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# SPOTLIGHT

## WHY SOME OF PAPUA NEW GUINEA'S URBAN RESIDENTS ARE RELUCTANT TO TAKE COVID-19 VACCINE? STRATEGY TO INCREASE VACCINATION RATES

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### Key Points

- COVID-19 vaccine has been developed to protect people against the virus.
- Reasons that some residents of Goroka, Kokopo, Lae and Mt. Hagen were not willing to take the vaccine.
- How to improve vaccination rates.
- Of all the urban centres studied, only a few residents have been vaccinated (12.7%), Lae had the highest vaccination rate (18.1%) and Kokopo lowest (8.5%).
- Poor awareness about the vaccine, inadequate vaccination centres, shortages of vaccine and misinformation on social media making people reluctant to take the vaccine.
- Vaccination rates would increase if proper awareness on the side effects of the vaccine are conducted; more vaccination centres provided; and vaccines supplied in a timely manner.

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## WHY SOME OF PAPUA NEW GUINEA'S URBAN RESIDENTS ARE RELUCTANT TO TAKE COVID-19 VACCINE? STRATEGY TO INCREASE VACCINATION RATES

### Eugene Ezebilo

COVID-19 has resulted in the loss of lives of many people and has affected the economy of most countries. Vaccine to protect people against COVID-19 has been developed. However, some countries are still struggling to convince their citizens to accept the vaccine. This paper focuses on one of the findings from a recent research conducted by Eugene Ezebilo of Papua New Guinea National Research Institute (PNG NRI) on the impact of COVID-19 pandemic on livelihood of households and their coping strategies. The research is based on interviews with 813 residents of Goroka, Kokopo, Lae and Mt. Hagen. In this paper, emphasis is placed on whether the residents have been vaccinated against COVID-19 and why some of them have not been vaccinated and a strategy to increase vaccination rates. Some of the residents are aware of where vaccination centres are, only a few of them have been vaccinated. It is important to note that other factors such as income level, educational level, ownership of television and radio and readership of newspapers and distance of home from COVID-19 vaccination centre can influence access to information about the vaccine and access to vaccination centre. However, these were excluded from the analysis provided in this paper.

### Types of COVID-19 vaccines

A vaccine contains weakened or inactive parts of a specific microorganism which is often administered to protect people against a particular disease (World Health Organisation, 2021a). Several types of COVID-19 vaccines which makes a person's immune system identify and clear out the virus before it makes the person ill has been produced (Australian Department of Health, 2021). The vaccines include AstraZeneca, Pfizer, Johnson and Johnson, Sinopharm and Moderna. The following three COVID-19 vaccines have been approved for use in PNG (McGill COVID19 Vaccine Tracker Team, 2021):

**Oxford/AstraZeneca vaccine.** This has been approved for use in 122 countries and 40 trials have been conducted in 21 countries (McGill COVID19 Vaccine Tracker Team, 2021). The vaccine is made of harmless, weakened animal non-

replicating viral vector (Australian Department of Health, 2021). Viral vector is a tool often used to deliver genetic material into cells. As the vaccine is not made up of live virus, it does not have the potential to transmit COVID-19 to a person. The vaccine is administered to people of 18 years old and above in two doses. The second dose of the vaccine is often administered at eight weeks after the first dose.

**Some common side effects of AstraZeneca** which often vanish after few days following the administration of the vaccine include the following:

*Headache, tiredness, fever and pain at the location where the vaccine was administered.*

**In some rare cases, AstraZeneca can result in a blood clot after the first dose.** It involves blood clot and low levels of blood platelets (cell fragments in the blood that form clot). Symptoms of the side effect include:

*Abdominal pain and severe headache, which does not stop after taking pain killers several times.*

Consult your doctor if you develop the above symptoms after receiving COVID-19 vaccine.

**Johnson and Johnson vaccine.** The vaccine has been approved in 70 countries and 11 trials have been conducted in three countries (McGill COVID19 Vaccine Tracker Team, 2021). It contains a live, but weakened adenovirus which is a non-replicating viral vector (International Medical Aid, 2021). It is administered as a single dose to persons of aged 18 years and above. The side effects of Johnson and Johnson vaccine include the following:

*Pain, swelling, and redness at the injection site; muscle aches; headache; fatigue; fever; and nausea.*

The above side effects often appear within one to two days after getting the vaccine.

According to the Centre for Disease Control and Prevention (2021), in rare cases some people who received Johnson and Johnson vaccine may experience blood clot with low platelets

after vaccination.

**Sinopharm (Beijing).** The vaccine has been approved for use in 65 countries and 14 trials have been conducted in eight countries (McGill COVID19 Vaccine Tracker Team, 2021). The vaccine is administered in two doses, the second dose should be administered three to four weeks after the first dose (World Health Organisation, 2021b). Sinopharm is meant for people of ages 18 and above. The vaccine contains inactivated virus that does not cause disease.

**The most common side effects of Sinopharm** include the following (Medical News Today, 2021):

*Headaches; tiredness; and injection site reactions such as redness and swelling at the vaccination site.*

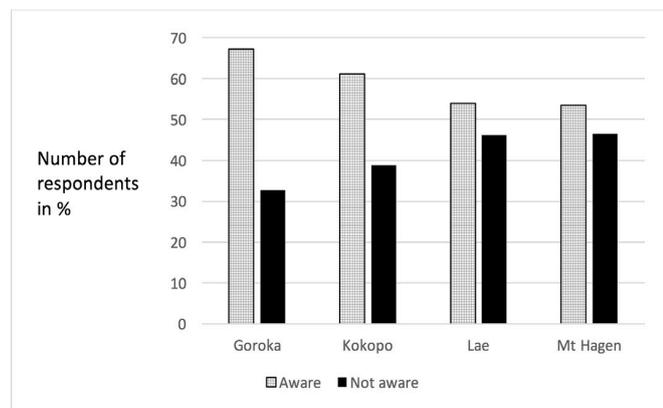
**Serious rare side effects associated with Sinopharm include the following:**

*Nausea; rare neurological disorder known as acute disseminated encephalomyelitis; and blood clot.*

### Awareness of location of COVID-19 vaccination centre

In order to make COVID-19 vaccine accessible, it is important to have vaccination centres close to homes. This has the potential to encourage people to visit the centres for vaccination. In terms of awareness of COVID-19 vaccination centres, almost 60% of residents were aware of the location of a vaccination centre in the area where they live. Of the four urban centres studied, Goroka residents were the most aware of the location of COVID-19 vaccination centre (67.2%) and Mt. Hagen residents was the least aware (Figure 1).

**Figure 1.** Residents who are aware of the location of vaccination centre



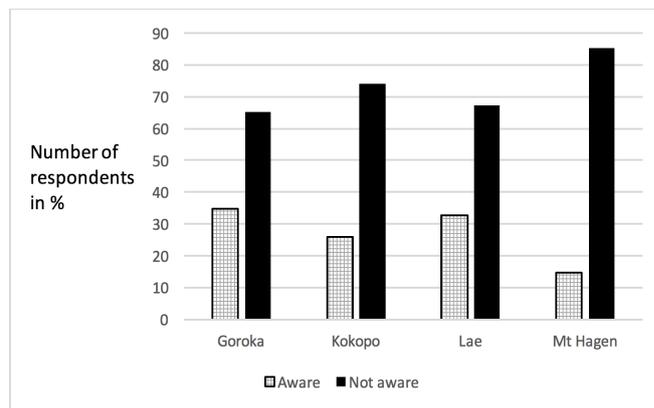
The findings reported in Figure 1 suggest the need for more

vaccination centres closer to home so that residents do not have to travel long distance to reach a centre. As vaccination centre becomes closer to home, cost associated with travel to the centre decreases. This has the potential to increase residents' willingness to visit the COVID-19 vaccination centre.

### Awareness of who should receive COVID-19 vaccine

Regarding the age group that should get COVID-19 vaccine in PNG, only 27% of the residents were aware of the correct age groups (18 years and above) that should receive vaccine. Goroka had the highest number of residents that are aware of the correct age (34.7%) and Mt. Hagen had the lowest (14.8%), see Figure 2.

**Figure 2.** Age group of people that should receive COVID-19 vaccine

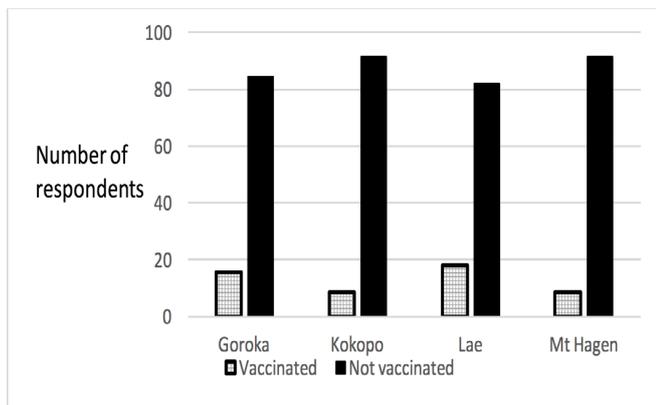


The findings reported in Figure 2 suggest that appropriate communications strategy has not been used in creating awareness about COVID-19 vaccine. This may be a reason that most of the residents do not know the group of people that should receive the vaccine. As most of the residents does not have proper information about COVID-19 vaccine, it may have contributed to the acceptance of the various misinformation about the vaccine often reported on social media.

### Residents who have received COVID-19 vaccine

Of all the residents only 12.7% have received COVID-19 vaccine. This is far lower than at least 70% vaccination level needed to reach herd immunity level – that is when a large proportion of the population becomes immune against COVID-19. Of all the four urban centres surveyed, Lae had the highest residents that have been vaccinated (18.1%) and Kokopo the lowest (8.5%), see Figure 3.

**Figure 3.** Share of respondents who have received COVID-19 vaccine.



The misinformation on the social media, poor communication strategy and restricted access to vaccination may have resulted in COVID-19 vaccine hesitancy as reported. Several factors contribute to vaccination rates in the four urban centres that were studied. The factors will be identified and discussed in the next section.

### Reasons for not willing to take COVID-19 vaccine

Some reasons that may have made residents of urban centres not to take COVID-19 vaccine include the following:

**Inadequate awareness about COVID-19 vaccine.** Major concerns raised by several residents include that proper awareness about how the vaccine works, its side effects, the group that should get the vaccine and what can be done to reduce the side effects have not been conducted. Some raised the concern that awareness has not been conducted in the areas where they live:

*“Information on how COVID-19 vaccine works and its side effects have not been provided. I want to understand the side effects of the vaccine before getting the vaccine.”*

*“Awareness on COVID-19 vaccine has not been conducted in the area where I live.”*

**Misinformation on social media.** Major concerns raised by the residents include that they are confused regarding which information about COVID-19 vaccine is correct. Several information on the social media have often portrayed that the vaccine has deadly side effects:

*“There has been rumours on the social media that 5G network is connected to the vaccine causing metal to stick to the bodies of the people who get the vaccine.”*

*“I am confused because of the bad implications of the COVID-19 vaccine that have been reported on the social media.”*

**Religious belief that COVID-19 vaccine is linked to the mark of the devil.** As majority of Papua New Guineans are Christians, some religious sentiments have found their way into the discussion on COVID-19 vaccine. Major concerns raised by the residents include that their religious leaders have asked them not to take the vaccine because it is associated with evil:

*“Being a member of one of the church denominations, our Pastor discouraged us from getting the COVID-19 vaccine because it is 666, which is the mark of the devil.”*

**Inadequate vaccination centres.** Major concerns raised by the residents are that they do not know where COVID-19 vaccination centres are. Some were concerned that none of the centres are in the areas where they lived in:

*“I do not know where to get vaccinated against COVID-19.”*

*“COVID-19 vaccine should be brought to our doorstep to encourage us.”*

**Inadequate supply of COVID-19 vaccine.** Major concerns raised by the residents include shortages of the vaccine and that it appears that the vaccine was made available for use by only government employees:

*“COVID-19 vaccine is not available in the area where I live.”*

*“Shortages of COVID-19 vaccine. It is available to only government workers but not to the general public.”*

**Potential stigma by the community against people who have been vaccinated.** Some residents raised concerns about community stigmatisation of people who have been vaccinated against COVID-19, especially in communities where it is believed that the vaccine is evil:

*“I did not take the COVID-19 vaccine because I do not want members of the community where I live to see me as someone who has done something that the community does not support.”*

**Fear of the unknown.** Some of the residents would have taken COVID-19 vaccine but have not been able to do so because of fear of the unknown:

*“I am afraid of taking COVID-19 vaccine because I heard that people who take the vaccine will die in the next two years.”*

*“I think that if I take the COVID-19 vaccine, it will kill me.”*

### Strategy to increase the rate of COVID-19 vaccination

Several potential ways can be used to increase COVID-19 vaccination rates such as the following:

**Improve COVID-19 vaccine awareness by using innovative communication strategy.** Currently, it appears that the communication strategy used in creating awareness of the vaccine has not been working well and that correct information about the vaccine has not been reaching the target population. As most people in PNG live in rural areas, there is a need to use appropriate communication strategy that can be used to reach both people in rural areas and urban areas. For this to be achieved the following can be done:

- Conduct consultations with religious leaders and provide them correct information about COVID-19 vaccine, especially on how the vaccine works and the side effects and how the effects can be addressed. The religious leaders can then pass the information to their congregation.
- Conduct consultations with community leaders and provide correct information about the vaccine before conducting awareness campaign in the community in collaboration with highly respected people in the community.
- Consider involving doctors in various hospitals in COVID-19 vaccination programme by providing the vaccine to the hospitals. The role of the doctors would be to encourage patients to take the vaccine
- Provide a “questions and answers platform” where COVID-19 vaccine experts can answer questions about the virus and vaccine from the general public.
- Provide more factual information about COVID-19 vaccine on the radio and TV, newspapers and social media. Use the forum to make emphasis on the benefits and dangers of the virus.
- Send reminders about the need to take COVID-19 vaccine to people through text messages, e-mails, social media and in-person.

**Provide more COVID-19 vaccination centres especially in rural areas.** As most people in PNG live in rural areas where there are little or no healthcare facilities, there is a need to consider using mobile clinics to access the areas for COVID-19 vaccination. All the health centres and health posts in rural areas can also be used as vaccination centres. This has the potential in increasing accessibility to COVID-19 vaccine in rural areas and increase vaccination rates.

**Make COVID-19 vaccine available in all vaccination centres and provide new ones regularly.** The vaccine should be supplied in a timely manner to all vaccination centres to reduce the tendency of shortages of the vaccine, especially in

rural areas where a vaccination centre may be far away from some villages. More vaccines should be moved to rural areas where majority of the country’s population is.

### Concluding remarks

Several countries that have reached a high level of COVID-19 vaccination rates have relaxed most of the restrictions that were imposed during the earlier stages of COVID-19 pandemic. However, PNG is considering imposing more restrictions on travels and social events because most Papua New Guineans have been sceptical in taking COVID-19 vaccine. The misinformation in the social media, religious belief, inadequacies in communication strategy, inadequate COVID-19 vaccination centres and shortages in the supply of COVID-19 vaccine contribute to the unwillingness to accept vaccination. If the intention is for COVID-19 vaccination rate in PNG to reach herd immunity level, there is a need to use appropriate communications strategy to pass correct information about COVID-19 vaccine to people who live in rural and urban areas. More COVID-19 vaccination centres should be set up and vaccines made available at the centres in a timely manner. Findings from this paper will assist public health planners and managers in making informed decisions in developing an effective communication strategy, providing vaccination centres and supply of vaccine to areas where they are needed. This paper will also serve as a source of information for the general public.

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