



FACTORS DRIVING CORONAVIRUS DISEASE 2019 (COVID-19) VACCINE COVERAGE AND UPTAKE

AMONG INTERNALLY DISPLACED PERSONS (IDPS) IN BOSASO DISTRICT OF SOMALIA

REPORT SUBMITTED TO:

INTEGRATED SERVICES FOR DISPLACED POPULATION (ISDP)

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LIST OF ABBREVIATIONS AND ACRONYMS

CDC	Centre for Disease Control and Prevention
COVID 19	Coronavirus Disease 2019
CIRSI	Civil Institute for Research and Strategic Initiatives
EUA	Emergency Use Authorization
FGD	Focused Group Discussion
HSSP	Health Sector Strategic Plan
ICU	Intensive Care Unit
IDP	Internally Displaced Person
ISPD	Integrated Services for Displaced Population
KII	Key Informant Interview
MOH	Ministry of Health
NGO	Non-Governmental Organization
OECD	Organisation for Economic Co-operation and Development
PCR	Polymerase Chain Reaction
PLM	Pregnant and Lactating Mother
RCCE	Risk Communization and Community Engagement
SARS	Severe Acute Respiratory Syndrome
SPSS	Statistical Package for the Social Sciences
ToR	Terms of Reference
TVET	Technical and Vocational Education Training
UNICEF	United Nations Children's Fund
US	United States
USD	United States Dollar
WHO	World Health Organization



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EXECUTIVE SUMMARY

Background

Integrated Services for Displaced Population (ISDP), supports Puntland's Ministry of Health- in implementing integrated health and nutrition services among them the Coronavirus Disease-2019 (COVID-19) Risk Communication and Community Engagement (RCCE) in the Bossaso District of Bari Region. This intervention targets to increase the uptake of the COVID-19 vaccines through routine services for Pregnant and Lactating Mothers (PLMs) and children aged below five years; in both the health centres and mobile sites in the district. ISDP provides capacity-building training for MOH staff in the district's targeted health centres and mobile health posts.

Objectives of the Survey

This survey was conducted in Bossaso district in January 2022 with the objectives of:

- 1) Identifying the demographic and socio-economic factors that influence COVID-19 vaccination uptake among men and women aged 18–75 years;
- 2) Assessing health facility-level factors affecting COVID-19 vaccine coverage and uptake among men and women aged 18–75 years IDPs;
- 3) Establishing the level of acceptance of the COVID-19 vaccine among men and women aged 18–75 years IDPs;
- 4) Establishing the extent of COVID-19 vaccination coverage in IDPs camps; and

- 5) Documenting the existing COVID-19 deployment coordination mechanisms among stakeholders, gaps, and synergies thereof.

Methodology

The survey was carried out through a mixed method methods approach entailing:

- 1) A desk reviews of secondary literature and health facility data;
- 2) Quantitative household interviews with 391;
- 3) Four (4) Key Informant Interviews (KIIs) with stakeholders (NGOs, MOH and ISDP); and
- 4) Eight (8) Focus Group Discussions with the youth, health staff, men, and women separately and a mixed group of participants (youth, men and women).

FGDs and KIIs were analyzed via flow chart matrices to establish the divergence and convergence of themes in a deductive approach. At the same time, the Statistical Package for the Social Sciences (SPSS) was used to analyze the quantitative data set.

Key Findings

- Respondents in the visited households largely lacked formal education with 51.2% have never been to school (48.9% females and 54.1% males) thus limiting health information access, interpretation, and utility.
- All the households visited lived on less than 1.90 United States (US) Dollars a day an indication of extreme poverty with negative implications on household assets (e.g., Radios and Television ownership), access to health facilities (economic and geography where transport to be paid for) as well as unaffordability of COVID-19 protective equipment such as soaps, hand sanitizers, and masks.
- In households with children, 43.4% of those in pre-primary schools would allow them to be vaccinated against COVID-19, 50.4% of those with children in primary schools would enable them to be vaccinated, 49.0% of those with children in secondary schools would allow them to be vaccinated. In comparison, 50.4% of parents and caregivers with children in post-secondary school institutions would enable them to receive COVID-19 vaccines. Reasons were given by parents and caregivers for not allowing children to be vaccinated: age ineligibility, religious barriers, preexisting medical conditions, mistrust of the government, vaccination was optional, and limited types of vaccines available (7.3%). FGDs further captured barriers uptake of vaccines among children as 'they were unsafe,' 'they caused deaths,' 'they caused infertility,' and 'with or without vaccines, people would still get infected with COVID-19'.
- Among the interviewed adults, 36.1% were vaccinated (39.4% males and 33.5% females), while 63.9% were not vaccinated.
- Among those vaccinated, 42.6% were not aware of the type of vaccine administered, 56.0% had received the Johnson and Johnson vaccine, and 0.7% reported to have received the Oxford AstraZeneca vaccine. KIIs indicated that the Johnsons and Johnson vaccine was the most commonly administered vaccine (to community members), with the health care workers receiving the Oxford/ AstraZeneca vaccine.
- Of those who had received the vaccine, 95.7% had no option of choosing the type to receive (97.0% males and 94.6% females), with only 4.3% having a say in the kind of shots administered to them, an indication of low involvement of community members on COVID-19 vaccination.

- From the quantitative interviews, reasons given for taking up the COVID-19 vaccines were conviction by relatives and friends (88.7%), advice from health care workers (24.1%)¹, advice from spiritual/religious leaders (37.6%) and personal choices (3.5%). From the FGDs, community level awareness messages, religious gatherings sensitization and outreaches and phone messages by health care workers and humanitarian organizations and the perceived risks of contracting the virus were then main reasons cited for uptake of the COVID-19 vaccines by those who reported vaccination.
- Initial reluctances to take up the vaccines was reported by 51.1% of the vaccinated community members (59.5% females and 41.8% males) and this was due to inadequate information on the vaccines (42.3%), mistrust of the vaccines (69.0%), dislike of the available vaccine types (11.3%), uncertainty on the long-term side effects of the vaccines (4.2%), mistrust of the government (2.8%), pre-existing medical conditions (2.8%). From the FGDs, there was fear of visiting health facilities during active COVID-19 waves while community health activities also slowed down as part of precautionary measures.
- Preferred and trusted information sources among the survey respondents were radios (85.6%), family members and friends (63.6%), television (46.6%), brochures and posters (37.3%) largely youthful respondents and social media (39.8%). From FGDS the youths were in preference of the social media and learning institutions while adults opted for religious leaders, village elders and chiefs, community health care workers and village relief committee members.

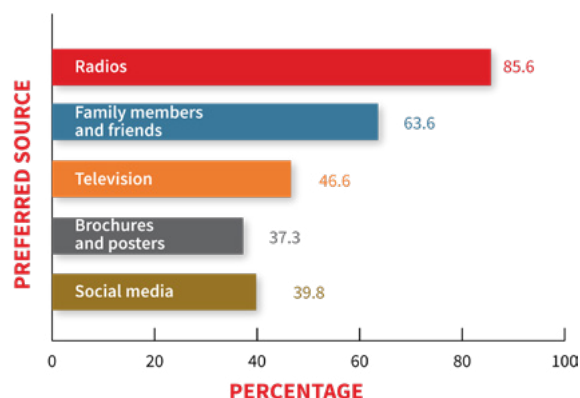


Figure 1: Preferred sources of information

- Whereas social media and social media influencers were described as essential players in COVID-19 vaccine uptake among youths, their effectiveness was limited by power internet connectivity, unavailability of power to charge phones, and high costs of accessing internet services as barriers to receiving information through this source. On the other hand, adults preferred community groups and influential leaders (community and spiritual) for fast information access, with social media not being an option due to illiteracy.
- High respect of opinions on COVID-19 from various sources was rated as follows: local radios (85.7%), brochures and posters (57.5%), local televisions (70.1%), opposition leaders (62.7%), government politicians (63.4%), private sector leaders (61.6%), friends (81.6%), university leaders (59.8%), Ministry of Health (82.6%), private clinicians (77.5%) and social media (67.3%)².
- Among those not vaccinated, the reasons given were long queues in health facilities (32.9%), unavailability of the preferred types of vaccines (32.1%), preexisting medical conditions (8.8%), mistrust of the vaccines (8.8%), vaccination was not mandatory (6.8%), religious opposition (5.2%) and fear of long-term side effects (4.0%). Most FGD participants preferred the Johnson

¹ This is an indication of low community outreaches and contact between respondents and health care workers during the COVID-19 waves. In addition, the safety of government administered vaccines were feared by most respondents.

² This was a multi response questions with more than one anticipated/ preferred response/opinion.

and Johnson vaccine which was a single dose as opposed to others that required more than one visit to the health facilities.

- From KIs within health facilities, unavailability of freezers and fridges in the low level/status health centers and dispensaries as well as power shortages to preserve volumes of vaccines, low and erratic supply of vaccines, poor training on administration, and limited preservation techniques to promote community-level administration of vaccines also hindered COVID-19 vaccine coverage.
- In terms of coordination, health facilities only worked with partner humanitarian organizations to create awareness of vaccine availability, and training on vaccine administration with limited support for the preservation of vaccines.
- Persuasion to take up COVID-19 vaccines required the following pieces of information: side effects of vaccines (81.7%), vaccine effectiveness (20.1%), adverse effects among those who had received vaccines (79.9%), the types of vaccines available (68.9%), location of vaccination clinics (68.9%), the impact of the vaccine on sexual health (74.4%), the effect of the vaccine on fertility (74.9%), and position of spiritual leaders on these vaccines (74.9%).
- Other circumstances would necessitate those not vaccinated to take up the vaccines. They include: to secure a job (66.8%), accessing social activities freely (69.2%), if more scientific information was given (62.4%), death or sickness of close relatives (72.0%), travel put side the country (69.6%), and if they saw influential people taking up the vaccine (67.6%).
- Other than vaccines, other COVID-19 mitigation measures termed as effective were natural immunity (92.8%), lock downs (47.1%), hand washing (93.4%), and social distancing

(92.3%)-Table 3.22. However, from the FGDs, lock downs, hand washing and social distancing were known but use of and sanitizers and masks were poorly conceived which was attributed to low exposure to the same due to unaffordability.

- Community members further indicated that they supported the vaccination of the following highly vulnerable groups in society: internationally arriving visitors (86.4%), frontline health care workers (87.7%), public servants (86.4%), workers in the hospitality industry (86.4%), drivers and conductors (86.4%), secondary and tertiary school learners (86.4%), and primary school pupils (86.2%).

Recommendations

- 1) Come up with a district level vaccine deployment plan clearly outlining the roles of each stakeholder in order to eliminate overlap of duties and promote synergy.
- 2) The private sector and the humanitarian organizations need to rapidly undertake capacity support activities to the health facilities including solar power and refrigeration services increase to ensure availability of viable and efficacious vaccines in health facilities.
- 3) Streamline service delivery in vaccination rooms/ clinic to eliminate the long ques hindering uptake of vaccines.
- 4) Package vaccination information targeting various community members groups based on their literacy and level of understanding. This should be built along the main information gaps captured in this report.

- 5) Use religious leaders, community leaders and community groups and peers to create awareness on the importance of COVID-19 vaccination since they appear to have a wider trust and preference among community members. In view of the low geographic and economic barriers to accessing health facilities, community level immunization where vaccines can be preserved in the outreach vans should be considered. Local delivery of vaccines within primary care setting should be prioritized, collaborating with the locals who can help highlight approaches and locations for immunization based on knowledge and community trust.
- 6) Supplement vaccination with the complementary measures such as social distancing, and hand washing which appear to be acceptable among community members.
- 7) Promote the use of hand sanitizers and face masks and provide the same to the community members given the low awareness, access and use of these two protective measures.
- 8) Use community members who have received vaccines as examples in awareness creation to mitigate the myths on the effects on the vaccines on human health, sexual performance, and child bearing abilities.
- 9) Build trust in public health facilities through local leaders, religious leaders, village elders and community groups such as mother to mother support groups.
- 10) For individuals who lack confidence in the vaccine or government, interventions that seek rebuild public trust through a more unified public health messaging strategy that is adopted across government, scientific, and healthcare communities may go a long way toward overcoming vaccine hesitancy.
- 11) Given the importance of primary health care providers in vaccine uptake, it is critical to implement programs that will increase vaccination at the community level.
- 12) To leverage the facilitator of engagement through schools, public health leaders should implement vaccine information campaigns through schools and provide vaccines to both children and parents through school-based clinics.
- 13) To address location and transportation barriers, public health leaders should offer mobile vaccine events and long-term vaccine location in neighborhoods.
- 14) To address health care cost barriers, public health leaders must clearly communicate COVID-19 vaccines are available without cost to patients.
- 15) Low literacy communication templates should be created and distributed to community organizations and can be branded with organizational branding to take advantage of these local organizations.



SECTION ONE: INTRODUCTION

1.1-Introduction

This is a draft report of a survey on the “factors driving COVID-19 vaccine coverage and uptake among Internally Displaced Persons (IDPs) in Bossaso, Somalia, “ conducted in January 2023 by the Civil Institute for Research and Strategic Initiatives -CIRSI.

1.2-Background

The Coronavirus Disease 2019 (COVID-19) pandemic created a global crisis that tremendously impacted people’s livelihoods and health worldwide.³ Besides the high rates of contagion and transmission patterns threatening humanity’s existence, containment measures for controlling the spread of the virus spread, like social distancing, have presented physical, economic, social, and emotional threats.⁴ Several efficacious COVID-19 vaccines are approved for general public utility.⁵ However, their ability to control the pandemic is significantly undermined by the slow uptake of the vaccines.⁶ Immunization is the most effective public health intervention for tackling

3 COVID-19 pandemic, oil prices, stock market, geopolitical risk, and policy uncertainty nexus in the US economy: Fresh evidence from the wavelet-based approach. *International review of financial analysis*, 70, 101496.

4 OECD. 2020. *How's Life? 2020: Measuring Well-being*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9870c393-en>.

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6 Dinga, J. N., Njoh, A. A., Gamua, S. D., Muki, S. E., & Titanji, V. P. 2022. Factors Driving COVID-19 Vaccine Hesitancy in Cameroon and Their Implications for

infectious diseases.⁷ As of 31st January 2022, COVID-19 was still a pandemic threatening resources and health, which is a strong indication that people around the world were not taking up vaccines.⁸

The emergence of new highly transmissible COVID-19 variants reduced vaccine effectiveness, albeit the inequitable availability of vaccines hence the growing concern that herd immunity may not be attained.^{9,10} However, because vaccines minimize risks of severe illness and mortality, consensus grew that nations require high vaccine coverage levels to enhance the near-expected resumption of social and economic activities and protect health systems from collapse.¹¹ The main hindrance to attaining high vaccine coverage is vaccine hesitancy, delay, or refusal to accept vaccines despite their availability.^{12,13}

Various factors are associated with COVID-19 vaccine hesitancy globally. They include social, economic,

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Africa: A Comparison of Two Cross-Sectional Studies Conducted 19 Months Apart in 2020 and 2022. *Vaccines*, 10(9), 1401.

7 Excler, J.L., Saville, M., Berkley, S. et al. Vaccine development for emerging infectious diseases. *Nat Med* **27**, 591–600 (2021). <https://doi.org/10.1038/s41591-021-01301-0>

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9 Lobinska, G., Pauzner, A., Traulsen, A. et al. Evolution of resistance to COVID-19 vaccination with dynamic social distancing. *Nat Hum Behav* **6**, 193–206 (2022). <https://doi.org/10.1038/s41562-021-01281-8>.

10 She, J., Hou, D., Chen, C., Bi, J., & Song, Y. (2022). Challenges of vaccination and herd immunity in COVID-19 and management strategies. *The clinical respiratory journal*, 16(11), 708–716. <https://doi.org/10.1111/crj.13543>.

11 WHO.2022. Strategy to Achieve Global Covid-19 Vaccination by mid-2022. < [https://cdn.who.int/media/docs/default-source/immunization/covid-19/strategy-to-achieve-global-covid-19-vaccination-by-mid-2022.pdf](https://cdn.who.int/media/docs/default-source/immunization/covid-19/strategy-to-achieve-global-covid-19-vaccination-by-mid-2022.pdf?)>.

12 Lazarus, J.V., Wyka, K., White, T.M. et al. Revisiting COVID-19 vaccine hesitancy around the world using data from 23 countries in 2021. *Nat Commun* **13**, 3801 (2022). <https://doi.org/10.1038/s41467-022-31441-x>.

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and demographic characteristics (sex, age, income, occupation, marital status, residence); the health belief model constructs; planned behavior theory constructs and the 5Cs psychological antecedents; vaccine knowledge; vaccine attitudes; conspiracy beliefs; confidence and trust; and perceived safety and side effects. Vaccine hesitancy is context specific and varies across time and place.^{14,15,16} In Sub-Saharan Africa, studies indicate that vaccine safety, negative perception of pharmaceutical firms, vaccine costs, and lack of confidence in government are other reasons for COVID-19 vaccine hesitancy.^{17,18} Understanding vaccine-related behavior significantly broadens vaccine coverage to flatten the infection curve.¹⁹ Therapeutic and nontherapeutic approaches have been taken to minimize COVID-19 cases and mortality.²⁰ However, the non-pharmaceutical

14 Marzo, R. R., Sami, W., Alam, M. Z., Acharya, S., Jermisittiparsert, K., Songwathana, K., Pham, N. T., Respati, T., Faller, E. M., Baldonado, A. M., Aung, Y., Borkar, S. M., Essar, M. Y., Shrestha, S., & Yi, S. (2022). Hesitancy in COVID-19 vaccine uptake and its associated factors among the general adult population: a cross-sectional study in six Southeast Asian countries. *Tropical medicine and health*, 50(1), 4. <https://doi.org/10.1186/s41182-021-00393-1>.

15 Tagini, S., Brugnera, A., Ferrucci, R., Priori, A., Compare, A., Parolin, L., Pravettoni, G., Silani, V., & Poletti, B. (2022). Behind the Scenes of COVID-19 Vaccine Hesitancy: Psychological Predictors in an Italian Community Sample. *Vaccines*, 10(7), 1158. <https://doi.org/10.3390/vaccines10071158>

16 AlShurman, Bara' Abdallah, Amber Fozia Khan, Christina Mac, Meerab Majeed, and Zahid Ahmad Butt. 2021. "What Demographic, Social, and Contextual Factors Influence the Intention to Use COVID-19 Vaccines: A Scoping Review" *International Journal of Environmental Research and Public Health* 18, no. 17: 9342. <https://doi.org/10.3390/ijerph18179342>.

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18 Ackah, B. B. B., Woo, M., Stallwood, L., Fazal, Z. A., Okpani, A., Ukah, U. V., & Adu, P. A. (2022). COVID-19 vaccine hesitancy in Africa: a scoping review. *Global health research and policy*, 7(1), 21. <https://doi.org/10.1186/s41256-022-00255-1>.

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20 Dixit, S. B., Zirpe, K. G., Kulkarni, A. P., Chaudhry, D., Govil, D., Mehta, Y., Jog, S. A., Khatib, K. I., Pandit, R. A., Samavedam, S., Rangappa, P., Bandopadhyay, S., Shrivastav, O., & Mhatre, U. 2020. Current Approaches

strategies taken globally to control the pandemic have become tranquil with time hence achieving herd immunity is crucial.²¹ Attaining COVID-19 immunity naturally by allowing large populations to become infected would strain health sector resources and lead to about 30 million mortalities globally.²² Therefore, mass vaccination is the only feasible approach for controlling COVID-19 transmission.^{23,24} Anti-vaccine attitudes and related misconceptions are prevalent globally, and they continue to limit global efforts in combatting the COVID-19 pandemic.²⁵

1.3-Context of the Survey

The first case of COVID-19 was confirmed in the Republic of Somalia on 16th March 2020.²⁶ The country has a history of protracted military conflict with the central government's inability to control large parts of the country. Some southern rural areas are dominated by terrorist organizations including Al-Shabab, which has a history of disrupting

humanitarian work.²⁷ In addition, widespread hunger and poverty leave several people vulnerable to epidemics.²⁸ Besides, the country has one of the weakest health sector infrastructures globally, it is ranked at 194th position out of 195 countries and that have less than 20 Intensive Care Unit (ICU) beds, and many hospitals often close due to political unrest.²⁹ Initially, the government lacked Polymerase Chain Reaction (PCR) testing capacity and samples had to be sent abroad for processing.³⁰

The first case of COVID-19 was reported in the country was followed by community transmission waves instigated by frontline health workers through contact with people arriving from overseas.³¹ The first consignment of COVID-19 vaccines was received in the country in the month of March 2021.³² The government prioritized about 300,000 frontline workers, the elderly and persons with chronic conditions; which significantly decreased morbidities and mortalities, especially among the elderly and

to COVID-19: Therapy and Prevention. *Indian journal of critical care medicine* : peer-reviewed, official publication of Indian Society of Critical Care Medicine, 24(9), 838–846. <https://doi.org/10.5005/jp-journals-10071-23470>.

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22 IMF.2022. A Global Strategy to Manage the Long-Term Risks of COVID-19.< <https://www.imf.org/-/media/Files/Publications/WP/2022/English/wpia2022068-print-pdf.ashx>

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30 Gayer, M., Legros, D., Formenty, P., & Connolly, M. A. (2007). Conflict and emerging infectious diseases. *Emerging infectious diseases*, 13(11), 1625.

31 Abdi A, Ahmed AY, Abdulmunim M, Karanja MJ, Solomon A, Muhammad F, Kumlachew M, Obtel M, Malik SMMR. Preliminary findings of COVID-19 infection in health workers in Somalia: A reason for concern. *Int J Infect Dis*. 2021 Mar;104:734-736. doi: 10.1016/j.ijid.2021.01.066. Epub 2021 Feb 10. PMID: 33578016; PMCID: PMC7872860.

32 UNICEF.2021. COVID-19 vaccines arrive in Somalia.< <https://www.unicef.org/somalia/stories/covid-19-vaccines-arrive-somalia#:~:text=Earlier%20this%20week%2C%20300%2C000%20doses,Garowe%20and%2065%2C000%20to%20Hargeisa.&text=This%20first%20consignment%20of%20vaccines,people%20with%20chronic%20health%20conditions.>>.

persons with comorbidities.³³ By 9th May 2022, the Republic of Somalia had administered 2 677, 716 COVID-19 vaccine doses (AstraZeneca, Sinopharm and Johnson & Johnson) representing 8.6% coverage of the population.^{34,35}

The COVID-19 disease has maintained an upward trajectory of morbidities and mortalities since its inception, with the WHO records reporting 521, 694, 216 confirmed cases and 6, 274, 111 deaths as of 16th May 2022.³⁶ Efforts to control the pandemic involve therapeutic and non-therapeutic strategies.³⁷ Non-therapeutic remedies like wearing masks, hand hygiene, and physical distancing have shown to be very effective in reducing Severe acute respiratory syndrome coronavirus 2 (SARSCoV2) spread.³⁸ However, these approaches are tranquil hence the need for more sustainable strategies; especially among resource-limited nations with limited capacity for facemasks access and disinfectants and religious crowding due to social, religious, and cultural peculiarities.³⁹ Global inequities concerning COVID-19

vaccine access and other factors related to vaccine uptake are also significant threats to the control of the pandemic.⁴⁰

Herd immunity is achieved when enough persons develop protective antibodies against future infections through community infection or vaccination programs.⁴¹ However, relying on community infections to attain COVID-19 herd immunity poses risks of infection and severe health impacts, including deaths.⁴² Vaccines establish immunity without causing diseases or complications, and achieving herd immunity protects vulnerable populations, including newborns and those with compromised immunity.⁴³ The herd immunity threshold of one of the most infectious illnesses, measles, is about 94% immunization coverage.⁴⁴ For the COVID-19 variants of concern, such as B.1.1.7 (Alpha), the required threshold is approximately 80% vaccination coverage and may be higher for emerging variants like the Delta.⁴⁵

The Centers for Disease Control and Prevention (CDC) determined that immunization is crucial to stop the

33 WHO.2021. Protecting Somalis from COVID-19 while creating a fairer, more equitable world.< <https://reliefweb.int/report/somalia/protecting-somalis-covid-19-while-creating-fairer-more-equitable-world>>.

34 Biselli, R., Nisini, R., Lista, F., Autore, A., Lastilla, M., De Lorenzo, G., ... & D'Amelio, R. (2022). A historical review of military medical strategies for fighting infectious diseases: From battlefields to global health. *Biomedicines*, 10(8), 2050.

35 WHO.2023. Somalia Situation.< <https://covid19.who.int/region/emro/country/so>>.

36 WHO.2023.COVID 19 Dash Board.< <https://covid19.who.int/>>.

37 Niknam, Z., Jafari, A., Golchin, A. et al. Potential therapeutic options for COVID-19: an update on current evidence. *Eur J Med Res* **27**, 6 (2022). <https://doi.org/10.1186/s40001-021-00626-3>.

38 Lio, C.F., Cheong, H.H., Lei, C.I. et al. Effectiveness of personal protective health behaviour against COVID-19. *BMC Public Health* **21**, 827 (2021). <https://doi.org/10.1186/s12889-021-10680-5>.

39 Abdullahi, L., Onyango, J. J., Mukiira, C., Wamicwe, J., Githiomi, R., Kariuki, D., Mugambi, C., Wanjohi, P., Githuka, G., Nzioka, C., Orwa, J., Oronje, R., Kariuki, J., & Mayieka, L.2020. Community interventions in Low-And Middle-Income Countries to inform COVID-19 control implementation decisions in Kenya: A rapid systematic review. *PloS one*, 15(12), e0242403.

40 Ning, C., Wang, H., Wu, J., Chen, Q., Pei, H., & Gao, H. (2022). The COVID-19 Vaccination and Vaccine Inequity Worldwide: An Empirical Study Based on Global Data. *International journal of environmental research and public health*, 19(9), 5267. <https://doi.org/10.3390/ijerph19095267>.

41 Anderson, R. M., & May, R. M. (1985). Vaccination and herd immunity to infectious diseases. *Nature*, 318(6044), 323-329.

42 Massetti GM, Jackson BR, Brooks JT, et al. Summary of Guidance for Minimizing the Impact of COVID-19 on Individual Persons, Communities, and Health Care Systems — United States, August 2022. *MMWR Morb Mortal Wkly Rep* 2022;71:1057-1064. DOI: <http://dx.doi.org/10.15585/mmwr.mm7133e1>.

43 Savulescu .2021. Good reasons to vaccinate: mandatory or payment for risk?

Journal of Medical Ethics 2021;**47**:78-85.

44 Bolotin, S., Wilson, S., & Murti, M.2021. Achieving and sustaining herd immunity to SARS-CoV-2. *CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne*, 193(28), E1089.

45 Bolotin, S., Wilson, S., & Murti, M. (2021). Achieving and sustaining herd immunity to SARS-CoV-2. *CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne*, 193(28), E1089.

Covid-19 pandemic, with initial recommendations targeting vulnerable populations due to limited vaccine supply.⁴⁶ However, given the significant increase in the supply of vaccines, transitioning beyond the priority groups to allow broader eligibility for immunization with the Covid-19 vaccine aligns with the applicable Emergency Use Authorization (EUA).⁴⁷ The approved COVID-19 vaccines include Pfizer/BioNTech; SII/ Covishield and AstraZeneca/ AZ1222 by AstraZeneca/ Oxford; Jansen/Ad26.COV 2. S by Johnson & Johnson; Moderna COVID-19 vaccine (mRNA 1273); Sinopharm COVID-19 vaccine by China National Biotec Group; and Sinovac-CoronaVac.⁴⁸

1.4-Objectives of the Survey

1.4.1-General Objective of the Survey

The general objective of the survey was to determine the forces driving COVID-19 vaccine coverage and uptake among IDPs in Bossaso district, Republic of Somalia.

1.4.2-Specific Objectives of the Survey

The specific objectives of the survey were:

1. To identify the demographic and socio-economic factors that influence COVID-19 vaccination uptake among men and women aged 18–75 years in Bossaso district.
2. To assess health facility-level factors affecting COVID-19 vaccine coverage and uptake among men and women aged 18–75 in Bossaso district.
3. To document the level of acceptance of the COVID-19 vaccine among men and women aged 18–75 years in Bossaso district.
4. To establish the extent of COVID-19 vaccination coverage in IDP camps in Bossaso district.
5. To document the existing COVID-19 vaccine deployment coordination mechanisms among stakeholders in Bossaso district.

46 Christie, A., Brooks, J. T., Hicks, L. A., Sauber-Schatz, E. K., Yoder, J. S., Honein, M. A., ... & Team, R. (2021). Guidance for implementing COVID-19 prevention strategies in the context of varying community transmission levels and vaccination coverage. *Morbidity and mortality weekly report*, 70(30), 1044.

47 CDC.2022. COVID-19 Vaccination Program Operational Guidance.< <https://www.cdc.gov/vaccines/covid-19/covid19-vaccination-guidance.html>>.

48 WHO.2023. COVID-19 Vaccines with WHO Emergency Use Listing.< <https://extranet.who.int/pqweb/vaccines/vaccinescovid-19-vaccine-eul-issued>>.

SECTION TWO: SURVEY METHODOLOGY

2.1-Survey Approach

The survey was conducted in the month of January 2022 among IDPS in Bossaso district through a mixed methods approach⁴⁹ entailing; a desk review of secondary literature and documents; quantitative household survey interviews; Focus Group Discussions (FGDs) with the youth, women, men, and health care workers; and Key Informant Interviews (KIIS) with humanitarian workers and health care workers. These data collection methods were aimed at ensuring the triangulation of evaluation findings.^{50&51}

2.2-Data Collection Tools

A desk review of documents preceded field visits, which was useful in fine-tuning the survey methodology, formulating questions, and coming up with the data collection tools. The data collection tools used were:

1. A quantitative household survey questionnaire targeting men and women (18 to 75 years);
2. A KIIS guide for humanitarian workers and health care workers; and
3. FGD guides targeting men, women, youth and health care workers.

49 Shorten A, Smith J.2017. Mixed methods research: expanding the evidence base. *Evidence-Based Nursing* 2017;20:74-75.

50 Dopp A.R., Munday, P., Beasley, L.O. et al.2019. Mixed-method approaches to strengthen economic evaluations in implementation research. *Implementation Sci* 14, 2 (2019). <https://doi.org/10.1186/s13012-018-0850-6>.

51 Grey literature is published research materials and documents while white literature refers to routine reports and technical documents.

2.3-Sample Size and Sampling Approach

2.3.1-Quantitative Household Survey

Fisher's formula on sample size determination was applied at a confidence interval of 95%, a Z score of 1.96, and a margin error of 5%. Because of an absence of COVID-19 vaccination coverage or uptake proportion, 50% was considered as the proportion of the population with the desired characteristics. Minimum 380 study interviews were required from the 14 study areas, 30 from each of the ten villages. From the interviews, 391 respondents were interviewed, translating to a 102.9% response rate (Table 2.1). Respondents in the ten villages were identified through a systematic random sampling approach targeting every 20th household.

Table 2.1: Quantitative HH survey response rate

Targeted Respondents	Interviewed respondents	Response rate
380	391	102.9%

2.3.2-Key Informant Interviews (KIIs)

A total of four key informant interviews were conducted to shed light on coordination mechanisms, gaps and recommendations for COVID-19 vaccination improvement. The respondents included NGOs and MOH staff and were selected through purposive and snowball sampling methods.

Table 2.2: KIIs conducted

Key Informant	Targeted KIIs	Interviewed respondents	Response Rate
Ministry of health officials at local and state level	4	2	50.0%
NGO Staff	4	2	50.0%
Hospital Representatives	4	1	25.0%
Total	12	4	33.3%

2.3.3-Focus Group Discussions (FGDs)

A total of eight (8) focused group discussions were conducted with men, women, the youth, and health care workers (Table 2.3). The FGDs purposively targeted the respective groups with participants being recruited through convenience sampling. The FGDs aimed to provide insights into the quantitative survey responses through triangulation of the findings.

Table 2.3: FGDs conducted

Group of participants	Targeted	Interviewed	Response Rate
Men	6	2	
Women	6	12	200%
Youth	6	9	150%
Health Facility Staff	6	1	
Mixed Group	6	17	283%
Total	30	38	127%

2.4-Data Collection Procedures

The quantitative data was collected through mobile phones (Kobo Collect Application)⁵² for 4 days by 6 enumerators (4 males and 2 females) after a day of training in Bossaso. KIIs were conducted by supervisors and recorded on paper, while FGDs were conducted by a team of two senior researchers (a moderator and note taker) with notes recorded on paper. The research team was trained on research ethics, data collection methods, beneficiary safeguarding, obtaining consent, confidentiality, and privacy in interviews as well as pretesting tools and pilot testing of field procedures. The inclusion criteria for FGDs and KIIs respondents entailed knowledgeable persons, community members, and healthcare workers in the targeted health facilities and villages. Household survey respondents were persons aged 18 to 75 who had resided in the ten villages for at least two years. The research team adhered to the beneficiaries' safeguarding protocols, procedures, and other universally accepted research ethical measures.

2.5- Data Quality Assurance Plan

2.5.1- Quantitative Data Quality Control Measures

The following data quality assurance measures were put in place before, during, and after quantitative data collection: training of the research team, use of mobile phones, mandatory questions and skip patterns in the Kobo Collect platform, and post-completion reviews for the collected data and maintenance of syntax steps and codes in data cleaning and analysis.

2.5.2- Qualitative Data Quality Control Measures

The TOR guided conceptualization of research questions, only knowledgeable persons were included in KIIs and FGDs, triangulation of both KIIs and FGDs with quantitative interviews, and a review of 20% of the qualitative data transcripts as a data quality control measure.

2.6- Data Management and Analysis

2.6.1- Qualitative Data Management and Analysis

Qualitative data were transcribed and analyzed using flow chart matrices to establish convergence and divergence of themes. A deductive qualitative data analysis approach entails transcription, deconstruction, interpretation, reconstruction, and establishing emerging patterns and themes.

⁵² <https://www.kobotoolbox.org/>.

2.6.2 Quantitative Data Management and Analysis

The quantitative survey data set from the households' survey was exported to MS. Excel sheets and then exported into the Statistical Package for the Social Sciences (SPSS) version 23.0. This was an iterative procedure that took place throughout the entire analysis. Labeling various variables and data cleaning was done, including checking outliers, missing data imputation, and variable transformation. All data cleaning steps were documented on the syntax file. Descriptive analyses was conducted to extract descriptive statistics, with frequencies, percentages, means, medians, and standard deviations computed in the study. Exploratory analysis statistics included cross tabulations and correlations to facilitate deeper insights into the research objectives.

2.7-Challenges and Limitations

During the data collection exercise, several challenges were met by the enumerators. These challenges included (1) target respondents' engagement in livelihoods activities hence replacement of the households targeted in the sampling frame, (2) health care workers were largely involved in the management of patients hence interviews with them had to be hurried up , and (3) the voter registration exercise in Bossaso district delayed commencement of field work.





SECTION THREE: SURVEY FINDINGS

3.1-Introduction

This section of the report presents findings from the survey based on 391 household survey interviews, 8 FGDs, 4 KIs, and secondary data and literature.

3.2-Demographic Characteristics of the Respondents

Across the ten villages, 56.5% of the respondents were females, while 43.5% were males. Across the visited households, most respondents were females since men were out-engaged in livelihood activities away from their households (Table 3.1).

FACTORS DRIVING (COVID-19) VACCINE COVERAGE AND UPTAKE

Table 3.1: Gender and village distribution of respondents

Village	Female		Male		Total	
	n	%	n	%	n	%
100 Buush	15	60.0%	10	40.0%	25	6.4%
Absame	8	29.6%	19	70.4%	27	6.9%
Ajuuran	21	70.0%	9	30.0%	30	7.7%
Al-khayr	8	32.0%	17	68.0%	25	6.4%
Banaadir	24	82.8%	5	17.2%	29	7.4%
Biyo kulule	25	89.3%	3	10.7%	28	7.2%
Buula Eeley	21	72.4%	8	27.6%	29	7.4%
Buulo Mingis	11	37.9%	18	62.1%	29	7.4%
Farjano	8	29.6%	19	70.4%	27	6.9%
New Biyo kulule	21	77.8%	6	22.2%	27	6.9%
Shabeelle	22	78.6%	6	21.4%	28	7.2%
Shirkow	17	58.6%	12	41.4%	29	7.4%
Tawakal	9	30.0%	21	70.0%	30	7.7%
Waaberi	11	39.3%	17	60.7%	28	7.2%
Total	221	56.5%	170	43.5%	391	100.0%

By age, 27.1% of the respondents were aged 18 to 25 years, 37.3% were aged above 25 years to 35 years, 19.7% were of the age group above 35-45 years, 12.3% were aged above 46 years to 60 years, and 23.5% were aged above 60 years. On education, 51.25% of the respondents had never been to school, 23.5% had been to religious classes (Madrassa), 22.5% had been to primary schools, 2.0% had been to secondary schools, and 2 respondents had TVET skills and only 1 respondent had the tertiary level of education (Table 3.2). In addition, 45.8% of the respondents were not engaged in income-generating activities while 27.1% were engaged in livelihood generation activities.

Table 3.2: Age, education and employment status

Variable	Variable description	Female(n=221)	Male(n=170)	Overall (n=391)
Age Category	18-25 years	33.0% (73)	19.4% (33)	27.1% (106)
	26-35 years	39.8% (88)	34.1% (58)	37.3% (146)
	36-45 years	18.6% (41)	21.2% (36)	19.7% (77)
	46-60 years	7.7% (17)	18.2% (31)	12.3% (48)
	>60 years	0.9% (2)	7.1% (12)	3.6% (14)
Education Status	Religious education	29.4% (65)	15.9% (27)	23.5% (92)
	None	48.9% (108)	54.1% (92)	51.2% (200)
	TVET	0.0% (0)	1.2% (2)	0.5% (2)
	Primary level	20.8% (46)	24.7% (42)	22.5% (88)
	Secondary Level	0.9% (2)	3.5% (6)	2.0% (8)
	Tertiary level	0.0% (0)	0.6% (1)	0.3% (1)
Employment status	Housewife	0.5% (1)	0.6% (1)	0.5% (2)
	In school	0.9% (2)	2.4% (4)	1.5% (6)
	Other	0.0% (0)	0.6% (1)	0.3% (1)
	Prefer not to say	1.4% (3)	8.2% (14)	4.3% (17)
	Retired	14.9% (33)	14.7% (25)	14.8% (58)
	Unemployed (Unable to find a job)	24.4% (54)	73.5% (125)	45.8% (179)
	Yes, Working (part-time or full-time including self-employment)	33.0% (73)	19.4% (33)	27.1% (106)

Among those not working, 17.2% attributed their unemployment to the COVID-19 pandemic, 13.8% were unemployed even before the onset of the COVID 19 pandemic, while 65.5% of the respondents refused to respond to this query (Table 3.3).

Table 3.3: Link between COVID-19 and unemployment

	Female(n=221)	Male(n=170)	Overall (n=391)
Prefer Not to Say	84.8%(28)	40.0%(10)	65.5%(38)
Student/ Housewife/Husband /Retired before and after Covid-19	3.0%(1)	4.0%(1)	3.4%(2)
Unemployed before and since Covid-19	6.1%(2)	24.0%(6)	13.8%(8)
Unemployed due to covid-19	6.1%(2)	32.0%(8)	17.2%(10)

Participants were further asked about their sources of income nada they named them as follows: construction work (13.6%), petty trade (6.9%), casual labour (17.1%), washing and cleaning activities (16.9%), and remittance (7.2%) and constructions work (13.6%)-Table 3.4. From the FGDs, humanitarian aid/relief was also named as a source of income in most households.

Table 3.4: Sources of income in the households

Source of income	Female(n=221)	Male(n=170)	Overall (n=391)
Construction	0.5%(1)	30.6%(52)	13.6%(53)
Garbage collection	0.9%(2)	0.0%(0)	0.5%(2)
Home maid	2.3%(5)	0.0%(0)	1.3%(5)
Remittance	1.8%(4)	14.1%(24)	7.2%(28)
Salon	0.0%(0)	0.6%(1)	0.3%(1)
Casual labour	4.5%(10)	33.5%(57)	17.1%(67)
Petty trade	3.6%(8)	11.2%(19)	6.9%(27)
None	57.5%(127)	8.8%(15)	36.3%(142)
Washing/cleaning	29.0%(64)	1.2%(2)	16.9%(66)

In all the households visited, 66.5% had a monthly income of less than 50 US Dollars, 27.1% had an income level of more than 50 US Dollars to 150 US Dollars, 5.4% had more than 150 US Dollars to 300 US Dollars, 0.8% had an income of above 300 US Dollars to 450 US Dollars while 0.3% had an income level of above 450 US Dollars to 600 US Dollars every month (Table 3.5).

Table 3.5: Income levels

Income level	Female(n=221)	Male(n=170)	Overall (n=391)
150-300 USD	1.8%(4)	10.0%(17)	5.4%(21)
301-450 USD	0.0%(0)	1.8%(3)	0.8%(3)
451-600 USD	0.0%(0)	0.6%(1)	0.3%(1)
51-150 USD	20.4%(45)	35.9%(61)	27.1%(106)
Less than 50 USD	77.8%(172)	51.8%(88)	66.5%(260)

In the visited households, 87.7% of the respondents had children (89.1% female and 85.9% male respondents (Figure 1). Specifically, 76.1% of the households had more than 3 children, 10.8% had 3 children, 7.0% had 2 children, and 6.1% had one child (Table 3.6).

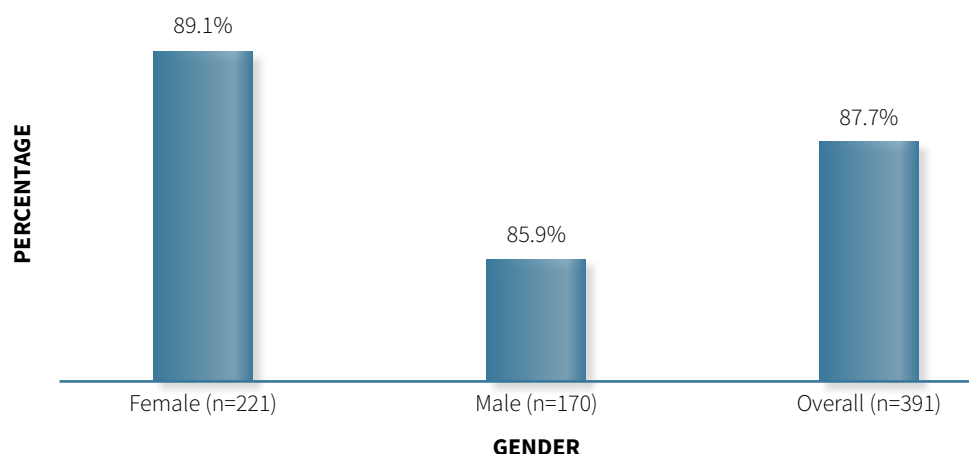


Figure 3.1: Households with children

Table 3.6: Number of children in the households

	Female(n=197)	Male(n=170)	Overall (n=343)
One child	5.1%(10)	7.5%(11)	6.1%(21)
2 children	7.6%(15)	6.2%(9)	7.0%(24)
3 Children	11.7%(23)	9.6%(14)	10.8%(37)
More than 3 children	75.6%(149)	76.7%(112)	76.1%(261)

In the visited households, 43.4% of those with children in pre-primary schools would allow them to be vaccinated against COVID-19, 50.4% of those with children in primary schools would allow them to be vaccinated, 49.0% of those with children in secondary schools would allow them to be vaccinated while 50.4% of parents and caregivers with children in post-secondary school institutions would allow them to receive COVID-19 vaccines (Table 3.7).

Table 3.7: Willingness to allow children to be vaccinated

		Female(n=197)	Male(n=170)	Overall (n=343)
Pre-Primary	No	52.8%(104)	54.1%(79)	53.4%(183)
	Unsure	2.5%(5)	4.1%(6)	3.2%(11)
	Yes	44.7%(88)	41.8%(61)	43.4%(149)
Primary School	No	52.3%(103)	43.8%(64)	48.7%(167)
	Unsure	0.5%(1)	1.4%(2)	0.9%(3)
	Yes	47.2%(93)	54.8%(80)	50.4%(173)
Secondary School	No	52.8%(104)	43.8%(64)	49.0%(168)
	Unsure	0.5%(1)	0.7%(1)	0.6%(2)
	Yes	46.7%(92)	55.5%(81)	50.4%(173)
Post-Secondary Education/Tertiary	No	52.8%(104)	43.8%(64)	49.0%(168)
	Unsure	0.5%(1)	0.7%(1)	0.6%(2)
	Yes	46.7%(92)	55.5%(81)	50.4%(173)

Reasons given for by parents and caregivers for not allowing children to be vaccinated were: age ineligibility (71.4%), COVID-19 vaccination was against religious practices (2.1%), preexisting medical conditions (5.7%), mistrust of the government (1.0%), vaccination is optional (7.3%), and 5.7% did not like the COVID-19 vaccine types available. From the FGDs, myths characterized COVID-19 vaccines, including ‘they are unsafe’, ‘they cause deaths’, ‘they cause infertility’ and ‘with or without vaccines people would still get infected with COVID-19’ (Table 3.8).

Table 3.8: Reasons for not allowing children to be vaccinated

	Female(n=107)	Male(n=85)	Overall (n=192)
They are too young for vaccination	64.5%(79)	80.0%(68)	71.4%(137)
It’s against my religion for children to be immunized	0.9%(1)	3.5%(3)	2.1%(4)
My children have a medical condition barring them from immunization	6.5%(7)	4.7%(4)	5.7%(11)
Mistrust the government	0.0%(0)	2.4%(2)	1.0%(2)
It’s a choice/optional	11.2%(12)	2.4%(2)	7.3%(14)
I don’t like the vaccine options available	7.5%(8)	3.5%(3)	5.7%(11)
Other reasons (not specified)	23.4%(25)	22.4%(19)	22.9%(44)

... “Even those vaccinated against COVID-19 are still getting infected” (Female FGD participant,)

... “We hear some people become sick when vaccinated, we do not trust the vaccines” (Male FGD participant)

... “Vaccines should be offered by humanitarian organizations; the government vaccines are not safe” (Male FGD participant)

... “Vaccines are not safe for mothers and children, they cause sterility and disabilities” (Pregnant female, in a FGD)

... “Some community members argue that vaccines are against their religion” (Health care worker)

... “Vaccine information is not adequate in the villages and IDP camps. They lack the truth on vaccine efficacy and safety” Humanitarian worker)

Among the interviewed adults, 36.1% were vaccinated (39.4% males and 33.5% females) while 63.9% were not vaccinated (Figure 3.2). Among those vaccinated, 42.6% were Not aware on the type of vaccine administered, 56.0% had receive the Johnson and Johnson vaccine, 0.7% reported to have received the Oxford AstraZeneca vaccine (Table 3.9).

On bivariate and multivariate analysis as well as correlation, none of the social demographic factors significantly influenced COVID-19 vaccine uptake (Annexes 3 and 4).

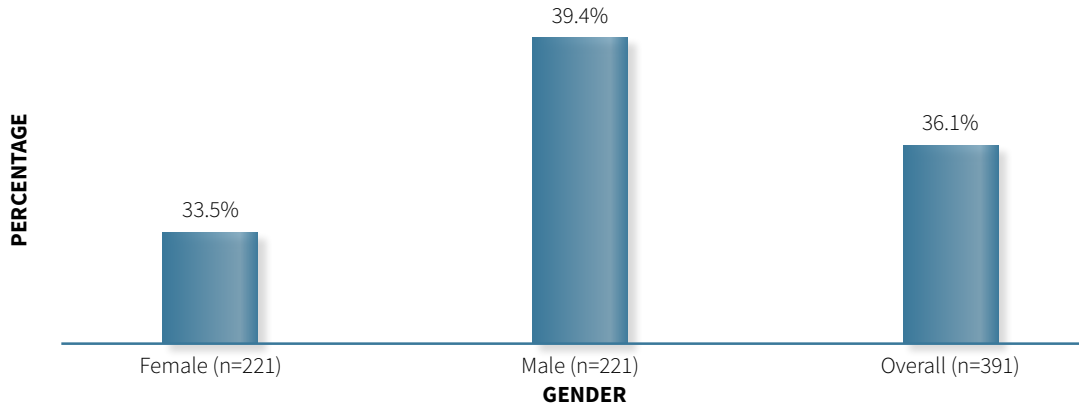


Figure 3.2: Vaccinated adult respondents

Table 3.9: Type of vaccine received

	Female(n=74)	Male(n=67)	Overall (n=141)
Johnson & Johnson	74.3%(55)	35.8%(24)	56.0%(79)
Oxford/AstraZeneca	1.4%(1)	0.0%(0)	0.7%(1)
Other (please specify)	1.4%(1)	0.0%(0)	0.7%(1)
I don't know	23.0%(17)	64.2%(43)	42.6%(60)

... “I received the vaccine in the health facility, I am not sure what type it was” (Female FGD participant)

... “There was health outreach team vehicle with staff administering vaccines, we were told the name of the vaccine but I can't remember it” (Male FGD participant)

... “I received the Johnsons and Johnson vaccine” (Male youth in a FGD)

... “Information on the type of vaccines and their side effects was inadequate. I do not recall the vaccine administered” (Female FGD participant)

Kilis indicated that the Johnsons and Johnson vaccine was the most commonly administered vaccine (to community members) with the health care workers receiving the Oxford/ AstraZeneca vaccine. This, of those who had received the vaccine, 95.7% had no option of choosing the type to receive (97.0% males and 94.6% females) with only 4.3% having a say in the type of shots they preferred (Figure 3.3)

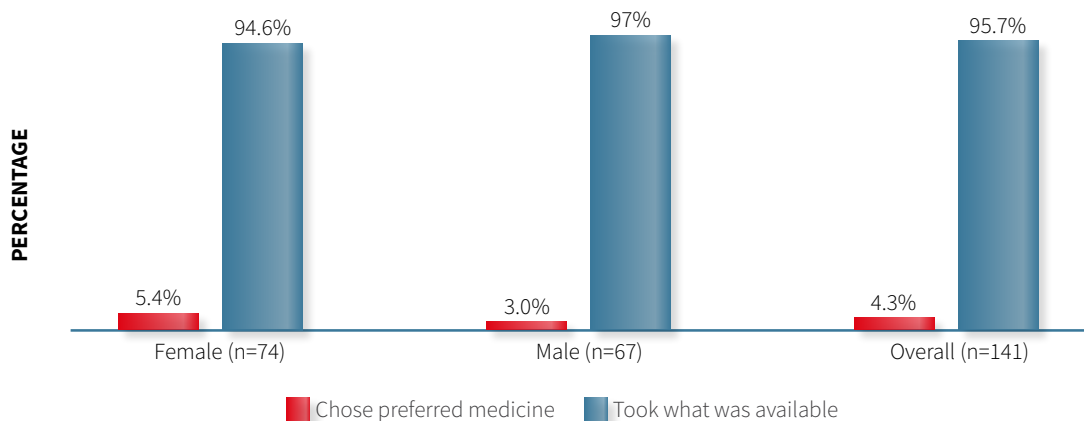


Figure 3.3: Choice on the vaccine received

Reasons given for taking up the COVID-19 vaccines were conviction by relatives and friends (88.7%), advice from health care workers (24.1%), advice from spiritual/religious leaders (37.6%) and personal choices (3.5%)-Table 3.10. From the FGDs, community level awareness messages, religious gatherings sensitization and outreaches and phone messages by health care workers and humanitarian organizations and the perceived risks of contracting the virus were then main reasons cited for uptake of the COVID-19 vaccines (Table 3.10).

Table 3.10: Reasons for taking up COVID-19 vaccines

Reason(s)	EASON	Male(n=67)	Overall (n=141)
I was convinced by friends/relatives	85.1%(63)	92.5%(62)	88.7%(125)
Advice from a doctor	20.3%(15)	28.4%(19)	24.1%(34)
Advice from a spiritual leader/faith/religion	51.4%(38)	22.4%(15)	37.6%(53)
It's by choice and I chose to	5.4%(4)	1.5%(1)	3.5%(5)
Influence from social media/Face Book/You Tube/Tik Tok/Instagram	0.0%(0)	1.5%(1)	0.7%(1)
My vaccine of choice was available	1.4%(1)	0.0%(0)	0.7%(1)
Queues were not long/Took advantage of outdoor vaccination campaigns	1.4%(1)	0.0%(0)	0.7%(1)
There was an increase in the number of COVID-19 related deaths/infections	0.0%(0)	1.5%(1)	0.7%(1)
No reason	2.7%(2)	1.5%(1)	2.1%(3)
Other (please specify)	0.0%(0)	3.0%(2)	1.4%(2)

... “Our Imams told us the benefits of the vaccines” (Male adult FGD participant)

... “We learnt about vaccines in school” (Male youth in a FGD)

... “There were posters in the health center with information on the vaccines” (Female adult in a FGD)

... “Health care workers in health facilities provided information to me on the vaccine” (Female adult FGD participant)

... “As we receive SMSs on cash transfers, we also received such messages on COVID-19 vaccines” (Male adult in a FGD)

Table 3.11: Decisions on vaccination

	Female(n=74)	Male(n=67)	Overall (n=141)
Both medical and personal research	1.4%(1)	0.0%(0)	0.7%(1)
I did not choose	2.7%(2)	0.0%(0)	1.4%(2)
Medical research	8.1%(6)	9.0%(6)	8.5%(12)
Personal Research	87.8%(65)	91.0%(61)	89.4%(126)

Initial reluctances to take up the vaccines was reported by 51.1% of the vaccinated community members (59.5% females and 41.8% males)-Figure 3.4. Reasons given for vaccine hesitancy were inadequate information on the vaccines (42.3%), mistrust of the vaccines (69.0%), dislike of the available vaccine types (11.3%), uncertainty on the long-term side effects of the vaccines (4.2%), mistrust of the government (2.8%), pre-existing medical conditions (2.8%)-Table 3.12.

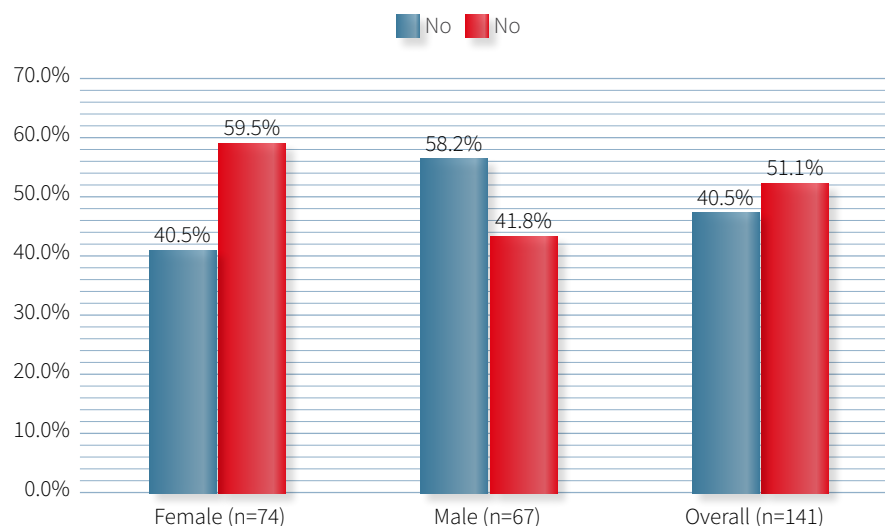


Figure 3.4: Initial hesitancy to take up COVID-19 vaccines

Table 3.12: Reasons for hesitancy

Reason (s)	Female(n=44)	Male(n=28)	Overall (n=72)
Inadequate information on the vaccines	43.2%(19)	40.7%(11)	42.3%(30)
I did not like any of the vaccine options available	4.5%(2)	22.2%(6)	11.3%(8)
Pre-existing medical conditions	4.5%(2)	0.0%(0)	2.8%(2)
Mistrust of government	4.5%(2)	0.0%(0)	2.8%(2)
Vaccine mistrust	77.3%(34)	55.6%(15)	69.0%(49)
Uncertainty on the long-term side effects of the vaccine	4.5%(2)	3.7%(1)	4.2%(3)
Other	0.0%(0)	22.2%(6)	8.5%(6)

... “I had never received a vaccine before this” (Male adult in a FGD)

... “It was not clear how the vaccine would affect those critically ill like myself” (Female youth in a FGD)

... “There were limited choices on the vaccines available For some, we were told we need more than one shot” (Female adult in a FGD)

... “We do not trust the government We hear of plans to reduce our population” (Male adult in a FGD)

... “Fear and inadequate information contributed to vaccine hesitancy we had to do lots of awareness creation” (Health care worker in a FGD)

When asked about the channels they trusted in obtaining information, 85.6% named radios, 63.6% named family members and friends, 46.6% preferred television, 37.3% preferred brochures and posters, and 39.8% were in preference of the social media. Specifically, from FGDS the youths were in preference of the social media and learning institutions while adults opted for religious leaders, village elders and chiefs, community health care workers and village relief committee members (Table 3.13).

Table 3.13: Preferred and trusted source of information

	Female(n=56)	Male(n=62)	Overall (n=118)
Social media	50.0%(28)	30.6%(19)	39.8%(47)
Brochures and posters	48.2%(27)	27.4%(17)	37.3%(44)
Radio	80.4%(45)	90.3%(56)	85.6%(101)
Television	51.8%(29)	41.9%(26)	46.6%(55)
Family and friends	76.8%(43)	51.6%(32)	63.6%(75)

In addition to the above, influential social media figures were said to be instrumental in creating awareness on COVID-19 matters by 66.1% of the respondents (Table 3.14). From the FGDs, this was largely youths but they also cited power internet connectivity, unavailability of power to charge phones and high costs of accessing internet services as barrier to receiving information through this source. On the other hand, adults preferred community group and influential leaders (community and spiritual) for fast information access with the social media not being an option due to illiteracy.

Table 3.14: Level of influence by social media personalities in COVID-19 matters

	Female(n=56)	Male(n=62)	Overall (n=118)
Beneficial	73.2%(41)	59.7%(37)	66.1%(78)
Not helpful	5.4%(3)	9.7%(6)	7.6%(9)
Prefer not helpful	1.8%(1)	16.1%(10)	9.3%(11)
Somehow helpful	19.6%(11)	14.5%(9)	16.9%(20)

Among those not vaccinated, the reasons given were long queues in health facilities (32.9%), unavailability of the preferred types of vaccines (32.1%), preexisting medical conditions (8.8%), mistrust of the vaccines (8.8%), vaccination was not mandatory (6.8%), religious opposition and fear of long-term side effects (4.0%)-Table 3.15. From KIIs within health facilities, unavailability of freezers and fridges as well as power shortages to preserve volumes of vaccines, low an erratic supply of vaccines, poor training on administration, and limited preservation techniques to promote community level administration of vaccines also hindered COVID-19 vaccine coverage. In terms of coordination, health facilities only worked with partner humanitarian organizations to create awareness on vaccines availability, trainings on vaccine administration with limited support for preservation of vaccines.

Table 3.15: Reasons for not being vaccinated

	Female(n=147)	Male(n=103)	Overall (n=250)
Can't find time/queues too long	28.6%(42)	39.2%(40)	32.9%(82)
Disliking all vaccines options available	29.9%(44)	35.3%(36)	32.1%(80)
Not vaccinated on spiritual grounds	6.8%(10)	2.9%(3)	5.2%(13)
I have a medical condition barring me from taking the vaccine	11.6%(17)	2.9%(3)	8.0%(20)
Mistrust of the government	1.4%(2)	0.0%(0)	0.8%(2)
Mistrust of the vaccine/developed too quickly	12.9%(19)	2.9%(3)	8.8%(22)

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It's a choice not to be vaccinated	8.2%(12)	4.9%(5)	6.8%(17)
Not sure about the long-term side effects	4.1%(6)	3.9%(4)	4.0%(10)
No reason	0.0%(0)	0.0%(0)	0.0%(0)
Other	16.3%(24)	17.6%(18)	16.9%(42)

... "We still don't know about the long-term side effects" Male youth in a FGD)

... "We hear some people reporting weakness and headaches after vaccines" (Female adult in a FGD)

... "These vaccines were developed very fast, we still don't know how they will affect our bodies in the long term" (Male adult in a FGD)

... "Allah will protect us from COVID-19, we do not need vaccines" (Male adult in a FGD)

When asked about change of views over COVID-19 vaccine uptake over time, 54.8% were not ready to change, while 35.6% were willing to take up the vaccine if/when the correct information and types were provided (Table 3.16).

Table 3.16: Vaccine uptake opinion change

	Female(n=147)	Male(n=103)	Overall (n=250)
I am now less inclined to take it	10.9%(16)	1.9%(2)	7.2%(18)
I am now more inclined towards taking it	29.9%(44)	43.7%(45)	35.6%(89)
I am still not going to take it	4.1%(6)	0.0%(0)	2.4%(6)
No change	55.1%(81)	54.4%(56)	54.8%(137)

Decisions not to take up COVID-19 vaccines were influenced by information obtained from family and friends (32.0%), the social media (18.7%), private sources (16.45), radio, television and posters (7.3%) and government sources (4.65)-Table 3.17.

Table 3.17: Source of information influencing non-uptake of COVID-19 vaccines

	Female(n=125)	Male(n=93)	Overall (n=218)
Government sources	4.8%(6)	4.3%(4)	4.6%(10)
Private sources	16.0%(20)	17.0%(16)	16.4%(36)
Social media	12.0%(15)	27.7%(26)	18.7%(41)
Local radio/television/posters	8.8%(11)	5.3%(5)	7.3%(16)
Information from friends and family	39.2%(49)	22.3%(21)	32.0%(70)
None	23.2%(29)	30.9%(29)	26.5%(58)

... "We are still waiting to hear from our Iman" (Male adult in a FGD)

... "We still don't have adequate information on the long-term side effects" (Female adult in a FGD)

To take up the vaccines, several information themes were requested for, including: side effects of vaccines (81.7%), vaccine effectiveness (20.1%), adverse effects among those who had received vaccines (79.9%), the types of vaccines available (68.9%), location of vaccination clinics (68.9%), impact of vaccine on sexual health (74.4%), impact of vaccine on fertility (74.9%), and position of spiritual leaders on these vaccines (74.9%)-Table 3.18.

Table 3.18: Required information in order to make decisions on COVID-19 uptake

Information required	Female(n=125)	Male(n=94)	Overall (n=219)
Vaccine side effects	75.2%(94)	90.4%(85)	81.7%(179)
Vaccine effectiveness	73.6%(92)	89.4%(84)	80.4%(176)
Number of people who got sick/ died and vaccination status	71.2%(89)	91.5%(86)	79.9%(175)
Different types of vaccines available	64.8%(81)	74.5%(70)	68.9%(151)
Location of vaccine sites	64.8%(81)	85.1%(80)	73.5%(161)
The impact of the vaccine on my sexual health	63.2%(79)	89.4%(84)	74.4%(163)
The impact of immunization on my ability to have children	65.6%(82)	87.2%(82)	74.9%(164)
The position of my spiritual leader	66.4%(83)	86.2%(81)	74.9%(164)

... “We hear the vaccines affect ability to have children. They are meant to control our population” (Female FGD participant)

... “Some men complain of low sexual energy after vaccination. We are still not sure if this is true” (Male FGD participant)

Upon further probing, decisions not to vaccinate were attributed to advices from medical practitioners (26.85), religious leaders (20.4%), family members and friends (24.8%), and social media materials and contents (24.4%)-Table 3.19.

Table 3.19: Influence on uptake of the vaccines

Influencer	Response	Female(n=147)	Male(n=103)	Overall (n=250)
Was the decision not to vaccinate based on the advice of a medical practitioner familiar with your case?	No	75.5%(111)	69.9%(72)	73.2%(183)
	Yes	24.5%(36)	30.1%(31)	26.8%(67)
Was the decision not to vaccinate based on the advice of a religious leader?	No	83.0%(122)	74.8%(77)	79.6%(199)
	Yes	17.0%(25)	25.2%(26)	20.4%(51)
Was the decision not to vaccinate based on the advice of family/friends?	No	77.6%(114)	71.8%(74)	75.2%(188)
	Yes	22.4%(33)	28.2%(29)	24.8%(62)
Was the decision not to vaccinate based on the advice on what you heard or saw on social media?	No	79.6%(117)	69.9%(72)	75.6%(189)
	Yes	20.4%(30)	30.1%(31)	24.4%(61)

Several circumstances would necessitate those not vaccinated to take up the vaccines and they include: to secure a job (66.8%), to access social activities freely (69.2%), if more scientific information was given (62.4%), death or sickness of close relatives (72.0%), travel put side the country (69.6%), and if they saw influential people taking up the vaccine (67.6%)-Table 3.20.

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Table 3.20: Circumstances that would influence the uptake of the vaccines

Circumstance	Response	Female(n=147)	Male(n=103)	Overall (n=250)
If it was necessary to secure or maintain a job	Don't know/unsure	2.0%(3)	2.9%(3)	2.4%(6)
	No	31.3%(46)	30.1%(31)	30.8%(77)
	Yes	66.7%(98)	67.0%(69)	66.8%(167)
If it would allow me to secure social activities freely	Don't know/unsure	4.1%(6)	7.8%(8)	5.6%(14)
	No	29.3%(43)	19.4%(20)	25.2%(63)
	Yes	66.7%(98)	72.8%(75)	69.2%(173)
If I was given more scientific information	Don't know/unsure	9.5%(14)	14.6%(15)	11.6%(29)
	No	29.3%(43)	21.4%(22)	26.0%(65)
	Yes	61.2%(90)	64.1%(66)	62.4%(156)
If I saw close relatives dying or getting sick from COVID-19	Don't know/unsure	3.4%(5)	2.9%(3)	3.2%(8)
	No	27.2%(40)	21.4%(22)	24.8%(62)
	Yes	69.4%(102)	75.7%(78)	72.0%(180)
If it was required for me to travel overseas	Don't know/unsure	4.8%(7)	4.9%(5)	4.8%(12)
	No	29.3%(43)	20.4%(21)	25.6%(64)
	Yes	66.0%(97)	74.8%(77)	69.6%(174)
If I saw influential people taking it	Don't know/unsure	6.8%(10)	4.9%(5)	6.0%(15)
	No	30.6%(45)	20.4%(21)	26.4%(66)
	Yes	62.6%(92)	74.8%(77)	67.6%(169)

High respect of opinions on COVID-19 from various sources was rated as follows: local radios (85.7%), local brochures and posters (57.5%), local televisions (70.1%), opposition leaders (62.7%), government politicians (63.4%), private sector leaders (61.6%), friends (81.6%), university leaders (59.8%), Ministry of Health (82.6%), private clinicians (77.5%) and social media (67.3%)-Table 3.21.

Table 3.21: Rating of opinions on COVID-19

Source	Rating	Female(n=221)	Male(n=170)	Overall (n=391)
Local radios	Highly respect	87.8%(194)	82.9%(141)	85.7%(335)
	Little or no respect	12.2%(27)	17.1%(29)	14.3%(56)
Local brochures and posters	Highly respect	62.0%(137)	51.8%(88)	57.5%(225)
	Little or no respect	38.0%(84)	48.2%(82)	42.5%(166)
Local television	Highly respect	70.1%(155)	70.0%(119)	70.1%(274)
	Little or no respect	29.9%(66)	30.0%(51)	29.9%(117)
Opposition politicians	Highly respect	67.9%(150)	55.9%(95)	62.7%(245)
	Little or no respect	32.1%(71)	44.1%(75)	37.3%(146)
Government politicians	Highly respect	68.8%(152)	56.5%(96)	63.4%(248)
	Little or no respect	31.2%(69)	43.5%(74)	36.6%(143)
Private sector leaders	Highly respect	65.6%(145)	56.5%(96)	61.6%(241)
	Little or no respect	34.4%(76)	43.5%(74)	38.4%(150)
Friend	Highly respect	80.1%(177)	83.5%(142)	81.6%(319)
	Little or no respect	19.9%(44)	16.5%(28)	18.4%(72)
University leaders	Highly respect	63.8%(141)	54.7%(93)	59.8%(234)
	Little or no respect	36.2%(80)	45.3%(77)	40.2%(157)

Ministry of health	Highly respect	82.4%(182)	82.9%(141)	82.6%(323)
	Little or no respect	17.6%(39)	17.1%(29)	17.4%(68)
Family members	Highly respect	81.9%(181)	77.6%(132)	80.1%(313)
	Little or no respect	18.1%(40)	22.4%(38)	19.9%(78)
Private Doctor	Highly respect	78.7%(174)	75.9%(129)	77.5%(303)
	Little or no respect	21.3%(47)	24.1%(41)	22.5%(88)
Social media	Highly respect	67.4%(149)	67.1%(114)	67.3%(263)
	Little or no respect	32.6%(72)	32.9%(56)	32.7%(128)

Other than vaccines, other COVID-19 mitigation measures termed as effective were natural immunity (92.8%), lockdowns (47.1%), hand washing (93.4%), and social distancing (92.3%)-Table 3.22. From the FGFs, lockdowns, hand washing and social distancing were known, but use of and sanitizers and masks could have been better conceived.

Table 3.22: Other effective COVID-19 mitigation strategies

Measure	Effectiveness	Female(n=221)	Male(n=170)	Overall (n=391)
Natural immunity	Bad Option	6.3%(14)	5.3%(9)	5.9%(23)
	Good option	92.3%(204)	93.5%(159)	92.8%(363)
	Unsure	1.4%(3)	1.2%(2)	1.3%(5)
Comprehensive lockdowns	Bad Option	38.9%(86)	66.5%(113)	50.9%(199)
	Good option	59.7%(132)	30.6%(52)	47.1%(184)
	Unsure	1.4%(3)	2.9%(5)	2.0%(8)
More handwashing	Bad Option	4.5%(10)	3.5%(6)	4.1%(16)
	Good option	93.2%(206)	93.5%(159)	93.4%(365)
	Unsure	2.3%(5)	2.9%(5)	2.6%(10)
Better social distancing	Bad Option	5.4%(12)	4.1%(7)	4.9%(19)
	Good option	91.9%(203)	92.9%(158)	92.3%(361)
	Unsure	2.7%(6)	2.9%(5)	2.8%(11)

Community members further indicated that they supported the vaccination of the following groups in society: internationally arriving visitors (86.4%), frontline health care workers (87.7%), public servants (86.4%), workers in the hospitality industry (86.4%), drivers and conductors (86.4%), secondary and tertiary school learners (86.4%), and primary school pupils (86.2%)-Table 3.23.

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Table 3.23: Groups that should be vaccinated

Group	Response	Female(n=221)	Male(n=170)	Overall (n=391)
Arriving visitors	Don't know/unsure	0.9%(2)	1.8%(3)	1.3%(5)
	No	13.6%(30)	10.6%(18)	12.3%(48)
	Yes	85.5%(189)	87.6%(149)	86.4%(338)
Frontline medical workers	Don't know/unsure	1.4%(3)	1.8%(3)	1.5%(6)
	No	13.1%(29)	7.6%(13)	10.7%(42)
	Yes	85.5%(189)	90.6%(154)	87.7%(343)
Public servants	Don't know/unsure	1.4%(3)	1.8%(3)	1.5%(6)
	No	14.9%(33)	8.2%(14)	12.0%(47)
	Yes	83.7%(185)	90.0%(153)	86.4%(338)
Workers in the hotel industry	Don't know/unsure	0.9%(2)	1.8%(3)	1.3%(5)
	No	14.9%(33)	8.8%(15)	12.3%(48)
	Yes	84.2%(186)	89.4%(152)	86.4%(338)
Drivers and conductors	Don't know/unsure	0.9%(2)	0.6%(1)	0.8%(3)
	No	15.8%(35)	8.8%(15)	12.8%(50)
	Yes	83.3%(184)	90.6%(154)	86.4%(338)
Secondary/ tertiary school learners	Don't know/unsure	0.9%(2)	1.2%(2)	1.0%(4)
	No	15.4%(34)	8.8%(15)	12.5%(49)
	Yes	83.7%(185)	90.0%(153)	86.4%(338)
Primary school pupils	Don't know/unsure	0.9%(2)	1.2%(2)	1.0%(4)
	No	16.3%(36)	8.2%(14)	12.8%(50)
	Yes	82.8%(183)	90.6%(154)	86.2%(337)



SECTION FOUR: CONCLUSION AND RECOMMENDATIONS

4.1-Conclusion

The visited household is characterized by extreme poverty with members living below the World Bank's threshold of 1.90 US Dollars every day, which indicates difficulties in accessing health care services (economic and geographic barriers where transport costs are required) hence the need for community health-targeted outreaches. Households were further characterized by high illiteracy, with more than one-half of their respondents had never received any formal education presenting difficulties in receiving, translating, and understanding health messages, especially when and where they were not in the local languages. Post-secondary school and TVET trainings were also low in the communities thus limiting opportunities for livelihoods thus, cycles of poverty in the communities, low asset ownership and low decision-making capacities among family members.

Less than half of the patients and caregivers were willing to have their children vaccinated and this was mainly due to misinformation, myths on effects on sexuality and child bearing, lack of information, religious opposition to immunization, preexisting medical conditions, mistrust of government-led vaccine initiatives and perceived age ineligibility. Only one-third of the adult population was vaccinated, which was largely via the Johnson and Johnson vaccine, the most commonly available vaccine. On the other hand, healthcare workers had received the Oxford/ AstraZeneca vaccine. Factors linked with vaccine uptake were conviction by relatives and friends, advice from health care workers, advice from spiritual/religious leaders, and personal choices, community-level awareness messages, religious gatherings sensitization and outreaches, and phone messages by health care workers and humanitarian organizations and the perceived risks of contracting the virus.

Vaccines were not rapidly taken up by that vaccine but rather through phases due to hesitations caused by

inadequate information on the vaccines, mistrust of the vaccines, limited vaccine type choices, uncertainty on the long-term side effects of the vaccines, mistrust of the government, and pre-existing medical conditions. To mitigate myths and misinformation and create awareness of COVID-19 vaccines, authorities, and stakeholders should use community gatherings, religious leaders, community leaders such as chiefs and elders, radios, televisions, community health workers, and social media, which appeared to have a wide reach, as well as a high preference. Social media and influential social media personalities have a preference and effectiveness only among youths where internet services are available; there is good network connectivity and phone ownership as well as the power to charge phones.

Reasons for not taking up vaccines are both on the supply and demand sides of vaccines provision, including long queues in health facilities, unavailability of the preferred types of vaccines, preexisting medical conditions, mistrust of the vaccines, vaccination is not mandatory, religious opposition and fear of long-term side effects. Other health facilities (supply) related barriers to vaccination coverage included unavailability of freezers and fridges as well as power shortages to preserve volumes of vaccines, low and erratic supply of vaccines, poor training on administration, and limited preservation techniques to promote community level administration of vaccines also hindered COVID-19 vaccine coverage. The study sites were further characterized by low coordination of COVID-19 vaccine services and siloed service delivery with synergies only in awareness creation and training of healthcare workers.

There were limited experiences of COVID-19 infections in the villages thus, community members doubted the presence of infections with the virus. Experiences and requirements such as mandatory testing before

securing jobs, needs before socialization, exposure to scientific evidence and coming across ill or dead family and community members were termed as capable of promoting further vaccine uptake. Specifically, the required information on vaccination is around the following themes: side effects of vaccines, vaccine effectiveness, adverse effects among those who had received vaccines, the types of vaccines available, location of vaccination clinics, impact of the vaccine on sexual health, the impact of vaccine on fertility, and position of spiritual leaders on these vaccines.

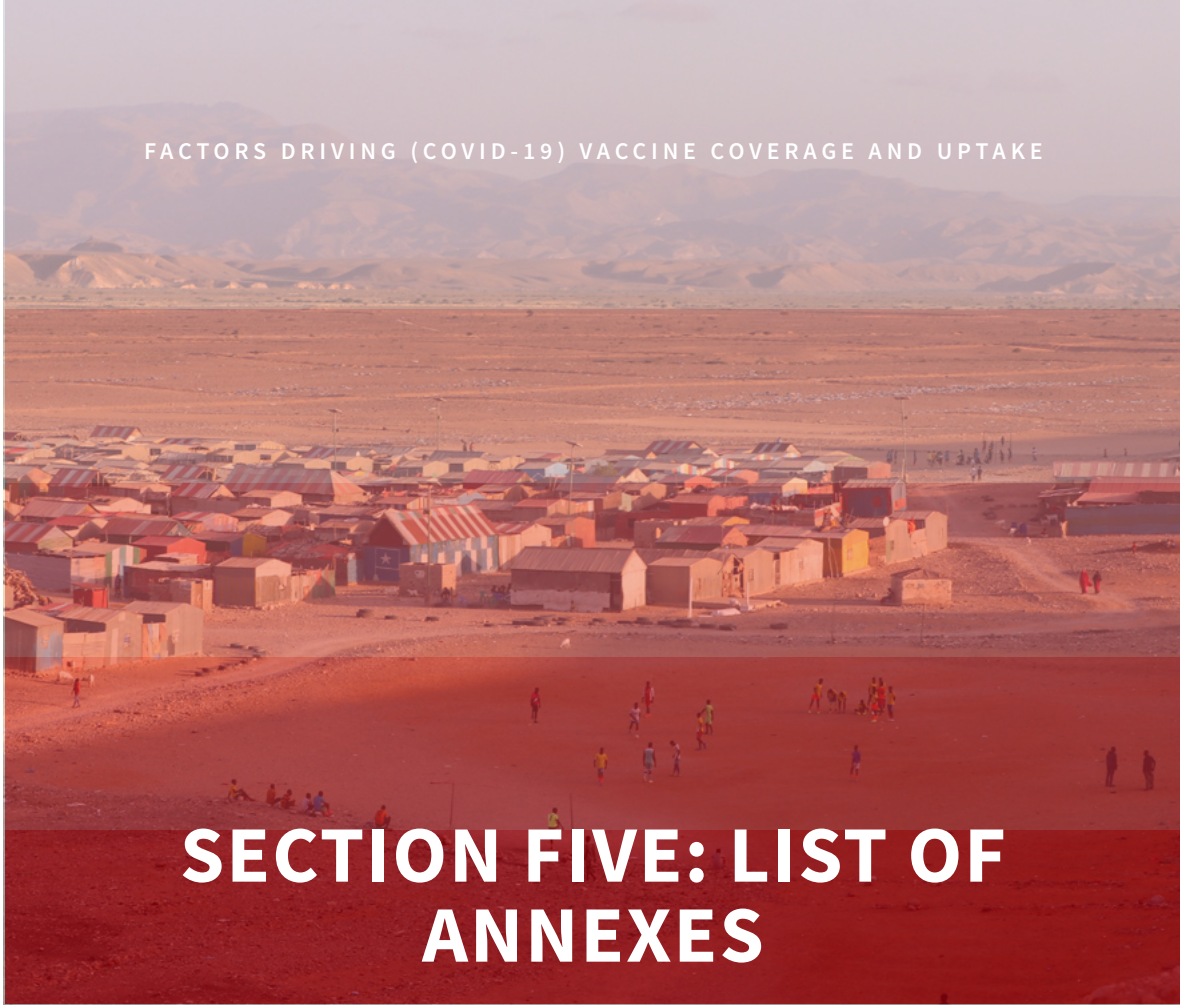
Across the communities, there was a relatively high appreciation of other COVID-19 protective measures such as natural immunity, lockdowns, hand washing, and social distancing. However, use of hand sanitizers and masks was not well known among the survey participants. In addition, community members supported the vaccination of vulnerable groups such as internationally arriving visitors, frontline health care workers, public servants, workers in the hospitality industry, drivers and conductors and school going pupils and students.

4.2-Recommendations

Based on the aforementioned findings and conclusions, the following recommendations are made to improve COVID-19 vaccine coverage in Bossaso district:

- 1) Come up with a district level vaccine deployment plan clearly outlining the roles of each stakeholder in order to eliminate overlap of duties and promote synergy.
- 2) The private sector and the humanitarian organizations need to rapidly undertake capacity support activities to the health facilities including solar power and refrigeration services increase to ensure availability of viable and efficacious vaccines in health facilities.

- 3) Streamline service delivery in vaccination rooms/ clinic to eliminate the long ques hindering uptake of vaccines.
- 4) Package vaccination information targeting various community members groups based on their literacy and level of understanding. This should be built along the main information gaps captured in this report.
- 5) Use religious leaders, community leaders and community groups and peers to create awareness on the importance of COVID-19 vaccination since they appear to have a wider trust and preference among community members. In view of the low geographic and economic barriers to accessing health facilities, community level immunization where vaccines can be preserved in the outreach vans should be considered. Local delivery of vaccines within primary care setting should be prioritized, collaborating with the locals who can help highlight approaches and locations for immunization based on knowledge and community trust.
- 6) Supplement vaccination with the complementary measures such as social distancing, and hand washing which appear to be acceptable among community members.
- 7) Promote the use of hand sanitizers and face masks and provide the same to the community members given the low awareness, access and use of these two protective measures.
- 8) Use community members who have received vaccines as examples in awareness creation to mitigate the myths on the effects on the vaccines on human health, sexual performance, and child bearing abilities.
- 9) Build trust in public health facilities through local leaders, religious leaders, village elders and community groups such as mother to mother support groups.
- 10) For individuals who lack confidence in the vaccine or government, interventions that seek rebuild public trust through a more unified public health messaging strategy that is adopted across government, scientific, and healthcare communities may go a long way toward overcoming vaccine hesitancy.
- 11) Given the importance of primary health care providers in vaccine uptake, it is critical to implement programs that will increase vaccination at the community level.
- 12) To leverage the facilitator of engagement through schools, public health leaders should implement vaccine information campaigns through schools and provide vaccines to both children and parents through school-based clinics.
- 13) To address location and transportation barriers, public health leaders should offer mobile vaccine events and long-term vaccine location in neighborhoods.
- 14) To address health care cost barriers, public health leaders must clearly communicate COVID-19 vaccines are available without cost to patients.
- 15) Low literacy communication templates should be created and distributed to community organizations and can be branded with organizational branding to take advantage of these local organizations.



SECTION FIVE: LIST OF ANNEXES

Annex 1: Data Collection Tools

Presented separately.

Annex 2: Photography Consent Forms

Presented Separately.



Annex 3: Bivariate and Multivariate Analysis - Factors affecting Covid-19 Vaccination Status

		Factors affecting Covid-19 Vaccination				
Variables						
		Frequency (%)	COR (95%CI)	P-value	AOR (95%CI)	P-value
Gender	Female	74(52.5%)	ref		ref	
	Male	67(47.5%)	1.292(0.853,1.957)	0.227	1.4356(0.87,2.36)	0.153
Employment status	Unemployed	80(56.7%)	ref		ref	
	Employed	61(43.3%)	0.852(0.563,1.292)	0.453	0.569(0.33,0.96)	0.035
Average Monthly Income	Less than 50 USD	86(61.0%)	ref		ref	
	51-150 USD	46(32.6%)	1.551(0.976,2.464)	0.063	1.689(0.997,2.862)	0.051
	Over 150 USD	9(6.4%)	1.138(0.483,2.680)	0.767	1.186(0.453,3.105)	0.727
Education Level	None	78(55.3%)	ref		ref	
	No formal education	27(19.1%)	0.650(0.382,1.105)	0.112	0.735(0.420,1.287)	0.281
	Primary level	29(20.6%)	0.769(0.454,1.302)	0.329	0.742(0.428,1.284)	0.286
	Secondary/ Post-Secondary/ Technical	7(5.0%)	2.737(0.776,9.658)	0.118	2.623(0.718, 9.588)	0.145
Constant					0.588(0.396, 0.875)	0.009

Annex 4: Correlations of Various Factors

	Vaccination Status				χ ² statistic	
	Not vaccinated		Vaccinated			
	Count	Column N %	Count	Column N %		
Gender	Female	147	58.8%	74	52.5%	0.226254
	Male	103	41.2%	67	47.5%	
Employment	Unemployed	132	52.8%	80	56.7%	0.453002
	Employed	118	47.2%	61	43.3%	
Income	Less than 50 USD	174	69.6%	86	61.0%	0.175718
	51-150 USD	60	24.0%	46	32.6%	
	Over 150 USD	16	6.4%	9	6.4%	
Education level	None	122	48.8%	78	55.3%	0.087965
	No Formal Education	65	26.0%	27	19.1%	
	Primary level	59	23.6%	29	20.6%	
	Secondary/Post-Secondary/Technical/Vocational	4	1.6%	7	5.0%	

Annex 5: Terms of References

General Background

Integrated Services for Displaced Population (ISDP) is a Somalia humanitarian Non-Profit Organization registered in the federal government of Somalia and Puntland state of Somalia. ISDP has been in operation in Puntland state of Somalia since 2010 implementing both Humanitarian and emergency programs. Over the years, ISDP has forged strong working relationships with local communities and authorities throughout the state. Building on its commitment to strengthen local capacities and emphasis on local actions and solutions to local issues. Currently ISDP operating in Bari, Nugaal, Karkaar and Mudug regions with track record in implementing high quality health and nutrition, WASH and Food Security interventions by providing essential services to conflict and drought affected communities. ISDP targets to supports Internal Displace People, Refugees, Vulnerable households, drought affected communities, children and hard to reach people living in Somalia. Integrated Services for Displaced Population (ISDP) supports ministry of health for Puntland for the implementation of integrated health and nutrition services including Covid-19 Risk Communization and survey on driving factors for COVID-19 vaccine coverage and uptake among men and women aged (18–75 years) in Bossaso IDPs, Bari, Puntland state of Somalia. Community Engagement (RCCE) in BOSASO District of Bari Region. This intervention is targeting to treat through the routine services, Pregnant and lactating mothers, children of under five in both the health centers and mobile sites in the Bossaso

IDPs. As part of its role, ISDP provides capacity building trainings for MOH staff involved services in the targeted health centers and mobile sites in the IDPs Health and Nutrition sectors are key areas of humanitarian interventions for ISDP among drought affected and displaced communities in the Bossaso IDPs. Over the years ISDP has built its technical and local communities and systems to ensure quality and timely service delivery to the populations who are in need.

Vision

A Society with improved living conditions through dedications to end poverty and injustice.

Mission

Committed to improve living conditions in partnership with communities to build sustainable, healthy and productive communities in Somalia.

Purpose of the Terms of Reference (TOR):

Overall goal and objectives of the assessment: The overall aim of the study is to explore and understand on driving factors and coverage for Covid-19 vaccination uptake in the most populous IDPs in Bossaso.

The specific objectives are:

The study will guide an evidence-based implementation strategy for ISDP Covid-19 Risk Communization and Community Engagement (RCCE) intervention including that aims to improve service utilization for maternal and child health outcomes.

- To identify the demographic and socio-economic status factors that influence COVID-19 vaccination uptake among men and women aged 18–75 years in the most populous IDPs in Bossaso.
- To assess health facility-level factors affecting COVID-19 vaccine coverage and uptake among men and women aged 18–75 years in the most populous IDPs in Bossaso.
- To find out the level of acceptance of the COVID-19 vaccine among men and women aged 18–75 years in Bossaso's most populous IDPs.
- To establish the extent of COVID-19 vaccination coverage in the most populous IDPs in Bossaso.
- To analyse existing coordination mechanisms among stakeholders on how to best strengthen coordination roles to increase COVID-19 vaccination uptake and coverage in the most populous IDPs in Bossaso.

Study area

The survey will be conducted in the most populous IDPs in Bossaso, such as Absame, Al-khayr, Ajuuran, Buulo Mingis, Farjano, Buula Eeley, New Biyo kulule, Biyo kulule, Waaberi, Banaadir, Shirkow, Shabeelle, Tawakal and 100 Buush IDP Camp where ISDP is implementing Covid-19 Risk Communization and Community Engagement (RCCE) intervention and integrated into health and nutrition projects.

Target population of the study

According to the Bari Regional Authority in 2021, the total population of the most populous IDPs in Bossaso is 16,970, of which 10,000 are men and women aged 18–75 years. The survey is targeting health committees, health facility staffs, and men and women aged 18–75 who live in the most populous IDPs in Bossaso town.

Study Methodology

The methodology to be adopted by the consultant shall generate both quantitative and qualitative information, and be participatory. The methodology will follow the following steps: Preparatory phase: Consultant will gather key documents available for the survey, review all documentation, and prepare a workplan. The consultant will also finalize the methodology of the study, including but not limited to the finalization of the sample size, the development of the questionnaires for the qualitative data (focus groups and individual interviews with key informants) and the finalization of the questionnaire for the quantitative survey. The finalized methodology will need to be validated by ISDP. Data collection and desk review: Consultant will outline this when finalizing the methodology including how to collect, analyse, and present data. Logistical support during the Survey: The ISDP team will provide all the necessary background information prior to the commencement of the Survey.

This will include:

- Any relevant studies related to the survey;
- Possible organizations and committee for interviews;
- Prompt feedback on all deliverables, generally providing written feedback within one week of receipt.
- Organize for virtual meetings where necessary or face to face meetings to present the methodology to ISDP team.
- ISDP's best practices document on Survey It is the consultant's responsibility to hire the enumerators.

Description of the activity of the survey:**Preliminary activities:**

- 1.1 Submission of the proposed methodology, including the proposed data collection tools for the survey, approach to the survey, schedule of data collection activities and locations, including description of selection criteria of the health committees, staff of health facilities and communities who are key respondents in the most populous IDPs in Bossaso.
- 1.2 Desk review and overall description of the main socio-economic and demographic attributes of the area of intervention.

2. Preliminary consultations with relevant community leaders and local authorities.

- 2.1 Conduct a preliminary meeting with the MOH, existing Health organizations, and associations implementing Covid-19 related interventions to explain the main objectives of the assignment.
- 2.2 Conduct preliminary meetings with the CSOs and other key stakeholders to inform them of the conduction of the study and to agree on the involvement of other actors focusing Covid19 vaccine coverage and uptake in the most populous IDPS in Bossaso.

3. Submission of the Report.

- 3.1 Submission of the 1st draft of the report.
- 3.2 Integration of ISDPs comments, amendments request, and report finalization.

4. Presentation of results.

- 4.1 Validation workshop will be held to discuss the survey findings.

Expected Deliverables:

Deliverable 1: Inception report an inception report shall detail a written response to this TOR highlighting the technical understanding of the task, proposed methodologies of the survey, expected activities and deliverables, and proposed work plans with the schedule. Detailed CVs of all professional (s) who will work on the survey. If there is more than one consultant on the proposed team, please attach a table describing the level of effort (in several days) of each team member in each assessment activity.

Deliverable 2: Survey Report. The methodology used and its limitations. The report shall include the following sections:

- 2) A cogent analysis of the demographic and socio-economic status factors influencing COVID-19 vaccination uptake among men and women aged 18–75 years in the most populous IDPs in Bossaso.
- 3) A comprehensive analysis of facility-level factors affecting COVID-19 vaccine coverage and uptake among men and women aged 18–75 in the most populous IDPS in Bossaso.
- 4) The level of acceptance of the COVID-19 vaccine among men and women aged 18–75 years in Bossaso's most populous IDPS.
- 5) Level of the extent of COVID-19 vaccination coverage in the most populous IDPS in Bossaso.
- 6) An analysis of coordination mechanisms among stakeholders on how to best strengthen coordination roles to increase COVID-19 vaccination uptake and coverage in the most populous IDPS in Bossaso.

Duration and timeline of the survey:

The proposed exercise period is expected to last 30 days, including submitting the final report. The survey activities will commence 7 days after the signature of the contract, and the first draft report should be finalized 6 days post-signature to the contract. Methods of the payment and Instalments - 1st instalment – 50% of the total amount will be paid upon completion of the inception report - 2nd installment – 50% of the total amount will be paid upon completion of the final report. The payments will be made in direct bank transfer in the name of the consultant or firm as indicated in the signed contract.

Qualifications:

- Advanced degree in Reproductive Health, Public Health, Nursing or a related field.
- At least 3 to 5 years of consulting experience at national in COVID-19 and health assignments.
- Prior experience working on research specific to health and COVID-19.
- Prior experience working with youth and women.
- A minimum of 3 years of experience in quantitative and qualitative research Knowledge of gender-sensitive approaches.
- Excellent communication skills in English, including advanced writing skills.
- Strong communication skills in Somali are preferred.
- Direct experience working with women and girls in diverse communities in Somalia.
- Experience in qualitative research will be an added advantage.

The technical proposal should include the following:

- Cover letter with working contact details to

express interest and confirmation of availability to survey in the period stated.

- Understanding of the Terms of Reference.
- Approach and methodology that demonstrates how the consultant will undertake the survey.
- Work plan indicating the number of days for each task, clear deliverables (use Gantt Chart), and allocation of consultant(s) tasks during the survey.
- Summary profile demonstrating key team consultant(s) background, name, and attached CVs separately.

The financial proposal should include: financial proposal should consist of all costs associated with the assignment, including (a) remuneration for the personnel; (b) equipment and services, (c) activities costs; (d) administrative costs and taxes.

In addition, applicants should submit the following:

- Evidence of similar assignment.
- Three referees from previous assignments.
- Valid company certificate of registration at the Federal government and or Puntland state. Valid tax compliance certificate.

How to Apply.

All applications MUST be accompanied by a technical and financial proposal including a brief outline of the proposed methodology, 3 references with contact details, a tentative work plan, and the candidate's availability. Interested consultants or firms are expected to submit their applications, updated CVs of individuals to conduct the study or profile of applying company to: info@isdpsom.org Please indicate "factors affecting COVID-19 vaccine coverage and uptake among men and women aged (18–75

years) in Bossaso IDPs,” as the subject heading not later than 28th November- 2022. NB; Only candidates selected for an interview will be contacted. ISDP is an equal opportunity employer promoting gender, equity, and diversity. Female candidates are strongly encouraged to apply. Our selection process reflects our commitment to the protection of children from abuse.



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