Increasing Willingness to Vaccinate in Sub-Saharan Africa

Insights Report March 2022







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01 Background

Through a dedicated Global Public Health (GPH)

organization, we are a team of innovators who put the world's most vulnerable at the heart of everything we do—measuring our success in lives improved.

End-to-end 170 +organization person team across Research & Development 26 Strategy & External Affairs countries Field-based teams 100 +250 million+ partners to lives impacted deliver impact in 2021 Leverage full **Executive**capabilities level and resources leadership of Johnson & Johnson







Make relevant innovations that

save lives, cure patients and prevent disease available – affordable – accessible

for the world's most vulnerable & underserved populations.





Vaccine Uptake: Strengthening Vaccine Confidence

Vaccines do not guarantee vaccinations: As COVID-19 vaccines become more widely available, we must strengthen vaccine confidence to improve vaccine uptake.



J&J GPH is conducting **unbranded research** to improve understanding of vaccine confidence across Sub Saharan Africa and how it is changing over time. This research does not include any information about the J&J vaccine, nor any other vaccines from other manufacturers.



Vaccine Confidence Research is in service of Vaccine Confidence Campaigns and Risk Communication Plans. Donors and NGOs can use this research to increase the effectiveness of their Campaigns.

ILLUSTRATIVE EXAMPLES OF RESEARCH:

| WHY people aren't getting vaccinated | WHICH Population segments are most resistant | WHERE to focus geographically within country | WHAT to say to change attitudes and behavior | WHO should the communication come from |
|---|--|---|--|--|
| Convenience Confidence Complacence | Same Same Same Same Same Same Same Same Same Same Same Same Same Same Same Same Same Same Same Same Same Same Same Same Same Same | Can from the of version function address | Getting the vaccine is like getting a sturdy umbrella and overcoat during a rainstorm. It makes sure that you avoid the worst of it. The idea is to keep you safe and dry from the rain | |
| Insights Report, based on WHO/SAGE 3Cs model | Attitudinal/Behavioral Segmentation | Geospatial Mapping of the 3Cs | Message Testing | Influencer Plan |

https://www.who.int/immunization/sage/meetings/2014/october/1_Report

02 Can we increase willingness to vaccinate?

- BALLOON & HALL

WEDDING

Only 1 in 4 people are likely to get vaccinated as soon as possible. The rest intend to wait up to a year or never.



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Key question: Can willingness to vaccinate be increased?

We conducted two streams of research to understand if willingness to vaccinate can be increased, and how best to increase willingness through messaging.

We surveyed over **2400 people** in **Kenya, Nigeria and Zambia** from **Aug-Sep 2021** for the segmentation, and over **2400 people** from **Nov-Dec 2021** to **test over 60 messages** via **phone**.

| Segmentation | Message Testing | Creative Asset Development |
|--|--|---|
| Segmentation of not-yet-vaccinated adults to: Identify sub-groups with similar vaccination attitudes and beliefs, especially perceptual and practical barriers to uptake; and Understand how large these sub-groups are August-September 2021 | Test message and messenger combinations with not-yet-vaccinated adults to:Understand which messages are most impactful at increasing openness to get the COVID-19 vaccineandIdentify similarities/differences across segments and countriesNovember-December 2021 | These findings are intended to serve as guidelines for optimal message and messenger combinations, to be used by public health programmers and implementers. The insights in this research provide us with best practices to use in message development going forward. Now |

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Messaging increases openness to vaccinate among the most hesitant segments

Segment Distribution by Country



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Messengers are just as important as the message itself



Who are they willing to listen to?



Experts like doctors, International health authorities or nurses are most credible and trustworthy



Community leaders and also family/ friends are credible messengers



Gov't officials are not credible or persuasive source of information when it comes to vaccines. Also a sizeable portion of the population don't trust government when it comes to vaccinations



Neither credible, nor role models for health matters



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Zooming into the segments and messages that resonate Which segment would you like to focus on as an example?

Confident Enthusiasts Ready now

"If there's anything I can do to protect myself, I'll do it!" Enthusiastic Pragmatists Ready now

"In theory I would get it, but I'm uncertain about logistics." Vaccine Ambivalents 6-12 months

"I'm not against it, I just don't think I need it. I'll wait and see." Vaccine Skeptics 6-12 months

"I know it's important, but I want to wait and see if it's safe." COVID Cynics _{Never}

"I don't trust it and don't need it. Stop telling me to get it."

1 Meet the Confident Enthusiasts (Global)

Segment 1 Confident Enthusiasts



Convinced of COVID threat and vaccine benefits. Would be quick adopters driven by social responsibility to protect their community.

| % of population | 24% | Peri-u |
|--|----------------------------------|---------|
| Likelihood to take a COVID- 19 vaccine | Very high | Povortv |
| Speed of uptake | As soon as possible | Foverty |
| Perceived ease of getting the vaccine | Very easy | Employ |
| COVID disease perceptions | High perceived risk and severity | |

Takeaways:

· NO Key barriers to vaccination

Likely to take vaccination as soon as possible

| Gender | O 51 | % Q | 49% | Level of motivation to get the vaccine | High |
|-------------------|--|---------------------|------------|--|---|
| Age | 18-24 25-34 35-44 45+ | 16% 24% 20% | 39% | Level of perceptual barriers | Neutral |
| Urban/ | | | S | Level of physical barriers | Neutral |
| i-urban/ Rural | 56% | 7% | 37% | COVID-19 | 90% Radio |
| ty Index | High | Medium | Low | channels | 74% |
| | 30% | 36% | 34% | | This group has broadly high |
| loyment Status | Self-Employed Full-Time Part-Time Unemployed Other | 2 2 10% 1 13% | 20% 9% | Information sources and trust | trust in healthcare providers: doctors, nurses, pharmacists, community health workers. They also trust the government and community elders. |



Messages for Confident Enthusiasts:



There are two reasons to get vaccinated: to protect ourselves and protect those around

us. Because not everyone can be vaccinated including babies or those who have illnesses... they depend on others to be vaccinated to ensure that they are also protected.

The simple act of taking the vaccine protects your family, friends and community at large. Especially those who are weak with vulnerable immune systems. Play your part and protect the people you love.



All COVID-19 vaccines work with the **body's** natural defenses to safely develop immunity to disease. That means that if you get exposed to the virus after being vaccinated, your body is ready to fight the virus and prevent you from getting sick.



Community Leader

You deserve to chase your dreams, fall in love, start a family and see the world. You deserve to taste success and reap the fruits of your hard work. COVID can stop your dreams from becoming a reality. Get vaccinated and protect your future. The messages shown here are the top messages for Segment 1 across all countries.



MOVING THE NEEDLE:

The slight decline in open-ness for Segment 1 is likely due to how the end-line measure is calculated, adjusting for influence of message and messengers but not a meaningful difference, especially due to the already willing persona to uptake the vaccine as soon as possible

OPENNESS TO VACCINATE:





2 Meet the Vaccine Skeptics (Global)

Segment 2 Vaccine Skeptics



Convinced of COVID threat, but scepticism around vaccine safety and efficacy inhibits perceived benefit and quick uptake.

| % of population | 25% | | |
|---|----------------------------------|--|--|
| Likelihood to take a COVID-19 vaccine | Moderately low | | |
| Speed of uptake | Wait at least 6-12 months | | |
| Perceived ease of getting the vaccine | Somewhat easy | | |
| COVID disease perceptions | High perceived risk and severity | | |

Takeaways:

- Key barriers to vaccination are safety and efficacy concerns
- · Likely to wait at least 6-12 months before vaccinating to see how others respond to the vaccine

| Gender | O [*] 52% | Q 48 | 8% | Level of motivation to get the vaccine | Neutral |
|----------------------|--|-------------------------|-----------------|--|--|
| Age | 18-24 25-34 35-44 45+ 9% | 25% | 47% | Level of perceptual barriers | High |
| Urban/ | | | | Level of physical barriers | Neutral |
| Peri-urban/ Rural | Urban P 71% | reri-urban 2 | Rural | COVID-19 | 88% ☐ TV 95% Radio |
| Poverty Index | High M | Aedium | Low | channels | 83% |
| | 20% 3 | 5% 4 | 4% | | This group has highest trust in |
| Employment Status | Self-Employed Full-Time Part-Time Unemployed Other | 23 10% 17% 20% | 30% % | Information sources and trust | doctors, nurses and pharmacists. They have low trust in celebrities, social media influencers and political leaders. |



Messages should instill confidence in Vaccine Skeptics



There are two reasons to get vaccinated: to protect ourselves and protect those around

us. Because not everyone can be vaccinated including babies or those who have illnesses... they depend on others to be vaccinated to ensure that they are also protected.

The simple act of taking the vaccine protects your family, friends and community at large. Especially those who are weak with vulnerable immune systems. Play your part and protect the people you love.

Framing/Reframing



You deserve to chase your dreams, fall in love, start a family and see the world. You deserve to taste success and reap the fruits of your hard work. COVID can stop your dreams from becoming a reality. Get vaccinated and protect your future. The messages shown here are the top messages for Segment 2 across all countries.



MOVING THE NEEDLE: These messages can be delivered in combination with any of the messengers shown to achieve an increase in willingness to vaccinate of 13%.

OPENNESS TO VACCINATE:





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3 Meet the Covid Cynics (Global)

Segment 3 Covid Cynics



Strongly hesitant of COVID threat and a COVID vaccine. Mistrust in the vaccine's purpose and advocates means they will be slow to vaccine adoption, if at all.

| % of population | 12% |
|---|---------------------------------|
| Likelihood to take a COVID-19 vaccine | Very low |
| Speed of uptake | Never |
| Perceived ease of getting the vaccine | Difficult |
| COVID disease perceptions | Low perceived risk and severity |

Takeaways:

- Key barriers to vaccination are **mistrust in the vaccine's purpose and institutions.**
- They also feel they are at **low risk of getting COVID** and of getting seriously ill, making them unlikely to get the vaccine.

| Gender | O [™] 54% ♀ 46% | Level of motivation to get | × |
|----------------------|---|-------------------------------------|--|
| Age | 18-24 18% 25-34 40% 35-44 21% 45+ 21% | Level of perceptual barriers | Low |
| Urban/ | | Level of physical barriers | High |
| Peri-urban/ Rural | Urban Peri-urban Rural 79% 6% 15% | COVID-19 information | 79% ☐ ⊤∨ 77% |
| Poverty Index | High Medium Low | channels | 68% |
| | 27% 27% 47% | | This group has moderate to |
| Employment Status | Self-Employed Full-Time Part-Time Unemployed Other 13% | Information sources and trust | low levels of trust in information sources overall, but prefer doctors, nurses and religious leaders. |



Messages should shake COVID Cynics out of complacency



There are two reasons to get vaccinated:. to protect ourselves and protect those around us. Because not everyone can be vaccinated including babies or those who have illnesses...

they depend on others to be vaccinated to ensure that they are also protected.

Framing/Reframing



The vaccination is just **one of many tools** that you can use to keep you and your loved ones protected from COVID-19. It gives you **an advantage when fighting the virus** after you've been by exposed by limiting your symptoms and reducing the chances of death. It is highly effective and **puts you in the driver's seat** when navigating exposure to COVID.



Community Leader

You deserve to chase your dreams, fall in love, start a family and see the world. You deserve to taste success and reap the fruits of your hard work. COVID can stop your dreams from becoming a reality. Get vaccinated and protect your future. The messages shown here are the top messages for Segment 3 across all countries.



MOVING THE NEEDLE: These messages can be delivered in combination with any of the messengers shown to achieve an increase in willingness to vaccinate of 14%.

OPENNESS TO VACCINATE:





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4 Meet the Enthusiastic Pragmatists (Global)

Segment 4 Enthusiastic Pragmatists



Convinced of COVID threat and merits of a vaccine, but inhibited by practical barriers. Cost-benefit analysis of the process could cause uptake delay.

| % of population | 19% | | |
|---|----------------------------------|--|--|
| Likelihood to take a COVID-19 vaccine | High | | |
| Speed of uptake | As soon as possible | | |
| Perceived ease of getting the vaccine | Very difficult | | |
| COVID disease perceptions | High perceived risk and severity | | |

Takeaways:

Ρ

- Key barriers to vaccination are physical barriers to vaccination.
- Likely to take vaccination as soon as possible

| Gender | O [™] 53% ♀ 47% | Level of motivation to get the vaccine | High |
|----------------------|--|--|---|
| Age | 18-24 12% 36% 25-34 35-44 30% 45+ 22% | Level of perceptual barriers | Low |
| Urban/ | | Level of physical barriers | High |
| Peri-urban/ Rural | Urban Peri-urban Rural Rural | COVID-19 | 90% Radio |
| overty Index | High Medium Low | channels | 66% |
| | 35% 31% 34% | | This group has moderate levels of trust in doctors, |
| Employment Status | Self-Employed Full-Time Part-Time Unemployed Other 15% | Information sources and trust | nurses and religious leaders. They have low trust in international organizations such as WHO and UNICEF. |



Messages for Enthusiastic Pragmatists



There are two reasons to get vaccinated: to protect ourselves and protect those around

us. Because not everyone can be vaccinated including babies or those who have illnesses... they depend on others to be vaccinated to ensure that they are also protected.

The simple act of taking the vaccine protects your family, friends and community at large. Especially those who are weak with vulnerable immune systems. Play your part and protect the people you love.



All COVID-19 vaccines work with the **body's** natural defenses to safely develop immunity to disease. That means that if you get exposed to the virus after being vaccinated, your body is ready to fight the virus and prevent you from getting sick.





You deserve to chase your dreams, fall in love, start a family and see the world. You deserve to taste success and reap the fruits of your hard work. COVID can stop your dreams from becoming a reality. Get vaccinated and protect your future. The messages shown here are the top messages for Segment 4 across all countries.



MOVING THE NEEDLE:

These messages can be delivered in combination with any of the messengers shown to achieve an increase in willingness to vaccinate of 4%.







5 Meet the Vaccine Ambivalents (Global)

Segment 5 Vaccine Ambivalents



Not convinced of the threat of COVID as a disease and lack motivation to seek a vaccine, but few barriers to uptake. Could be moved by social norms and strong messaging.

| % of population | 20% | | |
|---|---|--|--|
| Likelihood to take a COVID-19 vaccine | Moderate | | |
| Speed of uptake | Half will vaccinate now, half will wait up to 12 months | | |
| Perceived ease of getting the vaccine | Somewhat difficult | | |
| COVID disease perceptions | Low perceived risk and severity | | |

Takeaways:

- Key barriers to vaccination are not **being convinced of the threat of COVID**, as well as finding it **somewhat challenging** to get the vaccine.
- Half would wait up to a year to get the vaccine.

| Gender | O 46% Q 54% | Level of motivation to get the vaccine | Neutral |
|----------------------|--|--|---|
| Age | 18-24 22% 25-34 36% 35-44 22% 45+ 19% | Level of perceptual barriers | Neutral |
| Urban/ | | Level of physical barriers | Neutral |
| Peri-urban/ Rural | Urban Peri-urban Rural Rural | COVID-19 information | 85% D Radio |
| Poverty Index | High Medium Low | channels | 72% |
| Employment Status | 46% 32% 22% Self-Employed Full-Time Part-Time Unemployed Other 15% 15% | Information sources and trust | This group has high trust in doctors, nurses and pharmacists . They are also most likely to trust celebrities and social media influencers . |



For Vaccine Ambivalents, messages should address *complacency* and prove vaccination is *convenient*



The simple act of taking the vaccine protects your family, friends and community at large. Especially those who are weak with vulnerable immune systems. Play your part and protect the people you love.

There are two reasons to get vaccinated:. to protect ourselves and protect those around us. Because not everyone can be vaccinated including babies or those who have illnesses... they depend on others to be vaccinated to ensure that they are also protected.

Connecting with values



All COVID-19 vaccines work with the **body's natural defenses to safely develop immunity to disease**. That means that if you get exposed to the virus after being vaccinated, **your body is ready to fight the virus and prevent you from getting sick**. The messages shown here are the top messages for Segment 5 across all countries.



MOVING THE NEEDLE: These messages can be delivered in combination with any of the messengers shown to achieve an increase in willingness to vaccinate of 8%.

OPENNESS TO VACCINATE:





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03 What doesn't work?

What doesn't work?

The messages shown were some of the worst performing across all three countries.

X Fear-based messaging

1 in 10 people experience long COVID. **My** sister still struggles with how viciously the virus has physically devastated her body, and it's been months since she had COVID. Avoid that by getting vaccinated.



Messages that do not include any personal connection points

Scientists in private companies have been developing vaccines while unbiased, independent scientists review and approve the science. Approval from the World Health Organization means this process was followed without the local government. Many **pharmaceutical companies** invested significant resources into quickly developing a vaccine for COVID-19 because of the worldwide devastation. The emergency made it necessary but that doesn't mean that the companies took shortcuts when it came to safety.

Trying to frighten people into vaccinating with threats of serious illness or death can alienate people who already have concerns about the vaccine; it can also erode trust among people who has had an experience with mild COVID and finds the messaging to be overly alarmist.

Individuals are not at the core of these messages – companies and processes are. These are unlikely to be salient and inspire personal connection or reflection.

Sports / Music Celebrities are ineffective messengers across all segments

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What doesn't work?

The messages shown were some of the worst performing across all three countries.



Messages framing vaccination as a pathway to getting back to having fun are not universally popular



Public information messages without a call to action or emotional appeal

Remember late night drives, live concerts, or public displays of affection? Life can go back to normal without the fear of long-term effects since they are extremely rare.

Quickly find out where the jab is available on the Ministry of Health's website.

Avoid long lines and wasting time by booking your vaccine online.

These messages may be seen as trivialising by those with deeply-held concerns and fears around getting vaccinated (e.g., Segment 3) or who did not engage in these activities before the pandemic.

These types of messages have value but are not enough to motivate someone who has not already made the decision to get vaccinated.

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In summary: It's possible to address hesitancy

Getting those who are hesitant to reconsider vaccination requires:



Acknowledging their unique barriers & concerns

- Addressing those concerns in a way that speaks to their values and makes the message personal to them
- Having trusted figures deliver messages

For consideration: for those whose primary barrier is *convenience,* consider incentives or interventions to address these concerns (e.g., provide transport services, reassurance that the vaccine is free and/or available, reassurance that vaccination sites are safe).



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Statement

Johnson & Johnson can provide web-based, virtual technical assistance for any non-governmental organization to learn more about these insights and tools for use in vaccine education campaigns. This information will not include any information about the J&J vaccine, nor any other vaccines from other manufacturers.

For further information, please contact: Lauren Marks Global Strategic Partnerships Lead Email: <u>Lmarks3@its.jnj.com</u>



04 Appendix Methodology

The data behind it (in partnership with IPSOS MORI + fraym)

Segmentation

Vaccine awareness, uptake, attitudes, beliefs, drivers, barriers, optimal communication channels Kenya, Zambia, and Nigeria

- Over n=800 per market
- Sampling quotas:
 - \circ 50/50 male and female spit
 - 33/33/33 split across low, medium and high poverty using Poverty Index scores
 - At least 10% self-reporting one or more comorbidities
 - Regional sampling proportional to country population

Fieldwork conducted between August to September 2021

Respondents recruited using lpsos' database of individuals 18+

Interviewers conducted 30-minute computer-aided telephone interviews

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Message Testing

Force-choice experiment of messages, ideal messenger, and likelihood to impact behavior in Kenya, Zambia, and Nigeria

- Over n=800 per market
- Similar sampling quotas to segmentation
- Must not have received the COVID-19 vaccine before
- Must not always avoid personal vaccinations

Fieldwork conducted between November to December 2021

Interviewers conducted 30-minute computer-aided telephone interviews with conjoint analysis

Geospatial Mapping

Geospatial mapping of vaccine attitudes, media consumption, demographics, language, socioeconomics, communications, media, and health centers in Kenya, Zambia, and Nigeria

- 2021 Fraym Kenya field survey (May 2021)
- WHO health facilities mapping¹
- Malaria Atlas Project walking and driving times to health facilities²
- Uses artificial intelligence and machine learning with proprietary software FUSEfraym[™]



The segments reinforce the WHO/SAGE recommendations of the 3 C's Framework (Confidence, Complacency, Convenience) for vaccine engagement, with the backing of demographic data

Note 1: This master list of health facilities was developed from a variety of government and non-government sources from 50 countries in sub-Saharan Africa, accessible here: <u>https://data.humdata.org/dataset/health-facilities-in-sub-saharan-africa</u>



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Note 2: Least-cost distance compensates for travel costs, such as slope and terrain, accessible here: https://malariaatlas.org/research-project/accessibility-to-healthcare/

We tested messages with over 2,500 adults across 3 countries

Countries



Segment Quotas

| | Segment 1 | Segment 2 | Segment 3 | Segment 4 | Segment 5 |
|---------|--------------|--------------|--------------|--------------|--------------|
| Kenya | 25% | 14% | 12% | 30% | 18% |
| Zambia | 21% | 41% | 12% | 13% | 14% |
| Nigeria | 16% | 19% | 18% | 12% | 34% |
| TOTAL | 21% | 25% | 14% | 19% | 22% |

Screening Criteria

- 50:50 Male:Female
- Must be older than 18 years
- Must have heard of COVID-19
- Must NOT have received COVID-19 vaccination before
- Must NOT always avoid personal vaccinations

2514 total respondents



Message Design

Creative agencies based in Kenya, Nigeria and Zambia developed over 50 messages addressing barriers to vaccination using different insight territories.



Expert messengers

Messages from expert health care providers and officials lend credibility to messages. They should emphasize the ability of vaccines to protect individuals, their families, and communities from COVID.

The figure below represents the proportion each *expert* represented one of the top 100 optimal *expert message combinations*:



Non-expert messengers

Non-expert messages should help people connect with what matters to them, encourage future-thinking and feel confident and supported in their decision to get vaccinated. Community leaders, family and friends and religious leaders are often the most relatable with these messages.

The figure below represents the proportion each *non-expert* represented one of the top 100 optimal *non-expert* message combinations:



05 Appendix Geospatial Mapping: Kenya

Hyperlocal Support of Vaccine Uptake: Overview

We aim to bring local understanding of uptake barriers across Kenya

Goals



A **deeper understanding** of the 3C's occur locally and across entire countries to inform broad RCCE efforts.



A **detailed mapping of J&J's consumer segments** and media consumption patterns across the country to close the gap between data and action.



An **interactive tool to equip implementors with hyperlocal data** to overcome barriers to vaccine uptake faster.

Outputs



Comprehensive reports containing overviews and detailed assessments of hyperlocal patterns of vaccine confidence, complacency, convenience, consumer segmentation, and media consumption patterns across the entire country.



DATAfraym – an interactive web-based dashboard – access, for custom data exploration, analysis, and exports, with mapping available at a 1 square kilometer level of granularity.



Complete datasets available regarding vaccine confidence, complacency, convenience, consumer segmentation, and media consumption patterns across the entire country, at a 1 square kilometer level of granularity.



Paired with WHO's 3C Framework, we've mapped J&J's Consumer Segments to identify where vaccine uptake challenges are likely to occur



| | Segment 1 | Segment 2 | Segment 3 | Segment 4 | Segment 5 |
|--|---|--|---|---|--|
| | Confident enthusiasts | Vaccine sceptics | COVID cynics | Enthusiastic pragmatists | Vaccine ambivalents |
| | -94 | 24 | A 24 | | |
| Summary | Convinced of COVID threat and vaccine benefits. Would be quick adopters driven by social responsibility to protect their community. | Convinced of COVID threat, but scepticism around vaccine safety and efficacy inhibits perceived benefit and quick uptake. | Strongly hesitant of COVID threat and a COVID vaccine. Mistrut in the vaccine's purpose and advocates means they will be slow to vaccine adoption, if at all. | Convinced of COVID threat and merits of a vaccine, but inhibited by practical barriers. Cost- benefit analysis of the process could cause uptake delay. | Not convinced of the threat of COVID as a disease and lack motivation to seek a vaccine, but few barriers to uptake. Could be moved by social norms and strong messaging. |
| % of population | 24% | 25% | 12% | 19% | 20% |
| Likelihood to take a COVID- 19 vaccine | Very High | Moderately low | Very Low | High | Moderate |
| Speed of uptake | As soon as possible | Wait at least 6-12 months | Never | As soon as possible | Wait at least 6-12 months |
| Perceived ease of getting the vaccine | Very easy | Fairly easy | Fairly easy | Not easy/not at all easy | Fairly easy |
| COVID disease perceptions | High perceived risk and severity | High perceived risk and severity | Low perceived risk and severity | High perceived risk and severity | Low perceived risk and severity |

The 3C's

Confidence: High confidence = *More* likely to take a Vx **Convenience**: High convenience = *More* likely to take a Vx

Complacency: High complacency = *Less* likely to take a Vx

Consumer Segmentation

Different segments of people have different motivations and reasons to not get a COVID- 19 vaccine (barriers)




Data and Methods

We used **geospatial machine learning** methods to create local understanding of **barriers to vaccine uptake** across the entire country down to the square kilometer.

<u>Data</u>

This report leverages the 2021 Fraym Kenya field survey (May 2021)

Health facilities in sub-Saharan Africa were sourced from the World Health Organization.¹

Walking and driving time to health facilities were sourced from the Malaria Atlas Project.²

Methods

Machine Learning for Hyperlocal Mapping: The localized maps seen in this report were produced using the proprietary software FUSEfraym[™]. This software uses artificial intelligence and machine learning (AI/ML) to weave together survey data with satellite imagery and geostatistical datasets.





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Note 1: This master list of health facilities was developed from a variety of government and non-government sources from 50 countries in sub-Saharan Africa, accessible here: https://data.humdata.org/dataset/health-facilities-in-sub-saharan-africa

Note 2: Least-cost distance compensates for travel costs, such as slope and terrain, accessible here: https://malariaatlas.org/research-project/accessibility-to-healthcare/

How to use this analysis

Paired with WHO's 3C Framework, we've mapped J&J's Consumer Segments to identify where vaccine uptake challenges are likely to occur.

Potential Use-Cases:

- Concentrate communication campaigns and media spending in specific geographic areas
- Target specific messages to niche audiences in prioritized geographies
- Optimize vaccine distribution

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Service & Product Delivery Planning





Ex. 1: Reaching 'Vaccine Skeptics' Near Nairobi

How do we reach those near Nairobi who are worried by COVID but have vaccine concerns?

WHO are we looking for?



WHERE do we find them?

People in the **vaccine skeptics** segment can be seen in greater numbers in the dark red squares on the map below, around the Nairobi area. They aren't focused in one place.



HOW do we reach them?

Given their **heavy social media use**, a digital programmatic RCCE campaign via WhatsApp and Facebook might be most effective to reach this Segment, using geolocations as target points.

Media consumption for Vaccine Skeptics around Nairobi

| ③ Facebook Users % | © 53 |
|-------------------------|---------|
| ⊙ Twitter Users % | ·· 20 |
| Operanews Users % | © 20 |
| WhatsApp Users % | © 61 |
| TV News | |
| 🛈 Al Jazeera % | © 10 |
| O BBC % | © 9 |
| O CGTN % | <u></u> |
| O Citizen TV % | · 73 |
| () CNN % | © 10 |
| Newspapers | |
| Business Daily Africa % | © 2 |
| Daily Nation % | · 26 |
| People Daily # | 06 |

Putting it all together: In order to reach Vaccine Skeptics near Nairobi, leverage Facebook and WhatsApp platforms to deliver digital communications near the north and north-west part of the city.



Ex. 2: Finding 'Enthusiastic Pragmatists' Nationally

How do we reach those who want vaccines but don't think they can get them?

WHO are we looking for?



COVID disease

perceptions

WHERE do we find them?

People in the **enthusiastic pragmatists** segment are disproportionately located around Nyandaru, Samburu, and Lamu.



HOW do we reach them?

Over 70% of adults report regular watching of **Citizen TV**. These viewers **primarily speak Swahili**.

| ① Facebook Users % | © 50 | |
|--------------------|-------|--|
| ① Twitter Users % | · 16 | |
| Operanews Users % | · 19 | |
| O WhatsApp Users % | 0 55 | |
| TV News | | |
| O Al Jazeera % | 0 6 | |
| O CGTN % | © 3 | |
| O Citizen TV % | © 72 | |
| Language | | |
| © English % | © 0 | |
| 🛈 Somali % | · 0 0 | |
| 🛈 Swahili % | © 31 | |

Putting it all together: In order to reach Enthusiastic Pragmatists in Kenya, try reaching people watching Citizen TV in Nyandaru country first.

High perceived risk and

severity



Ex. 3: Understanding Complacency in Kenya

How do we reach those with no accessibility issues but would need to be convinced to get the vaccine?

WHO are we looking for?



| Summary | disease and lack motivation to seek a vaccine, but few barriers to uptake. Could be moved by social norms and strong messaging. |
|--|--|
| % of population | 20% |
| Likelihood to take a COVID- 19 vaccine | Moderate |
| Speed of uptake | Wait at least 6-12 months |
| Perceived ease of getting the vaccine | Fairty easy |
| COVID disease | Low perceived risk and severity |

WHERE do we find them?

People in **central Mombasa** tend to be **less complacent**, whereas those in the **suburbs** tend to be **more complacent**.



HOW do we reach them?

Those who are more complacent *in this neighborhood* tend to also have conveniencerelated challenges



Pop-up vaccination sites north of Mombasa could be used to reach those in complacency 'hot spots' where the residents tend to be less motivated to travel for a shot.

Putting it all together: In order to reach complacent people near Mombasa, try in-person outreach in the Shanzu ward.



06 Appendix Geospatial Mapping: South Africa

Hyperlocal Support of Vaccine Uptake: Overview

We aim to bring local understanding of uptake barriers across South Africa

Goals



A **deeper understanding** of the 3C's occur locally and across entire countries to inform broad RCCE efforts.



A **detailed mapping of J&J's consumer segments** and media consumption patterns across the country to close the gap between data and action.



An **interactive tool to equip implementors with hyperlocal data** to overcome barriers to vaccine uptake faster.

Outputs



Comprehensive reports containing overviews and detailed assessments of hyperlocal patterns of vaccine confidence, complacency, convenience, consumer segmentation, and media consumption patterns across the entire country.



DATAfraym – an interactive web-based dashboard – access, for custom data exploration, analysis, and exports, with mapping available at a 1 square kilometer level of granularity.



Complete datasets available regarding vaccine confidence, complacency, convenience, consumer segmentation, and media consumption patterns across the entire country, at a 1 square kilometer level of granularity.



Paired with WHO's 3C Framework, we've mapped J&J's Consumer Segments to identify where vaccine uptake challenges are likely to occur



| Meet the segments: An introduction | | | | | |
|--|---|--|--|---|--|
| | Segment 1 Confident enthusiasts | Segment 2 Vaccine sceptics | Segment 3 COVID cynics | Segment 4 Enthusiastic progradiata | Segment 5 Vaccine ambivalents |
| | 01 | 24 | M 24 | | - |
| Summary | Convinced of COVID threat and vaccine benefits. Would be quick adopters driven by social responsibility to protect their community. | Convinced of COVID threat, but scepticism around vaccine safety and efficacy inhibits perceived benefit and quick uptake. | Strongly hesitant of COVID threat and a COVID vaccine. Mistrust in the vaccine's purpose and advocates means they will be slow to vaccine adoption, if at all. | Convinced of COVID threat and merits of a vaccine, but inhibited by practical barriers. Cost- benefit analysis of the process could cause uptake delay. | Not convinced of the threat of COVID as a disease and lack motivation to seek a vaccine, but few barriers to uptake. Could be moved by social norms and strong messaging. |
| % of population | 24% | 25% | 12% | 19% | 20% |
| Likelihood to take a COVID- 19 vaccine | Very High | Moderately low | Very Low | High | Moderate |
| Speed of uptake | As soon as possible | Wait at least 6-12 months | Never | As soon as possible | Wait at least 6-12 months |
| Perceived ease of getting the vaccine | Very easy | Fairly easy | Fairly easy | Not easyinot at all easy | Fairty easy |
| COVID disease perceptions | High perceived risk and severity | High perceived risk and severity | Low perceived risk and severity | High perceived risk and severity | Low perceived risk and severity |

The 3C's

Confidence: High confidence = *More* likely to take a Vx **Convenience**: High convenience = *More* likely to take a Vx

Complacency: High complacency = *Less* likely to take a Vx

Consumer Segmentation

Different segments of people have different motivations and reasons to not get a COVID- 19 vaccine (barriers)



Data and Methods

We used geospatial machine learning methods to create a local understand of vaccination uptake barriers across the entire country down to the square kilometer.

Data

This report leverages the 2021 Fraym South Africa field survey (May 2021)

Health facilities in sub-Saharan Africa were sourced from the World Health Organization.¹

Walking and driving time to health facilities were sourced from the Malaria Atlas Project.²

Methods

Machine Learning for Hyperlocal Mapping: The localized maps seen in this report were produced using the proprietary software FUSEfraym[™]. This software uses artificial intelligence and machine learning (Al/ML) to weave together survey data with satellite imagery and geostatistical datasets.



Johnson Johnson GLOBAL PUBLIC HEALTH

Note 1: This master list of health facilities was developed from a variety of government and non-government sources from 50 countries in sub-Saharan Africa, accessible here: https://data.humdata.org/dataset/health-facilities-in-sub-saharan-africa Note 2: Least-cost distance compensates for travel costs, such as slope and terrain, accessible here: https://malariaatlas.org/research-project/accessibility-to-healthcare/



Use this Document as Inspiration

Paired with WHO's 3C Framework, we've mapped J&J's Consumer Segments to identify where vaccine uptake challenges are likely to occur.

Potential ways to use this analysis:

- Concentrate communication campaigns and media spending in specific geographic areas
- Target specific messages to niche audiences in prioritized geographies
- Optimize vaccine distribution
- Service & Product Delivery Planning





Ex. 1: Reaching 'Vaccine Skeptics' Near Cape Town

How do we reach those near Cape Town who are worried by Covid but have vaccine concerns?

WHO are we looking for?





WHERE do we find them?

People in the **vaccine skeptics** segment can be seen in greater numbers in the dark blue squares on the map below, around the Cape Town area. They aren't focused in one place.



HOW do we reach them?

Media consumption patterns for Vaccine Skeptics around Cape Town can be seen in the chart below.

Given their heavy social media use, as well as their broad geographical distribution, a digital programmatic RCCE campaign via WhatsApp and Facebook might be most effective to reach this group, using geolocations as target points.

| Media | % Vaccine Sceptic Adults |
|-----------------|--------------------------------|
| Social Media | |
| WhatsApp | 95% |
| Facebook | 85% |
| YouTube | 77% |
| Instagram | 47% |
| Radio | |
| Radio FM | 26% |
| Jacaranda FM | 18% |
| Radio RSG | 16% |
| Ukhozl FM | 12% |
| TV | |
| ETV | 50% |
| SABC1 | 39% |
| BCC | 31% |
| CNN | 27% |

Putting it all together: In order to reach Vaccine Skeptics near Cape Town, leverage Facebook and WhatsApp Platforms near Cape Town, Lansdowne and Claremont.



Ex. 2: Finding 'Enthusiastic Pragmatists' Nationally

How do we reach those who want vaccines but don't think they can get them?

WHO are we looking for?





People in the **enthusiastic pragmatists** segment are disproportionately located around Kwazulu-Natal and near Durban.



HOW do we reach them?

Residents in KwaZulu-Natal mostly use social media, but most also watch regularly, primarily in Isuzulu.

| Social Media | | | | |
|---------------------------|-------------|--|--|--|
| ③ Facebook Users % | © 91 | | | |
| Instagram Users % | ③ 44 | | | |
| DD Language | | | | |
| © English % | © 12 | | | |
| ③ Afrikaans % | © 1 | | | |
| ③ Isixhosa % | © 7 | | | |
| 🛈 Isizulu % | © 70 | | | |
| Communications and Media | | | | |
| © TV Viewers % | © 66 | | | |
| ③ Mobilephone Ownership % | © 93 | | | |
| ③ Radio Ownership % | © 61 | | | |



Ex. 3: Understanding Complacency in Johannesburg

How do we reach those who *might* take a vaccine but don't see a risk in Covid, in Johannesburg?

WHO are we looking for?



WHERE do we find them?

People in central Johannesburg tend to be less complacent, whereas those in the suburbs – particularly to the south-east and east, tend to be more complacent.



HOW do we reach them?

Pop-up vaccination sites in the east end of Johannesburg could be used to reach those in complacency 'hot spots' where the residents tend to be less motivated to travel for a shot.





07 Appendix Geospatial Mapping: Nigeria

Hyperlocal Support of Vaccine Uptake: Overview

We aim to bring local understanding of uptake barriers across Nigeria

Goals



A **deeper understanding** of how the 3C's occur locally and across entire countries to inform broad RCCE efforts.



A **detailed mapping of J&J's consumer segments** and media consumption patterns across the country to close the gap between data and action.



An **interactive tool to equip implementors with hyperlocal data** to overcome barriers to vaccine uptake faster.

Outputs



Comprehensive reports containing overviews and detailed assessments of hyperlocal patterns of vaccine confidence, complacency, convenience, consumer segmentation, and media consumption patterns across the entire country.



DATAfraym – an interactive web-based dashboard – access, for custom data exploration, analysis, and exports, with mapping available at a 1 square kilometer level of granularity.



Complete datasets available regarding vaccine confidence, complacency, convenience, consumer segmentation, and media consumption patterns across the entire country, at a 1 square kilometer level of granularity.



Paired with WHO's 3C Framework, we've mapped J&J's Consumer Segments to identify where vaccine uptake challenges are likely to occur



| Meet the segments: An introduction | | | | | |
|--|---|--|--|---|--|
| | Segment 1 Confident enthusiasts | Segment 2 Vaccine sceptics | Segment 3 COVID cynics | Segment 4 Enthusiastic progradiata | Segment 5 Vaccine ambivalents |
| | 01 | 24 | M 24 | | - |
| Summary | Convinced of COVID threat and vaccine benefits. Would be quick adopters driven by social responsibility to protect their community. | Convinced of COVID threat, but scepticism around vaccine safety and efficacy inhibits perceived benefit and quick uptake. | Strongly hesitant of COVID threat and a COVID vaccine. Mistrust in the vaccine's purpose and advocates means they will be slow to vaccine adoption, if at all. | Convinced of COVID threat and merits of a vaccine, but inhibited by practical barriers. Cost- benefit analysis of the process could cause uptake delay. | Not convinced of the threat of COVID as a disease and lack motivation to seek a vaccine, but few barriers to uptake. Could be moved by social norms and strong messaging. |
| % of population | 24% | 25% | 12% | 19% | 20% |
| Likelihood to take a COVID- 19 vaccine | Very High | Moderately low | Very Low | High | Moderate |
| Speed of uptake | As soon as possible | Wait at least 6-12 months | Never | As soon as possible | Wait at least 6-12 months |
| Perceived ease of getting the vaccine | Very easy | Fairly easy | Fairly easy | Not easyinot at all easy | Fairty easy |
| COVID disease perceptions | High perceived risk and severity | High perceived risk and severity | Low perceived risk and severity | High perceived risk and severity | Low perceived risk and severity |

The 3C's

Confidence: High confidence = *More* likely to take a Vx **Convenience**: High convenience = *More* likely to take a Vx

Complacency: High complacency = *Less* likely to take a Vx

Consumer Segmentation

Different segments of people have different motivations and reasons to not get a COVID- 19 vaccine (barriers)



Data and Methods

We used geospatial machine learning methods to create a local understand of vaccination uptake barriers across the entire country down to the square kilometer.

Data

This report leverages the 2018 Nigeria Demographic and Health Survey.

Health facilities in sub-Saharan Africa were sourced from the World Health Organization.¹

Walking and driving time to health facilities were sourced from the Malaria Atlas Project.²

Methods

Machine Learning for Hyperlocal Mapping: The localized maps seen in this report were produced using the proprietary software FUSEfraym[™]. This software uses artificial intelligence and machine learning (Al/ML) to weave together survey data with satellite imagery and geostatistical datasets.



Johmon GLOBAL PUBLIC HEALTH

Note 1: This master list of health facilities was developed from a variety of government and non-government sources from 50 countries in sub-Saharan Africa, accessible here: <u>https://data.humdata.org/dataset/health-facilities-in-sub-saharan-africa</u> Note 2: Least-cost distance compensates for travel costs, such as slope and terrain, accessible here: https://malariaatlas.org/research-project/accessibility-to-healthcare/



Use this Document as Inspiration

Paired with WHO's 3C Framework, we've mapped J&J's Consumer Segments to identify where vaccine uptake challenges are likely to occur.

Potential ways to use this analysis:

- Concentrate communication campaigns and media spending in specific geographic areas
- Target specific messages to niche audiences in prioritized geographies
- Optimize vaccine distribution
- Service & Product Delivery Planning





Creating the Profile: Segment 2 "Vaccine Sceptics"

Low complacency, moderate convenience adults living in low confidence areas.

Proportion of adults 15-49 who are low complacency, moderate convenience¹ Low confidence areas on the statelevel confidence index² Hotspots of "Vaccine Sceptics" at the National Level in Nigeria



Note 1: low complacency adults are adults who are in the first tercile of the complacency index, and moderate convenience in the second tercile of the convenience index. **Note 2:** low government confidence areas are those that fall into the first tercile of the state-level confidence index. Areas that are not low confidence were made transparent. **Source:** 2018 Nigeria DHS, 2021 Nigeria Afrobarometer, Fraym

Reaching 'Vaccine Skeptics' in Imo

How do we reach those near Nairobi who are worried by Covid but have vaccine concerns?

WHO are we looking for?

Segment 2 Vaccine sceptics Convinced of COVID threat, but scepticism around vaccine safety Summarv and efficacy inhibits perceived benefit and quick uptake. % of 25% population Likelihood to take a COVID-Moderately low 19 vaccine Speed of Wait at least 6-12 months uptake Perceived ease of getting the Fairly easy vaccine High perceived risk and **COVID** disease perceptions severity

WHERE do we find them?

Vaccine skeptics are convinced of the COVID thread, but obstacles in health access and low confidence in the government may make vaccine outreach more challenging.



stacles in Media co

Media consumption patterns for Vaccine Skeptics around Owerri can be seen in the chart below.

HOW do we reach them?

| ③ Newspaper Readers % | © 15 |
|----------------------------|--------------|
| (i) TV Viewers % | i) 39 |
| ③ Mobile Phone Ownership % | i 96 |
| ③ Radio Ownership % | i 78 |

Given their heavy radio use, it may work be effective to communicate with Vaccine Skeptics via radio channels in Imo.

Putting it all together: In order to reach Vaccine Skeptics in Imo state, radio may be an effective channel.



Creating the Profile: Segment 4 "Enthusiastic Pragmatists"

We found low complacency, low convenience adults living in high confidence areas.

Proportion of adults 15-49 who are low complacency, low convenience¹ High confidence areas on the statelevel confidence index² Hotspots of "Enthusiastic Pragmatists" at the National Level in Nigeria



Note 1: Low complacency, low convenience adults are adults who are in the first tercile of the complacency index, and in the third tercile of the convenience index. Note 2: High government confidence areas are those that fall into the first tercile of the state-level confidence index. Areas that are not high confidence were made transparent. Source: 2018 Nigeria DHS, 2021 Nigeria Afrobarometer, Fraym Common GLOBAL PUBLIC HEALTH

Reaching 'Enthusiastic Pragmatists' in Yobe State

How do we reach those who want vaccines but don't think they can get them?

WHO are we looking for?





WHERE do we find them?

12% of adults in Yobe state are expected to be enthusiastic pragmatists. Adults near less densely populated communities such as **Bukarti**, **Gashua** and **Katamma** are generally expected to take the vaccine but may be inconvenienced in some way.

Bukari Gashua Katama A Number of adults living in low complacency, low convenience and high confidence areas¹² Bukarti Health Clinic

HOW do we reach them?

There are a **few health facilities** in the vicinity and adults may still face time-related trade-offs for getting vaccinated.

We also know that **81% of Enthusiastic Pragmatists have access to a mobile phone.**

A combination of pop-up clinics and an SMS messaging campaign to inform pragmatists of their location may help increase vaccination rates.

Putting it all together: In order to reach Enthusiastic Pragmatists in Yobe state, a combination of pop-up clinics and mobile messaging may be an effective strategy.



08 Appendix Country Segmentation Distributions

Country segmentation distributions

| 0 | | | | | | | | | likelihood segments | moderate likelihood segment | moderately low or very low likelihood |
|---|---------|-----|-----|-------|----|-----|-----|----|------------------------|-----------------------------------|--|
| 0 | Nigeria | 16% | 19% | 20% | 8% | 3 | 8% | | 24% | 38% | 39% |
| | Zambia | 28% | | 43% | | 10% | 11% | 9% | 39% | 9% | 53% |
| | Kenya | 30% | 5 | 2% 6% | 38 | 3% | 15 | 5% | 68% | 15% | 18% |

■1 Confident enthusiasts ■2 Vaccine sceptics ■3 Covid Cynics ■4 Enthusiastic Pragmatists ■5 Vaccine Ambivalents



Ipsos

0......

60 © Ipsos | COVID Vaccine Acceptability Segmentation | March 2022 | Version 1 | Public

Population-level attitudes have some impact on segment distribution across countries

Observations at a population level:

| | 手 Kenya | 可 Zambia | 🕕 Nigeria |
|---|---|---|---|
| Likelihood of taking a COVID vaccine | High | Moderate | Lower |
| Speed of COVID vaccine uptake | As soon as possible | Many as soon as possible, others 6+ months | Delay of 6-12 months anticipated |
| Perceptions of ease of vaccination process | Mix of attitudes – some easy, some difficult | General consensus that process will be easy | Mix of attitudes – some easy, some difficult |





Consistencies across segments

| Gender split Segments have minimal male/female skew | Religious beliefs Strong agreement across segments that 'Faith protects me and my family from harm' | COVID impact Relatively, segments all state impact on their finances, health and social mobility opportunities | Community focus motivating actions Relatively, all segments are motivated by responsibility to their community |
|---|--|--|---|
| Age distribution All segments have good distribution across age groups | Trust in doctors for health seeking advice The most trusted source for general health and COVID Vx info | Awareness of a COVID vaccine High awareness of a COVID vaccine across segments | Comms channels for COVID Vx info All segments state they have received COVID Vx info via TV and radio |

There are some nuances in sentiment strength and where relevant this is included in our persona summaries





09 Appendix Deep-Dive into Segment Personas

Segment 1: Confident enthusiasts



"I am a firm believer in the benefits of vaccines – from the protection it can provide to myself and my family, to its subsequent ability to protect the community and the elderly. I am also very wary of the severity of COVID-19, especially with the news around the new variants – if there's anything I can do to protect myself from getting COVID-19, I will do it!" Imagined quote

Attitudes towards ••• **COVID-19** vaccine Awareness of vaccine High Likelihood to take vaccine High Perceived difficulty of getting the vaccine Low Motivation level to get the vaccine High Level of perceptual barriers to get the vaccine Neutral Level of physical/practical barriers to get the vaccine Neutral Speed of uptake Quick

Segment Size 24% **Demographics Proportion within Country** 16% 30% 28% Gender $\bigcirc 51\% \bigcirc 49\%$ Age: 55% 18-34 45% 35+ Cocupation: Selfemployed **Poverty Index Score** 36% 34% 30% Low Medium High poverty poverty **Poverty**

Segment 1: Confident enthusiasts





Will I take the COVID-19 Vaccine?



Perceived difficulty of getting the COVID-19 vaccine

| Difficult | 2% |
|-----------|-----|
| Easy | 93% |





with COVID-19

11 Public

"I believe that COVID is really severe so I follow the protocols in place to distance and protect myself, and the elderly, from COVID-19"

I follow social distancing rules and wear a mask to protect myself from COVID-19

I believe that COVID-19 can result in serious illness and/or hospitalisation

I am concerned about the elderly people in my community getting COVID-19



What are my perceptions of COVID risk and severity?

"I feel that my community are at risk of COVID-19 which could become a serious infection"

| I know somebody who close to me who was diagnosed with COVID-19 | 59% ↑ S3,S5 ↓ S2 |
|---|-------------------------|
| I believe COVID-19 is real and a threat to public health | 96% ↑ S3,S5 |
| I believe people in my community are at risk of getting COVID-19 | 77% ↑ S3,S5 |
| I believe people in my community could become seriously ill or die infected | 70% ↑ S3,S5 ↓ S4 |

Base: All segment 1 (n=596). ↑↓ Significantly higher/ lower than other segments ▲ ▼ Significantly higher/ lower than all segments

Segment 1: Confident enthusiasts







Base: All segment 1 (n=596). ↑ J Significantly higher/ lower than other segments ▲ V Significantly higher/ lower than all segments

Segment 2: Vaccine sceptics





"I know there are lot of benefits to getting vaccinated and the process seems fairly easy. I'm worried about getting sick from the vaccine, and safety and efficacy in general. There's a lot of information on social media and it's hard to know what's right. I'm planning to wait for a few months and see how others react to the vaccine." Imagined quote

| Attitudes towards COVID-19 vaccine | |
|--|----------------|
| Awareness of vaccine | High |
| Likelihood to take vaccine | Moderately low |
| Perceived difficulty of getting the vaccine | Low |
| Motivation level to get the vaccine | Neutral |
| Level of perceptual barriers to get the vaccine | Neutral |
| Level of physical/practical barriers to get the vaccine | Neutral |
| Speed of uptake | Slow |

Segment Size 25% **Demographics Proportion within** Country 19% 12% 43% Gender ♠ Age: 55% 18-34 45% 35+ C Occupation: Office worker **Poverty Index Score** 20% 35% 44% **Medium** Low High **Poverty** poverty poverty

Segment 2: Vaccine sceptics





Will I take the COVID-19 Vaccine?



Perceived difficulty of getting the COVID-19 vaccine



When will I take the COVID-19 vaccine?





Top 3 per segment

"I believe that COVID is really severe so I follow the protocols in place to distance and protect myself, and the elderly from COVID-19 as I am really concerned for the community"



ô

What are my perceptions of COVID risk and severity?

"I believe COIVD is a real threat to public health as I know many people who have been diagnosed with COVID. I believe that the disease is severe as people in my community are at great risk"

I know somebody who close to me who was diagnosed with COVID-19

I believe COVID-19 is real and a threat to public health

I believe people in my community are at risk of getting COVID-19

I believe people in my community could become seriously ill or die infected with COVID-19



Base: All segment 2 (n=603). ↑↓ Significantly higher/ lower than other segments ▲ ▼ Significantly higher/ lower than all segments







| Sources: | |
|-----------------------|-------------|
| Doctors (65%) | To note: S |
| Nurses (51%) | influencers |
| Pharmacists (44%) | leaders and |

To note: Significantly low trust in national celebrities, social media nfluencers, social media, political eaders and traditional healers

Base: All segment 2 (n=603). ↑↓ Significantly higher/ lower than other segments ▲ ▼ Significantly higher/ lower than all segments

Segment 3: COVID cynics





"I have heard of COVID and know a lot about the disease but I am unwilling to receive a vaccination. What's the point if it's not a severe disease for me? I don't trust the West, and I do not trust the government. Where have these vaccines even come from – are they safe? Being told to get vaccinated is an infringement on my freedom! I believe God offers me protection from COVID." Imagined quote

| Attitudes towards COVID-19 vaccine | | |
|--|----------|--|
| Awareness of vaccine | High | |
| Likelihood to take vaccine | Low | |
| Perceived difficulty of getting the vaccine | Difficul | |
| Motivation level to get the vaccine | Low | |
| Level of perceptual barriers to get the vaccine | High | |
| Level of physical/practical barriers to get the vaccine | High | |
| Speed of uptake | Slow | |

Segment Size 12% **Demographics** Country 20% 6% 10% **Å** Gender **54% 46%** Age: 58% 18-34 42% 35+ Cccupation: Selfemployed Poverty Index Score 27% 27% 47% Medium Low High poverty poverty poverty

Segment 3: COVID cynics





92%

Will I take the COVID-19 Vaccine?

Likely 1% V Unlikely

Perceived difficulty of getting the COVID-19 vaccine



When will I take the COVID-19 vaccine?





Top 3 per segment

"I try to follow the protocols in place to protect myself from COVID, partly because it's what I see everyone else doing. I am worried about COVID but not to the extent that many other people I know are."

I believe that COVID-19 can result in serious illness and/or hospitalisation

I follow social distancing rules and wear a mask to protect myself from COVID-19

I am concerned about the elderly people in my community getting COVID-19

79%↑ S5↓ S1,S2,S4 **75%**↑ S5↓ S1,S2,S4

79% ↑ S5↓ S1,S2,S4

• What are my perceptions of COVID risk and severity?

"I have heard a lot of people have been sick, but I don't know many people who have had COVID and don't feel my community is at much risk of getting this disease."



Base: All segment 3 (n=285). ↑↓ Significantly higher/ lower than other segments ▲ ▼ Significantly higher/ lower than all segments

Segment 3: COVID cynics



Base: All segment 3 (n=285). ↑ J Significantly higher/ lower than other segments ▲ V Significantly higher/ lower than all segments
Segment 4: Enthusiastic pragmatists



"In theory I will take a COVID-19 vaccine as soon as one is available, but in practice I'm uncertain about the logistics of getting vaccinated. I know it is one of the best ways to protect my community, but I'm not sure I can justify the travel costs and loss of income for a day. I work hard to provide for my family, which is important to me. I already wear a mask and socially distance where possible, maybe that's enough protection?" Imagined quote

Attitudes towards COVID-19 vaccine

| Awareness of vaccine | High |
|--|------------------|
| Likelihood to take vaccine | High |
| Perceived difficulty of getting the vaccine | Neutral |
| Motivation level to get the vaccine | High |
| Level of perceptual barriers to get the vaccine | Low |
| Level of physical/practical barriers to get the vaccine | X High |
| Speed of uptake | High |

12% **Demographics** Country 8% 38% 11% Gender $0^{\prime} 53\% \mathcal{Q} 47\%$ Age: 48% 18-34 52% 35+ Cccupation: Self-employed **Poverty Index Score** 35% 31% 34% Low Medium High poverty poverty poverty

Segment Size

Segment 4: Enthusiastic pragmatists





Will I take the COVID-19 Vaccine?



Perceived difficulty of getting the COVID-19 vaccine

| Difficult | | 84% |
|-----------|------|-----|
| Easy | 4% 🔻 | |





Top 3 per segment

"I follow the protocols in place to distance and protect myself. I believe COVID is severe and I'm concerned about elderly people in my community"



What are my perceptions of COVID risk and severity?

"COVID is a real threat to public health and my community is at great risk of getting this disease. I know many people close to me who has been diagnosed with COVID too"

| I know somebody who close to me who was diagnosed with COVID-19 | 60% ↑ S3,S5 |
|---|------------------------|
| I believe COVID-19 is real and a threat to public health | 96% ↑ S3,S5↓ S2 |
| I believe people in my community are at risk of getting COVID-19 | 80% ↑ S3,S5 |
| I believe people in my community could become seriously ill or die infected with COVID-19 | 76% ↑ S1,S3,S5 |

Base: All segment 4 (n=453). ↑↓ Significantly higher/ lower than other segments ▲ ▼ Significantly higher/ lower than all segments

Segment 4: Enthusiastic pragmatists



Base: All segment 4 (n=453). ↑↓ Significantly higher/ lower than other segments ▲ ▼ Significantly higher/ lower than all segments

Segment 5: Vaccine ambivalents



"I am not against the vaccine in general but also don't really see the point? I don't know many people who have been seriously ill because of COVID and I fancy my chances. I will wait and see what happens and if my peers at the church/ mosque vaccinate first." Imagined quote Attitudes towards COVID-19 vaccine

| Awareness of vaccine | High |
|--|---------|
| Likelihood to take vaccine | Neutral |
| Perceived difficulty of getting the vaccine | Neutral |
| Motivation level to get the vaccine | Low |
| Level of perceptual barriers to get the vaccine | Neutral |
| Level of physical/practical barriers to get the vaccine | Neutral |
| Speed of uptake | Delayed |

Segment Size

Demographics
20%

Image: Country
Image: Country

Image

Age: 58% 18-34 42% 35+





| 46% | 32% | 22% |
|---------|---------|---------|
| High | Medium | Low |
| ooverty | poverty | poverty |

Segment 5: Vaccine ambivalents





Will I take the COVID-19 Vaccine?



Perceived difficulty of getting the COVID-19 vaccine



When will I take the COVID-19 vaccine?





• What are my COVID beliefs?

Top 3 per segment

"Even though people in the community follow social distancing rules I don't particularly like to wear a mask or follow these rules as I think COVID isn't that serious."

I follow social distancing rules and wear a mask to protect myself from COVID-19

I believe that COVID-19 can result in serious illness or hospitalisation

People around me in the community follow social distancing rules

What are my perceptions of COVID risk and severity?

63% ↑ S2

"I have no one close to me who's been diagnosed with COVID so I don't think that people are really at risk or could get seriously ill."



Base: All segment 5 (n=496). ↑↓ Significantly higher/ lower than other segments ▲ ▼ Significantly higher/ lower than all segments

Segment 5: Vaccine ambivalents



Base: All segment 5 (n=496). ↑ J Significantly higher/ lower than other segments ▲ V Significantly higher/ lower than all segments

Johnson Johnson