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UGANDA NATIONAL ACADEMY OF SCIENCES

Accelerating COVID-19 Vaccine Uptake in Uganda

Updated Recommendation to the Ministry of Health, Uganda

By

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EXECUTIVE SUMMARY

Following the advent of COVID-19, World Health Organisation has listed a number of safe, effective and efficacious vaccines for emergency use to control the pandemic. As of October 11, 2021, Uganda had cumulatively received over 4 million doses of COVID-19 vaccines, including mRNA Moderna and Pfizer vaccines, AstraZeneca (AZ), Sinovac, Sinopharm, and Johnson and Johnson (J&J), all targeting priority groups, and continues to expect more (approximately 3.6 million) to be received by the end of December 2021. However, the program continues to register low vaccination rates at national and sub-national levels regardless of the available vaccines.

While the program prepares to transition from phase I prioritisation to phase II vaccination coverage, UNITAG was requested to provide guidance and recommend innovative ways to increase COVID-19 vaccine uptake in Uganda. Operational challenges in introducing different vaccines to the immunisation program prompted this request in a bid to assist the Ministry of Health in successfully implementing the Uganda COVID-19 Vaccination Implementation Plan (UCVIP), whose overall objective is to vaccinate all eligible persons (adolescents aged 12-17 years and adults aged 18 to 49 years) against COVID-19 in Uganda by the end of 2022.

UNITAG, guided by lessons learned on the issue globally and domestically, assessed current COVID-19 vaccine rollout and uptake data from phase one vaccination targeting high-risk groups in Uganda, the UCVIP and barriers to COVID-19 vaccination coverage. In addition to the program's rollout strategic considerations, the committee further considered ethical and legal requirements and concluded that a well-functioning health system working in harmony should be built on having trained and motivated health workers and a reliable supply of vaccines, backed by adequate funding, strong health plans, and evidence-based policies.

The following approaches to urgently increase uptake as more vaccines become available were recommended;

- 1) Motivate the existing Health Workers (HWs) engaged in the vaccination campaign by increasing human resource capacity to alleviate the extra workload, recognising best performing HWs as champions and continuously educating them on the benefits of vaccination over cost.
- 2) Mobilise funding for COVID-19 Vaccination Campaign by drafting a COVID-19 Vaccination Investment Case document supported by a budget focusing on the various COVID-19 vaccination challenges.
- 3) Strengthen vaccination delivery by borrowing lessons learned from the concluded immunisation campaigns to showcase the impact of vaccination and facilitate a successful COVID-19 campaign.
- 4) Increase access to vaccines by increasing vaccination sites, including private health facilities, and engaging other sectors to utilise their ongoing programs.
- 5) Use evidence-based policies to present a strong case for whether to mandate COVID-19 vaccination or not.

1. BACKGROUND

On October 14, 2021, the Uganda National Immunisation Technical Advisory Group (UNITAG) held a special meeting with a team from the Uganda National Expanded Program for Immunisation (UNEPI) to discuss the Uganda COVID-19 Vaccination Implementation Plan (UCVIP), and the UNEPI Plan and operational challenges in introducing different vaccines in Uganda. Following discussions of the two plans, UNITAG was requested to provide guidance and recommend innovative ways to increase COVID-19 vaccine uptake in Uganda. This advisory report is an update of the November 12, 2021, interim report on Innovative ways to increase COVID-19 vaccine uptake in Uganda.

Based on available evidence, guided by lessons learned on the issue globally and domestically, the committee analysed the current COVID-19 vaccine rollout and uptake data from phase one vaccination targeting high-risk groups in Uganda to consider ways to accelerate rollout and uptake as more vaccines become available. The considerations and recommendations made were refined through an iterative process that involved rounds of feedback from the committee members.

2. INTRODUCTION

As the program transitions to phase two of vaccination following remarkable progress in acquiring more vaccines against COVID-19, critical gaps must urgently be addressed for the large-scale vaccination rollout to succeed. In other words, the country must simultaneously advance in the uptake of the available vaccines. Therefore, this recommendation seeks to address some of the main operational challenges highlighted in the UNEPI Plan for introducing different vaccines in Uganda. It also aims to assist the Ministry of Health in successfully implementing the Uganda COVID-19 Vaccination Implementation Plan (UCVIP), whose overall objective is to vaccinate all eligible persons (adolescents aged 12-17 years and adults aged 18 to 49 years) against COVID-19 in Uganda by the end of 2022.

The advent of the COVID-19 vaccines as one of the most cost-effective measures towards the fight against the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) is a remarkable global health achievement. From the onset of the COVID-19 pandemic that was declared on January 30, 2020, by the World Health Organisation, a number of vaccines have been developed and made accessible to all nations to control the pandemic. In particular, Uganda has managed to access vaccines including the mRNA Moderna and Pfizer vaccines, AstraZeneca (AZ), Sinovac, Sinopharm, and Johnson and Johnson (J&J), all acquired through trusted channels, including the COVAX Facility, African Union, and through donations.

3. COVID-19 VACCINE ROLLOUT AND UPTAKE IN UGANDA

3.1 Vaccine Rollout

A UNEPI COVID-19 vaccine rollout and uptake report as of October 11, 2021, indicated that Uganda had cumulatively received over 4 million doses, including 1,859,360 doses of AZ; 300,000 doses of Sinovac; 647,080 doses of Moderna, and 1,600,000 doses of Pfizer, all targeting priority groups first. With all the doses distributed, the country continued to expect more doses (approximately 3.6 million) that were still in the pipeline until end of December 2021. Indeed, Uganda has continued to receive more vaccines according to the Ministry of Health COVID-19 vaccine logistical analysis presented on November 25, 2021 where a total of 15,541,890 doses of COVID-19 vaccines had been received. Moreover, current evidence as of December 04, 2021, indicates that a total of 7,610,437 doses has been administered with 6,346,198 being first dose and 1,264,239 being second dose. Following the launch of accelerated mass vaccination campaign (AMVC), a total of 2,197,634 doses have been administered during the campaigns. While the program continues to prepare to transition from phase one supply of up to 20% of Uganda's population to phase II supply of more than 20% to 50% population coverage according to the WHO prioritisation framework, uptake among priority groups remains low especially among the elderly and people with comorbidities. According to the MoH/ EPI data on the COVID-19 vaccine rollout and uptake in Uganda as of December 04, 2021, only 49.8% of the targeted health workers, 29.4% of security personnel, 28% of teachers, 5.4% of the elderly above 50years and 2.9% of people with comorbidities had been fully vaccinated. While first dose uptake has improved among health workers, security personnel and the teachers with 96.7%, 64.6% and 70.3%, respectively, the elderly and people with comorbidities remain highly unprotected with 15.3% and 8.6% coverage rates, respectively.

3.2 Vaccine Uptake

Evidence from the phase one COVID-19 vaccination targeting high-risk groups as of the October 11, 2021 showed that only 12% of the high-risk priority groups had been vaccinated, which is far from the 20% phase one national target (11-20% of country's total population according to WHO's Prioritisation Framework). Consequently, only 8% (1,723,077) of the target 22,000,000 people above 18years have been fully vaccinated according to current evidence from the December 04, 2021, COVID 19 vaccine roll out and uptake. Of these, 21% (4,623,121) had received their first dose pending second dose while 71% (15,620,000) had not been vaccinated at all. While first dose uptake among health workers (HWs) has improved from 82.6% in October to 96.7% as of December 04, 2021, second dose uptake is still stagnating below average (49.8%) from 41.6% in October.

Likewise, the same October 11, 2021 report on Pfizer stock and utilisation in the Kampala Metropolitan Area (KMA), revealed that only about half (244,014) of the 442,320 doses issued to KMA districts (Kampala, Mukono, and Wakiso) had been administered with an overall uptake rate of 55.2%. Specifically, Kampala district had registered the least (30.2%) uptake rate of the total 241,200 doses issued to them compared to 97.9% uptake in Mukono district and 72.3% uptake rate in Wakiso district. However, it should be noted that UNITAG had recommended Pfizer vaccine to be introduced in a phased manner, starting with the Kampala Metropolitan Area (KMA) not only because of its high disease burden but also the fact that Pfizer has a very short shelf life of only

one month (31 days) storage period of thawed vials at normal fridge temperatures (2–8 °C) which were only available at the National Medical Stores.

In addition, while data from the weekly trends of COVID 19 vaccine uptake during campaigns in the hot spot regions showed a significant rise in uptake since the launch of vaccination on March 10, 2021, there were high dropout rates among individuals that received their first dose pending their second doses. Specifically, where a significant rise of over 1 million people being vaccinated in week 44 was noted from the first round accelerated vaccination in Teso and Lango regions as of November 22, 2021, there were fewer doses of second dose administered overall. Nonetheless, the program documented a number of lessons learned from Kigezi region including; regional sensitisation meetings before the regional campaigns; regional and district leadership commitment to work with limited resources before full funding is available; willingness of the leadership to mobilise within a short period of time; use of targeted vaccination, organised groups, road work people and markets for consumption.

3.3 The Uganda COVID-19 Vaccination Implementation Plan

The Ministry of Health (MoH) is in the process of updating the Uganda COVID-19 Vaccination Implementation Plan (UCVIP) following available information on vaccine arrival timelines, vaccine campaign challenges, vaccine cold chain requirements, associated costs, etc. Accordingly, the implementation plan aims to guide vaccine delivery to the target beneficiaries with an overall objective of vaccinating all eligible persons (adolescents aged 12-17 years and adults aged 18 to 49 years) against COVID-19 in Uganda by the end of 2022. Moreover, the plan specifically aims to increase the national COVID-19 vaccination coverage among the populations at highest risk aged 18 years and above from 12% to 90% and achieve at least 80% of the districts attain a COVID-19 vaccination coverage of at least 90% among the populations at highest risk aged 18 years and above by end of 2021. Furthermore, the Ministry of Health hopes to achieve at least 90% national COVID-19 vaccination coverage among all adults aged between 18 and 49 years, achieve at least 90% national COVID-19 vaccination coverage among adolescents aged between 12-17 years, have at least 80% of the districts attain a COVID-19 vaccination coverage of at least 80% among the populations aged between 18 and 49 years, and achieve at least 80% of the districts with zero stock out of COVID-19 vaccines and supplies, all by end of 2022. Indeed, as MoH purposes to increase the national COVID-19 vaccination coverage among the high-risk populations by end of 2022, the program aims simultaneously advance in uptake of the available COVID-19 vaccines.

3.4 Barriers to COVID-19 Vaccination Coverage

In this regard, the program highlighted some of the barriers to full immunisation coverage in Kampala, including limited social mobilisation and understanding of the importance of full immunisation, vaccine stock-outs at health facilities, and inadequate client-centered immunisation services. These barriers were also documented in the IDRC report on “Evaluation of the drivers of urban immunisation in Uganda: a case study of Kampala City”, launched on August 18, 2021.

Moreover, in addition to a number of reasons for the low uptake that had been documented since the start of the COVID-19 vaccination, including slow and unpredictable vaccine supplies at the beginning of the exercise and inadequate operational funds to accelerate the vaccination rollout, the program further noted that there were also fewer static and outreach vaccination sites to cater

for the majority of priority groups; the elderly and sickly. Relatedly, it was also reported that there was initial caution to open full-blown mass mobilisation for fear of raising demand exceeding the available vaccine stocks, given the unpredictable supply.

4. CONCLUSION AND RECOMMENDATIONS

Based on the foregoing evidence presented, UNITAG came to the following conclusions and recommendations:

4.1 Conclusions

- i) The program's goal to vaccinate all eligible persons against COVID-19 in Uganda by the end of 2022 may not be attained unless efforts are made to increase vaccine utilisation and uptake of the increasingly available vaccines.
- ii) COVID-19 vaccine uptake is still lower than expected especially among the priority groups including health workers regardless of the increased availability of vaccines.
- iii) Given the short shelf-life of most vaccines, low uptake and the increased availability of more vaccines in the country, the program is likely to register vaccine expiries and wasted resources.

4.2 Recommendations

Since successful interventions require strong government support and involvement, and commitment by all stakeholders, the committee came up with the following specific but innovative recommendations to bolster and accelerate uptake of the COVID-19 vaccines in Uganda:

4.2.1 Motivate health workers (HWs) to be more engaged in the vaccination campaign

Following the revision of HW remuneration from UG Shs. 5,000/= to 20,000/=, the committee further recommends that MoH/ UNEPI should:

- i) Consider recognising and appreciating the best performing HWs and front them as champions to motivate others. While financial incentives, though important, are not the sole reason for motivation, recognition and appreciation are equally important in motivating HWs.
- ii) Urgently organise webinars or physical meetings (seminars) for HWs in various centers within districts as a means of encouraging them to get vaccinated and provide an example to the community.

4.2.2 Mobilise funding for COVID-19 vaccination campaign;

- i. While implementing a vaccination campaign requires, among others, recruiting more human resources including HWs, they should be supported and facilitated. Therefore The Government of Uganda (GoU) should consider COVID-19 as a threat to national security presenting strategic challenges in political, military, economic, social, infrastructural information and intelligence areas of national development, hence should invest in the vaccination program to ensure urgent utilisation of the vaccines to avoid expiry and wastage and response to the vaccination demand.

- ii. MoH/UNEPI should create/ draft a COVID-19 Vaccination Investment Case document supported by a budget focusing on the various COVID-19 vaccination challenges, and consequently present it to the office of the President for consideration.
- iii. The Ministry of Finance should be actively involved in the fundraising drive to sustain the AMVCs and consequently the routine vaccinations in the program.

4.2.3 Strengthen vaccination delivery

Following implementation of the accelerated mass vaccination campaigns (AMVC), MoH should;

- i. Consider involving security forces as part of the medical and support personnel to support the vaccination campaign efforts.
- ii. Also consider involving private facilities in the COVID-19 vaccination campaign to make use of the available HWs there. While UNITAG appreciates the role and the importance of the private sector, members also acknowledge that there are challenges associated with working with the private sector. Therefore, the committee recommends that MoH should set standards with strong control measures for private sector involvement to ensure vaccine safety and adherence to good clinical standards. Their involvement should be regulated and supported through supervision by MoH.

4.2.4 Increase access to vaccines

- i. MoH/UNEPI should use the lessons learned from districts with high uptake among priority groups to guide districts with low uptake to accelerate their uptake.
- ii. In order to ensure successful implementation and sustainability of the UCVIP, MoH should put emphasis at the sub-district level to ensure adequate mobilisation of the target priority groups, health worker involvement, proper communication, and coordination among the various stakeholders.
- iii. In particular, MoH should send out clear messages to the public on who should get the second or first dose of the vaccine to avoid confusion.
- iv. Also, UNEPI should publicise the campaign timelines to increase stakeholder awareness and involvement in the different regions.
- v. The strategic policy committee at MoH should consider distributing Pfizer beyond Kampala Metropolitan Area (KMA) since it can be kept at the usual temperature of +2°C to +8°C for at least 30 days after thawing.
- vi. MoH should utilise all ongoing government programs to vaccinate and increase uptake among priority groups especially the elderly and people with comorbidities. For instance, the elderly can be vaccinated during social support interventions.
- vii. The program should ensure that adequate vaccines to eventually cover full schedules are allocated to and available at the designated vaccination sites in the different regions to limit vaccine stockouts that in part lead to dropouts.
- viii. MoH/UNEPI should continue to engage cultural and religious leaders to mobilise community members to utilise the available COVID-19 vaccines.

4.2.5 Use of evidence-based policies

Vaccination is a public good for health in preventing, containing and stopping transmission of COVID-19 in order to bring the pandemic to an end. To allow the population live with dignity and enjoy health in equal measure;

- i. MoH may consider mandating COVID-19 vaccination only after the government has successfully played its role in; educating the public on the benefits of vaccination; ensured availability of safe vaccines; increased access to the safe vaccines, facilitated and supported HWs involved, among others.