

# Highlights from the Meeting of the Strategic Advisory Group of Experts (SAGE) on Immunization 4-7 April 2022

(Full report will be published in the Weekly Epidemiological Record on 10.06.2022, and only the wording of the full report should be considered as final)

## Session 1 – Global & Regional Reports

### Report from the WHO Department of Immunization, Vaccines & Biologicals

- The speed of the COVID-19 vaccine rollout has been unprecedented with nearly every country introducing the vaccine in under 12 months.
- Available data of COVID-19 vaccine effectiveness against the Omicron variant generally show waning immunity against infection but high and more sustained effectiveness against severe disease and death, especially after booster doses. Data remain very limited for some of the WHO EUL vaccines.
- To date, 21 countries remain below 10% population coverage, leaving at high risk the most vulnerable populations. Among countries eligible for support through the COVAX Advance Market Commitment (AMC) strategy at least 43 have set population targets at 70% or higher and only a small number have targets below 40% of their population.
- However, available data indicate that coverage among the high priority groups is insufficient to provide the needed protection against severe disease and death. Health worker coverage is 65% overall, with coverage below 50% in some regions (Non-AMC member states), and coverage of older adults is 69% going as low as 24% in some regions.
- Disruptions to routine immunization programmes persist, including the ongoing delay of at least one campaign in 37 countries as of 10 January 2022, putting millions of children at risk of disease outbreaks. Large and disruptive outbreaks of measles have occurred in at least 19 countries during the past 12 months.
- COVID-19 vaccination response and investments offer important opportunities that are being leveraged to restore and strengthen immunization programmes and enhance their resilience.

### WHO Regional Updates

- National immunization programmes in all six WHO regions were adversely impacted by the COVID-19 pandemic through declining immunization coverage and surveillance quality, though the magnitude of the impact varied between and within regions.
- The European region is also facing a challenge due to the ongoing war in Ukraine and the resulting large population displacement. The WHO Regional Office and partner agencies are taking measures to mitigate the risks of vaccine-preventable disease outbreaks such as measles, polio, and COVID-19, while also ensuring continued delivery of critical medical supplies and services.
- All countries are implementing measures to restore vaccination coverage, with several having identified innovative strategies for catch up vaccination.
- The rollout of COVID-19 vaccination is progressing in all regions, though vaccine uptake varies between and within regions and disproportionately lower vaccination coverage has been observed in low- and low-middle income countries. Vaccine hesitancy and low risk perception are further affecting the uptake of COVID-19 vaccination in several countries.

## Gavi report

- Reaching the zero-dose children through the building of resilient health systems remains a top priority of the Alliance in the Gavi strategy 2021-2025 (Gavi 5.0) and is estimated to account for over half the incremental impact of Gavi investments during the strategy period.
- A funding window for the rollout of malaria vaccines will be opened in the second half of 2022 to enable initial vaccine introductions in 2023.
- Gavi expressed concern over the 13% decline of global HPV vaccine coverage in 2020 due to COVID-19 disruptions, attributing this issue primarily to school closures and limited supply. It was acknowledged that a recommendation for a single dose regimen has the potential to accelerate introductions and reduce operational costs and complexity.
- The COVAX facility has sufficient supply available for all AMC countries to achieve the WHO 70% coverage target by June 2022. The COVAX Vaccine Delivery Partnership is supporting countries to overcome barriers and to achieve national coverage targets.

## Session 2 – Immunization Agenda 2030 and catch-up vaccination

- SAGE was presented with evidence of the impact of the COVID-19 pandemic on national immunization programmes mainly due to service delivery disruptions.
- The urgent need to close resulting immunity gaps was recognized, as was the importance of supporting the recovery and resilience of immunization programmes and mitigating the risk of vaccine-preventable disease outbreaks.
- SAGE recommended that countries use the COVID-19 pandemic and COVID-19 vaccination rollout as a transformative opportunity to establish resilient immunization programmes and strengthen primary health care. Among the specific areas identified were health worker vaccination, immunization logistics and registries, surveillance, data and communications.
- The document “*Guiding Principles for recovering, building resiliency, and strengthening of immunization in 2022 and beyond*” was endorsed and recommended for dissemination to regional and national immunization technical advisory groups so that it may be adapted and used for their local context.

## Session 3 – Hepatitis A vaccination

- Hepatitis A accounts for over 100 million infections per year and tens of thousands of deaths, mainly due to fulminant liver failure. Infection in early childhood is mainly asymptomatic and rates of symptomatic and severe disease increase progressively with age.
- When countries transition from high to medium endemicity, rates of symptomatic and severe disease increase because of a shift in the age of infection.
- Safe and effective inactivated and live attenuated Hepatitis A vaccines are available. While the inactivated vaccine is authorized for use in a 2-dose schedule, about 10 countries currently apply an off-label single dose schedule in their universal childhood programme.
- New evidence on long-term protection reviewed by SAGE indicates that single- and two-dose schedules of inactivated vaccine are equally effective in preventing the disease and in providing durable sero-protection. Consequently, the previous position of allowing for a single dose

schedule while favouring two-doses has been modified to now consider both schedules equally acceptable.

- SAGE recommended the use of inactivated hepatitis A vaccines in childhood immunization programmes either as a single-dose or two-dose schedule. Introduction of vaccines should be accompanied by monitoring and evaluation plans, and the impact and duration of protection should be regularly monitored.

## Session 4 – COVID-19 vaccines

### Vaccine product specific recommendations: CanSino

- SAGE reviewed data on the CanSino COVID-19 vaccine but will not issue any recommendations until such time as the product is listed by WHO for emergency use.

### Infection and vaccination induced immunity

- Data regarding infection and vaccine-induced (“hybrid”) SARS-CoV-2 immunity was reviewed and deliberated. SARS-CoV-2 seroprevalence is rising rapidly globally, on the basis of both infection and vaccination. The protective effect of infection-induced immunity, alone or in combination with vaccination needs to be understood, particularly relating to possible modifications to the COVID-19 vaccine schedule.
- Evidence is emerging rapidly which SAGE has been and will continue to follow closely. This includes trends on seroprevalence over time, by region, age strata, income levels, and public health and social measures, as well as population level vaccine effectiveness data of hybrid immunity versus vaccine-induced immunity alone, and cohort studies showing how preceding waves of infection offer protection against re-infection from a different variant of concern during a subsequent wave. SAGE assessed this evidence as being preliminary, and insufficient to make any changes to the current guidance at this time.
- More evidence is required on duration of protection for both hybrid immunity as well as vaccine-induced immunity, by severity of disease outcome. Considering prevailing scientific uncertainties and the varied population seroprevalence rates across countries, SAGE recommends that the collection and review of evidence on hybrid immunity should continue.
- A technical statement regarding evidence to data on hybrid immunity will be drafted.
- SAGE further emphasized the need to continue to protect high priority use groups by achieving high vaccination coverage with full vaccination series as outlined in the WHO Priority Roadmap.

## Session 5 – Typhoid conjugate vaccination

- Typhoid fever incidence estimates remain very high in south Asia and somewhat lower in Africa though high incidence has been demonstrated in selected sites in sub-Saharan Africa. The peak age of incidence is in children 5-19 years, followed by children 1 to 4 years.
- Antimicrobial resistance in *S. Typhi* to ciprofloxacin and azithromycin as well as the emergence of strains resistant to extended spectrum cephalosporins (XDR) is of concern since these limit treatment options and results in severe outcomes.
- SAGE was presented with new data that demonstrated high efficacy and effectiveness of a single dose of Typhoid conjugate vaccine (TCV) across diverse settings (overall efficacy between 79-88%). This new evidence builds on the immunogenicity data underpinning the TCV policy in place

since 2017 and further strengthens the current recommendations for TCV use. SAGE was also presented with country vaccine introduction experiences and challenges in decision-making.

- There is no indication of waning immunity over 2 years. Seroconversion following a single dose of Typbar-TCV<sup>®</sup> in adults >45 to 65 years was high and comparable to younger adults 18-45 years of age for whom the vaccine is currently licensed.
- More data are expected in the next 1-2 years on outstanding questions about the duration of protection and the potential need for booster doses of TCV and an age indication for adults >45 years, on which basis an update of WHO's position on typhoid vaccination could be considered.

## Session 6 – Human Papillomavirus vaccination

- Concern was expressed with the slowing pace of HPV vaccine introductions, the low population coverage, and especially the coverage backsliding as a result of the COVID-19 pandemic. SAGE noted with alarm that HPV vaccination implementation is not on track to meet the 2030 global cervical cancer elimination strategy targets. However, the HPV vaccine supply situation and supplier base were noted as improving in the short- and medium term.
- Noting this improving HPV supply situation, SAGE recommended that all countries urgently introduce the HPV vaccine for the primary target of 9-14-year-old girls and, when feasible and affordable, prioritize catching up older cohorts and missed girls through multi-age cohort vaccination. Vaccination of boys and older cohorts should be carefully managed until there is unconstrained supply of vaccine.
- The current HPV vaccine policy is for a 2-dose schedule in 9–14-year-old girls, 3 doses for girls 15 and older, and 3-doses to immunocompromised populations of any age (9 and older), including persons with HIV.
- SAGE reviewed new evidence on the efficacy of a single dose HPV vaccine schedule. Based on all available evidence, SAGE advised that countries may now choose between a one- or two-dose schedule for 9–14-year-old girls. This off-label single-dose option for routine and multi-age cohort catch-up vaccination was considered because it provides comparable and high levels of individual protection while from a public health perspective being more efficient (fewer doses per cancer case prevented), less resource-intensive and is easier to implement than a two-dose schedule. This advice applies to those HPV vaccines for which corresponding 1-dose data have been collected.
- Similarly, either a one- or a two-dose schedule may be applied for young women aged 15 to 20 years old, while two doses with a 6-month interval should be used for females older than 21 years. Boys and older males can follow the same dose schedule as females, while additional evidence is generated on the efficacy and immunogenicity of a single dose schedule in this group.
- Further evidence must be generated on protection in immunocompromised individuals by reduced dose schedules. Until such evidence is available, persons from this population aged 9 years and older should be prioritized and receive at least two doses, though three doses would be considered optimal if programmatically feasible. Given the high incidence of HPV-related cancers in immunocompromised persons, those living with HIV, and girls who face sexual abuse, SAGE recommends that they be considered for vaccination against HPV both within and outside of standard eligibility age-range.
- Before revising the WHO Position Paper on HPV vaccination, WHO will conduct a stakeholder consultation on these important policy changes.

## Session 7 – Poliovirus vaccines

- The epidemiology of wild poliovirus type 1 continues to be favourable, with the lowest number of wild polio cases ever reported in a 12-month period, including just 6 cases since late January 2021 and none in Pakistan in 15 months. However, SAGE expressed serious concern about the recent detection of wild poliovirus in Malawi where transmission had been interrupted, as well as about ongoing transmission of circulating Vaccine Derived Polioviruses (cVDPV2), particularly in the African region where Nigeria still confronts cVDPV2 outbreaks.
- The risk of further spread of cVDPV2 from an outbreak detected in 2021 within Ukraine was stressed, with recognition of its potential exportation to countries receiving Ukrainian refugees. SAGE stated the importance of support and strengthening of poliovirus surveillance throughout the European region.
- SAGE noted the data on the safety and genetic stability data on novel OPV2 (nOPV2) confirming a good safety profile and genetic stability of the vaccine. SAGE noted that a framework for a comprehensive analysis of nOPV2 performance is under development and requested periodic updates on the safety and genetic stability data of nOPV2.
- The establishment of an “Oral Polio Vaccine (OPV) Cessation Team” was endorsed to enable efficient planning and implementation of the withdrawal of OPV from routine immunization programs one year after certification of wild poliovirus eradication.