data. It is also deeply rooted in the poor and stagnated performance in the routine immunisation over the decades. The country has demonstrated poor uptake despite the efforts of the government and development partners. Complex political and governance issues are intertwined with poor health infrastructure at the national and sub-national levels, thus hindering COVID-response and vaccination. These issues include a lack of strategic vision and implementation; prevailing vaccine-hesitancy among communities and health workers; strong belief in conspiracy theories and misinformation; inability to reach out to the remote 'media-dark' areas and communities with unwritten languages. Risk Communication and Community Engagement (RCCE) initiative in PNG remains largely restricted to mass media and social media interventions, which have been able to reach only select linguistic communities, whereas the country has more than 800 languages. Observational visits found that the activities were limited to urban settings mostly as there are huge communications challenges. The relevant messages and materials developed and disseminated were found technically compromised in adhering to the protocols of social and behaviour change (SBC), which ought to be based on the primary logic of multiple conceptual frameworks and theoretical underpinnings (Socio-ecological model, Theory of Diffusion of Innovations; Theory of Planned Behaviour; Stages of Change Theory; Health Belief Model and many others). Therefore, PNG is an ideal setting to examine the issues of vaccine hesitancy in the context of missing responses and its linkages with low social media penetration. This article uses a qualitative observational approach to unearth major issues and discuss possible solutions.

Keywords: Papua New Guinea, PNG, COVID-19, vaccine hesitancy, vaccination, RCCE, community engagement, risk communication

Introduction

Despite the losses in human lives and livelihoods, COVID-19 has managed to create significant strides in establishing a strong health system for countering transmission, which will require investments now for a safer and healthier future. Most countries have been struggling in responding to the pandemic and in ensuring vaccination for their population. PNG is amongst the lowest COVID vaccine uptake countries in the world and adversely affected due to stagnation in economic activities over the last two years period. The recent data shows, there are 44,761 confirmed cumulative cases and 662 deaths since (World Health Organization, Western Pacific Regional Office, 2022) the first case was detected in the country on 3 January 2020. Until 28 June 2022, 466,668 vaccine doses have been administered (WHO, 2022) in PNG which is barely 7 percent of the population. The total population of the country stood at 9.21 million in January 2022 with 48.9% female and 51.1% male. The country has 86.4% population living in the rural areas.

Papua New Guinea is a beautiful country within the Pacific Ocean with spectacular coral reefs, densely forested, volcanic islands with dramatic mountain ranges having around 600 islands and some of the most isolated ethnic populations in the world living in most hard-to-reach areas with sparse communication and transportation links and huge barriers in 'connecting for communication'. The country has more than 95.5% of the population practicing Christianity.

Human Development Index (HDI) value of PNG for 2019 is 0.55 -- which put the country in the medium human development category -- positioning it at 155 out of 189 countries and territories. Between 1990 and 2019, Papua New Guinea's HDI value increased to 46.1%. Life expectancy at birth increased by 8.0 years, mean years of schooling increased by 2.3 years and expected years of schooling increased by 5.5 years and GNI per capita increased by about 87.9 percent for the same period (United Nations Development Programme [UNDP], 2020). The economy has also been hit hard by the current pandemic due to weaker demand and less favourable terms of trade. Pandemic-related global and national movement restrictions have weakened external and domestic demand and affected commodity prices, which leads to an economic contraction, wider financing gaps in the external and fiscal accounts, and high unemployment and poverty than previously anticipated in 2020 (World Bank Group, 2020). The country was more exposed to severely impacted industries, like tourism. The fall in oil and LNG prices as well as in vegetable oil and copper prices has hit export earnings and the subsequent government revenue. Similarly, civil aviation and hospitality, from cruise ships to restaurants, were badly impacted too (Barker, 2021). The closure of international borders might have forestalled a surge in cases and forced the neglected health service to undertake some awareness and preparation for testing, controls, and potential treatment. The institutional capacity, and social response and the economic impact had gone through testing times starting with the lockdown in April 2020 and subsequent curfews.

PNG has suffered relatively lesser health and economic impacts from the pandemic than some of its neighbours, in terms of experiencing higher morbidity and mortality rates. In the context of campaign approaches, the messages have become somehow ‘stale’ and may not be creating the required impulse among individuals and communities. It is imperative to bring strategic changes in communication approaches so that people adhere to the evidence-based behaviours to protect themselves from COVID-19. Bringing forth the innovative concepts associated with vaccination can be a powerful mechanism for any Melanesian country.

The article includes unstructured observations as one of the researchers worked directly in Papua New Guinea to support RCCE and contribute to developing strategies and activities during the pandemic response and vaccine promotion. It includes some of those select primary observations, which might not have appeared in any other documentation exercises.

Willingness vs. Low Vaccine Uptake

Papua New Guinea has persistently low routine immunisation over a decade. According to UNICEF, over the last decade, the 3rd dose of DPT coverage has shown stagnation of around 60 percent. Furthermore, only 50% of all children completed all three doses of DPT vaccination by their first birthday. There was a polio outbreak in June 2018 affecting children in nine out of 22 provinces. In addition to polio, cases of measles and pertussis were also reported in the country (United Nations International Children’s Fund, Papua New Guinea [UNICEF PNG], 2019). Subsequently, the year 2019 was declared as the year of immunisation to reinvigorate efforts, investment and leadership from the government and key stakeholders to accelerate the coverage of routine immunization in the country. In fact, World Bank data demonstrate that PNG has the lowest vaccination rates in the world for infants: 37% for measles, 35% for DPT and 35% for hepatitis B (Howes & Mambon, 2021). There is restrictive outreach, no selective targeting of population concentrations, and minimal systems for tracking and finding under-vaccinated children. Gaps in the provision of education, counselling of families, AEFI readiness, and the checking of vaccines for heat or freezing damage among health workers as only 25% of clinics organise but without the use of pictorial, video, participatory engagement, or give away communication products (Morgan et al., 2020).

The context of COVID-19 vaccination is set in the backdrop of consistent poor performance in routine immunisation drives in the country. Hence, it was more likely to find COVID-19 vaccine getting less acceptance by individuals, families, communities and by the country.

In October 2021, a nationwide knowledge, perceptions, attitudes, and practices survey was conducted on COVID-19 in Papua New Guinea. The survey reached 1,332 respondents from 63 districts of the 22 provinces of the country. Around 85% of the respondents wanted to take the COVID-19 vaccine “when it becomes available”. While only 9% answered ‘no’ and 6% were undecided if they would take the vaccine (Pogo et al., 2021). It remained evident that people were reluctant to access COVID-19

vaccination despite their initial interest. At the same time, it is crucial to understand how far demand generation initiatives were able to invoke people to turn up to vaccination centres.

The initial doses of the COVID-19 vaccine arrived in PNG in early April 2021 and the health care workers (HCW) were given priority while administering those. Another survey conducted on 24 April-24 May 2021 by the National Department of Health (NDoH) found that HCW were more willing to receive the COVID-19 vaccine as compared to the non-HCW respondents - 56.2% and 38.6%, respectively (Pogo et al., 2021). According to this survey, local health authorities and HCWs are considered as the most trusted sources of information on COVID-19 vaccination. It was observed that nearly one-third of HCWs are concerned about at least one conspiracy theory! It became a case that many HCWs were trying to 'convert others before converting themselves'.

Research conducted in June 2022 revealed that 40 percent of the respondents working in the retail and wholesale service sector were willing to get vaccinated when a vaccine for COVID-19 became available. The rest, 60%, were not willing to get the vaccines. On the contrary, when the vaccine became available, 26% had not received any of the doses while 25% and 49% had received the first of two doses respectively. In fact, 93% of those not willing to get vaccinated had not received the vaccine doses, which was not a striking surprise; only 37% of them willing to get vaccinated even though 66% of the PNG nationals had not received either the first or both doses (Odhonu et al., 2022). In many countries, employers conditioned vaccination when it became available, and they were restarting on the site operations. In many cases, it was mandatory to get vaccinated before entering the work premise. Nonetheless, due to strong belief and regimentation against the COVID-19 vaccine, it was not possible to ensure similar workplace compliances in PNG.

Vaccine Hesitancy

In the first week of November 2021, only 1.7% of the Papua New Guinea got vaccinated despite of having the availability of vaccines across the country (Macdonald, 2021), while vaccination started on 4 May 2021 (UNICEF PNG, 2021). Community vaccine rollouts faced strong opposition as the vaccinators received death threats and attacks by furious crowds, and were castigated as a "Campaign of Terror" (Blades, 2021a). This continued to impact negatively on the COVID-19 vaccination coverage over the periods in PNG.

It was criticised that Papua New Guinea was unsure of what messages the government wanted to convey to mobilise people on COVID-19 (Asia Pacific Report, 2021a). The confusion arises when the Pandemic Controller David Manning, banned gatherings of more than 20 people, but to the contrary Prime Minister James Marape inaugurated a project with huge mass gatherings. In fact, many members of parliament did not slow down on openings and ground-breaking events since the start of the pandemic, which arguably acted as a catalyst for spreading the infection. Opposition MPs attacked the government for employers laying off unvaccinated employees and leaving some families without income earners, although the vaccine is not mandatory in PNG. It is significant to note that only half of the members of the parliament were vaccinated by October 2021 (Asia Pacific Report, 2021b). The former Prime Minister, Peter O'Neill, said the government is confused in messaging about pandemic management which had created anxiety among workers, who deserved a better level of support (Blades, 2021b). In most countries, political leaders and legislators played a strong role in favour of vaccination to motivate party members and supporters to access vaccines. Due to the politics of opposing, the parties in PNG did not have a univocal voice in favour of the COVID-19 response.

ORB International and London School of Hygiene & Tropical Medicine, on behalf of WHO, had conducted a study titled "Vaccine Confidence in Papua New Guinea (Unpublished)" The Study revealed that willingness to accept vaccines decreased over the last several months since the introduction of vaccine in May 2021. A significant proportion of PNG respondents said they would not accept a COVID-19 vaccine for themselves (39%) with 12% saying they are unsure, leaning towards no. Findings are consistent across the country with the Highlands being the most willing to accept the vaccine for themselves (25%). Vaccine acceptance between men and women and different age groups remained similar in the country.

The three most common answers for not taking a vaccine by Papua New Guineans focus on a lack of trust in the vaccine (41%), lack of current knowledge (33%) and concern for potential side effects (23%). The belief that the virus does not exist is held by 1 in 5 (20%).

The above findings also compounded with anti-vaccine motivation through various conspiracy theories, myths and beliefs. Most respondents believed the following to be true: (i) The government supports a new COVID-19 vaccine to further its own interests (78%), (ii) COVID-19 is a planned event by foreign actors (75%) and (iii) the spread of COVID-19 is linked to 5G (57%). Common community myths and beliefs about the COVID-19 vaccine abound, i.e. the vaccine is being used to spread the coronavirus in the population and to reduce the global 'black' population. Similarly, another set of rumours included that the COVID-19 vaccine was a tool to insert a microchip and was a means of marking individuals with the 666 'mark of the beast' associated with government control and a new world order, which is believed to connect people to the 5G network (Field Epidemiology in Action, 2020). There are also myths associated with preventative measures and therapies that would prevent COVID-19 infection. Such remedies include various types of bathing, eating organic food and having a strong immune system. In such a scheme of things, there are added challenges to the public health communication experts, i.e., difficult terrains, communications challenges, cultural and language barriers also demerits reaching ethnic communities living far away from the urban hubs.

Challenges Ahead

There had been various reviews undertaken to reveal and discuss the challenges in vaccine promotion in PNG with multisectoral stakeholders, including the Provincial Health Authorities. The PNG 'COVID-19 Vaccine Communication and Community Engagement Strategy' has also highlighted several initial challenges. It has been observed that the virus transmission could have been quick as the country is geographically accessible by air, sea and land through various ports of entry and porous borders with countries and across different provinces. Additionally, an array of social and economic issues compounded with job losses, and deterioration of the social-economic situation in the country were considered because of the pandemic.

The PNG health system has limited capacity and resources to support adequate testing nationwide, isolate positive cases and support effective surveillance and monitoring to contain the spread of the COVID-19 disease. The country also lacks the technical and financial resources to conduct large-scale vaccine communication campaigns across the country in different languages.

The documents mention that PNG has reported a low number of cases as compared to other countries, due to low testing rates; hence, there could have been more cases than reported. The government has taken measures for the 'New Normal' entitled Niupela Pasin, which promoted key protective behaviours. Nevertheless, there has been weak Niupela Pasin enforcement and poor compliance in people adhering to accept the new ways of life to combat the pandemic.

Low literary rates and poor health-seeking behaviours had also contributed to low vaccine uptake in the country. COVID-19 is contemplated as a "foreign disease" with a perceivably low number of cases in PNG in comparison to other countries that turned this into seemingly a 'nonissue' in PNG. It also apparently led to stigma and discrimination against those who were sick and the health workers (National Department of Health PNG, 2021).

The country has poor digital and social media access. The number of mobile connections was 32% and social media penetration stood at 8.6% in Papua New Guinea in January 2020 (Kemp, 2020). The campaigns failed to reach the majority population through mass media and social media. At the same time, social media was rather used as an antagonist to COVID-19 response and vaccine promotion in PNG contributing to repopulating the conspiracy theories, myths and beliefs mentioned above.

RCCE, Outreach and Covid-19 Vaccination at Crossroads

The world continues to be confronted with an unprecedented challenge. The emergence of SARS-CoV-2 has led to the COVID-19 pandemic, where the pathogen has gripped the entire humanity with its adverse impact on public health and people's lives and livelihoods.

This pandemic is facing an uphill situation, where the sure-shot clinical treatment is not fully known yet. Hence, mitigating the adverse impact of this pandemic is primarily driven by a certain set of behaviour-practices, such as covering nasal and mouth openings with a proper mask, frequent and thorough handwashing with soap, physical distancing with one another with a minimum of six feet

distance and avoiding crowded and highly dense places. And most significantly, following the complete course of COVID-19 vaccination schedule remains a key preventive behaviour (Gupta, 2021).

Evolving scientific work, by various actors in the field, in developing vaccines for strengthening the fight against this virus has ultimately led to the production of several COVID-19 vaccines. Nevertheless, routine immunisation continues to challenge low uptake in PNG, including in many regions across the world. Therefore, there are two very clear dimensions faced by the health and development workers, i.e., ensuring equitable supply/access and logistics and the 'demand-generation'/positive behaviour change marketing strategies, in other words, a strengthened SBC and RCCE. In this context, COVID-19 vaccination is no exception, especially as logistics, cold-chain, and reaching the jabs to the arms of people is posing a mammoth challenge to the countries. However, in select communities, the demand-generation aspects, i.e., acceptance of COVID-19 vaccination throws up a major stumbling block to the communication experts. Most countries, including a very affluent set of nations, are under the scourge of a new set of cases and deaths with each passing day. This is because SARS-CoV-2 is constantly evolving into variants of concern (VOCs). The mental shock, personal traumas, and economic devastation caused are of such magnitude and wide-ranging that they simply cannot be ignored. Yet the hopes are high and the need for solidarity and human resolve continues to drive humanity.

As was the case with HIV/AIDS in the early 1980s, the key approach to the current pandemic remains 'Prevention', whereas in this case, the available vaccination offers additional coverage – at least with a lower risk of severity of the disease, hospitalization and human mortality. It is clear that humanity is confronted with its fight against the pandemic through preventive behaviour as are being recommended by health experts, especially WHO and the respective national health departments. Hence, it is logically deciphered that the current pandemic is primarily a 'behaviour practices and community mobilization' challenge. During the current observational qualitative assessment, it is found that PNG has a long way to stride in addressing the COVID-19 vaccination.

It is pivotal to recognize that the overall paradigm of strategic communication remains the same, while the core methodologies and strategies change in case of disasters, pandemics, and outbreaks. For example, we cannot strategies to communicate pandemic messages the way we design communication interventions for sexual and reproductive health, age-at-marriage, family planning or even promoting breastfeeding. Some relevant risk communication theories, over a period, have been potentially employed in deciphering the challenges of widespread disease control and pandemics. When people are really concerned, stressed, or outrageously upset, they want to know that you care before they care about what you know (Trust Determination Theory); When people have difficulty in hearing, understanding, and remembering the bulk of information and thus they focus most on what they hear first (Mental Noise Theory); And again when people are highly stressed, or upset, they often focus more on the negative than on the positive (Negative Dominance Theory); Similarly, the gaps between risk perceptions and reality often become wider during such difficult times (Risk Perception Theory). At different stages of a pandemic or an outbreak, these core communication frameworks serve as a common denominator in planning and designing activities (Gupta, Narain & Yadav, 2021). Papua New Guinea is indeed walking a tight rope and it's a tough call between 'life and livelihoods.

Keeping in view the on-going RCCE strategies in PNG and based on the analysis of various research studies on outcomes of risk communication, it can be easily construed that the success of risk communication is dependent on: (1) the timeliness of the communication, (2) simplicity, directness and consistency of the message, (3) appropriateness of the channels of dissemination, (4) transparency of the information, and (5) public faith in the communicator (Gupta et al., 2019).

Promotion of Vaccination Through Community Engagement

Considering the poor vaccine uptake and hesitancy in PNG, in this section of the article authors discuss key areas for improvement, based on unstructured observation and review of various available literature.

Enhancing Knowledge About Vaccine Regime and Regulations in PNG

The conspiracy theories refer to the research, development and regulations of COVID-19 vaccines. Yet common mass including the vaccinators in PNG are not convinced how the vaccines are introduced to

other countries. They lack knowledge of vaccine invention through different levels of trials before administering to the human body. This needs to be discussed in easy simple language avoiding scientific jargon with the HCWs and the other concerned groups and people. Furthermore, there are legal and procedural obligations at the international and national level prior to introducing a vaccine.

Concerns were raised that the vaccine was not trialed and tested in PNG. Uncertainty about the ingredients and composition of the vaccine, and a perceived lack of transparency reported on the decision-making for the selection of the AstraZeneca vaccine for the population also surmounted confusion.

In Papua New Guinea, under the Medicines and Cosmetics Act 1999 and Medicines and Cosmetics Regulation 2002, the National Medicines Regulatory Authority (under NDoH) is responsible for ensuring all medicines, including vaccines, entering the country undergo a regulatory process. The Act of 1999 and Regulation of 2002 have defined mechanisms of control to ensure the quality, safety, and efficacy of medicinal products made available for use. The country is guided by the 2018 Registration Guideline for Medicines in PNG. A medicine may only be available when it receives regulatory approvals by the NDoH after fulfilling three criteria: "(1) convincing efficacy and adequate safety, proven by non-clinical and clinical data or other evidence in accordance with the latest development of related science and technology; (2) meeting quality requirements by evaluation of production process which meets Good Manufacturing Practice requirement, specification and test method of all materials used and of finished products with valid evidence; and, (3) having complete and objective pharmaceutical product information to ensure correct, rationale and safe use of the medicines" (National Department of Health PNG, 2021b).

Vaccine development requires an arduous and complex pathway that includes sophisticated scientific testing and documentation of results by scientists. Before administering for human trials, vaccines have been tested among other mammals and after having clearance from different regulatory bodies. A simplified explanation may help remove serious confusion among HWCs and other audiences as might be applicable.

Motivating Health Care Workers for Vaccination

Health workers serve on a dual frontier – they bear the burden of caring for the sick while also exposing themselves to potential infection. The World Health Organization (WHO) and the International Labour Organization (ILO), the UN bodies insisted that the coronavirus crisis had contributed to "an additional heavy toll" on health workers. Approximately 115,500 health workers died from COVID-19 in the first 18 months of the pandemic around the world by 2021.

HCWs are one of the most trusted sources of information in PNG according to recent studies (Hoy et al., 2021). They play a critical role in educating communities on the COVID-19 virus and in providing information on the safety and efficacy of vaccination. They also have the primary role in the delivery of vaccines to the population and require knowledge, skills, and resources to do this in line with approved safety protocols. However, vaccine hesitancy among this group remains high and yet they are at risk of exposure and contracting COVID-19 because of their interaction with patients during routine work. According to a recent COVID-19 Health Situation Report, 54.6% of HCWs in Papua New Guinea received at least one dose and 36.2% are fully vaccinated (WHO, 2022). Accordingly, the National Department of Health had to rethink its strategy in dealing with ensuring the vaccination of HCWs so that the public trust in them can be materialised.

There are countries that made vaccination mandatory for all eligible persons and still some others made vaccination mandatory only for the HCWs. The reasons for vaccine hesitancy or resistance continue to play a 'spoil-sport' in society. These reasons include faith/belief and social apathy and lack of knowledge on COVID-19 vaccines, concerns about new vaccine and its safety, lack of confidence in engaging in difficult conversations about vaccination, fear of side effects, concerns about the vaccine's newness, distrust in the pharmaceutical industry and fear of being over-burdened with workload etc.

Broadly there are four types of interventions used by health authorities across the world, which Papua New Guinea Government may consider, such as (i) Dialogue based interventions, (ii) Nonfinancial incentive-based interventions, (iii) Reminder call-based interventions, and (iv) Alternative interventions. Dialogue-based interventions can really work in motivating health workers without taking confrontational action. This may also include capacity building through communication tool-based

HCWs training, and information-based HCW training. Interaction between senior management and key HCW leaders can help reduce differences and clarify critical issues. The HWC leaders can be turned into vaccine advocates to motivate others. The involvement of religious or traditional leaders, mass media, and social media can also play a productive role in this regard.

Non-financial incentive-based interventions cater to some tangible benefits for health workers. This can be done by creating positive competition among vaccinators and recognizing their efforts by offering gifts, awards, or certificates.

Reminder-recall-based interventions have similarities with dialogue-based interventions. This may include consultation and counselling, telephone calls by other vaccinated health workers, letters from authorities requesting repeatedly for vaccination, and involving celebrities and notable health professionals in disseminating messages to them.

Alternative interventions can offer a wide range of options. This may include: innovating culturally appropriate ways for health workers to discuss common myths and share their personal concerns in a safe environment; periodic assessments of HWC Knowledge, Attitude and Practices to better understand key barriers and motivators to COVID-19 vaccine uptake and inform the strategy; partnering with HCW leadership and key associations to spearhead advocacy activities at different levels; establish a feedback mechanism to facilitate the easy exchange and access to information whenever needed and enlisting commitment to save lives by being exemplary and promoting the vaccination. e.g., wearing badges or arm bands "I am fully vaccinated against COVID-19".

Reaching Out to the Hardest-to-reach Population

It is reported that around 800 of the 839 languages in PNG are spoken with no written alphabet. Thus, the materials produced for COVID-19 awareness have not reached many of the hardest-to-reach population groups in the country.

There are media dark areas with no reliable electricity source and as a matter of fact, no TV, radio, or internet services. Literacy levels are low, which rules out printed newspapers or magazines. Smartphones are also rare (Kashyap, 2016). Often, the population size of these communities is small in numbers, and they live in very remote and hard-to-reach locations with few transportation links. The unwritten language communities and media dark areas require localised indigenous approaches for community engagement.

'Mouth marketing' is therefore used to reach out to these groups of people. The pre-tested messages are disseminated in community meetings and small public gatherings. Campaigners usually speak loudly in front of a small crowd and create a space for open discussion and debate on an issue of social concern. They allow people to come up with challenges/limitations and with viable community-driven solutions.

In cases, such as the COVID-19 pandemic, where public gathering is discouraged, the campaigners may use Mic or megaphones for message dissemination. The art of such dissemination depends on how dramatically messages can be pronounced. The campaigner needs to understand the distance limit of reaching mega-phone sound and then he should disseminate the message standing in one place repeating a couple of times. He may move to the next spot until the last announcement was heard clearly. After announcing a few times, then he moves to the next spot. In such communication, it may not be possible to directly interact with the given community. Mega-phone or mic available at Churches, with fire-brigade stations and local authorities, may be available for such important public use.

Communities living in far away villages in PNG are rich in arts and cultures, which can benefit the campaigns. Each community is having their own folk and indigenous forms of culture and entertainment media. In some communities, there are organised ethnic cultural groups that can trans-create forms with the messages. These folk and indigenous cultural forms often have a strong influence on individuals and communities. The organizers of folk and ethnic media will adapt the messages into their own cultural form and organize public dissemination of events considering the context of the community and locality.

Key messages can be transformed into pictograms and visual aids with the support of oral language experts from respective communities and can be drawn into available surfaces or materials (clothes, papers, walls of houses, road-side walls). Local artists from the same community may lead this creative work. The characters, types shapes of the visual designs will be derived from local community experts. The artist may organize an oral discussion session in the display locations, where people will have a chance to interact and pose questions.

Engaging Churches

In PNG, the Churches, even in hard-to-reach locations, can be the most effective channel of communication. As a community pillar, Church meets the needs of the populace that they traditionally serve, while also assisting millions more who have been dealing with serious health and economic hardships induced by the pandemic. Local trusted leaders and institutions have been on the front lines of addressing people's needs, including communicating about how to stay safe during the pandemic; providing the facts about how, where, and why people should get vaccinated; and breaking down barriers for families to get the testing, treatment, and assistance that they need.

More than 95 percent of citizens are Christian in Papua New Guinea. Among them 26% of the population is Roman Catholic; 18% Evangelical Lutheran; 13% Seventh-day Adventist; 10 percent Pentecostal; 10% United Church followed by other denominations. Given the dynamics between indigenous traditions and Christian beliefs and practices, there are constant attempts by people to blend and reconcile the two (Cultural Atlas, n.d.).

There have been various initiatives since the beginning of the pandemic to the promotion of messages on mask use, repeated handwashing and maintaining physical distance remain in the centre of the prevention framework. The messages have become somehow 'stale' and may not be generating substantial interest among individuals and communities. It becomes essential to bring forth strategic changes in communication approaches so that people adhere to evidence-driven behaviours to protect themselves from COVID-19. Therefore, bringing the concept of life and peace associated with vaccination can be a powerful mechanism for any Melanesian country.

The Pentecostal and Evangelical churches have a powerful influence in PNG. Christianity provides not only the promise of eternal salvation but biblically inscribed frameworks and prophetic ideas that inform how people live and view the world around them. Many Christians, especially those believing in the Pentecostal and Evangelical traditions, have a strong interest at the end of the world, as this signals the return of Jesus Christ (Cummings, 2021).

Most of the Churches in PNG are having some health services and many of them have undertaken initiatives for COVID-19. So, it is important to recognise that each church has its own history, culture, and approach to ministry. Successful church planning and preparedness should also acknowledge the unique risks each community faces, as needs vary from region to region and church to church. As churches implement their plan, one needs to be sure to consider how the church might help care for vulnerable and underserved individuals and communities. Also, one must be sure to consider how to care for health, spiritual, psychological, and emotional needs in the given congregation.

Quality Check

The authors observed that Government and partners were developing and disseminating messages and materials without adhering to quality protocols for community engagement and mass media campaigns in PNG. As COVID-19 pandemic is highly dynamic in nature and brings unpredictable shifts and turns over the period. For example, before the vaccine arrived on-ground, communication drives were focused on individual behaviour wearing masks, washing hands and maintaining a physical distance. Gradually, it was on staying at home due to lockdowns and saving the lives of the health service providers as they were exposed. With the vaccine introduction, the focus was shifted to vaccine promotion for the most vulnerable groups in the first phase. Some of these messages might have already completed their shelf-life or have become 'stale' to the audiences. Communication experts may need to develop some long shelf-life materials in specific areas to repackage and replenish the messages considering the evolving context.

A quality assurance mechanism needs to be agreed to, between key stakeholders, prior to dissemination. Furthermore, the messages and materials need to be highly focused considering the media appetite and access to different channels of communication to the respective communities. A simple but doable result-based behaviour monitoring framework should be in place so that Provincial Health Authorities can track the progress and undertake measures to achieve the best result out of the efforts.

Conclusion

The vaccine is, a relatively, inexpensive asset to save human lives, which requires maximum utilization under all circumstances across the world. If programmes fail to convince and reach hard-to-reach populations in PNG, the cases of vaccine expiry will well be repeated. The highest level of political commitment and its execution is crucial in PNG to avoid such future situations in the country. During the Parliamentary Election 2022 campaigns in Papa New Guinea, the contesting parties had been vocal in committing to a transparent accountable system for the country including in the areas of health, pandemic and livelihoods. The new government must take practical measures to ensure the vaccination of all eligible populations. It is high time for Papua New Guinea to consider the pandemic response as inter-alia to bring pro-people changes in the health system strengthening which will be able to deal with the complex issues of COVID-19 vaccination in the country. The Niupela Pasin also needs to be revised considering the issues discussed in this article.

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