

Immunization in the Eastern Mediterranean Region: some signs of post-COVID-19 recovery, but more work ahead

Quamrul Hasan¹, Yvan F Hutin² and Rana Hajjeh³

¹Unit Head, Immunization, Vaccine Preventable Diseases and Polio Transition, Department of Communicable Diseases and Universal Health Coverage, World Health Organization Regional Office for the Eastern Mediterranean, Cairo, Egypt. ²Director of Communicable Diseases and Universal Health Care, World Health Organization Regional Office for the Eastern Mediterranean, Cairo, Egypt. ³Director of Programme Management, World Health Organization Regional Office for the Eastern Mediterranean, Cairo, Egypt.

Citation: Hasan Q, Hutin YF, Hajjeh R. Immunization in the Eastern Mediterranean Region: some signs of post-COVID-19 recovery, but more work ahead. *East Mediterr Health J*. 2023;29(9):681–683. <https://doi.org/10.26719/2023.29.9.681>

Copyright: © Authors 2023; Licensee: World Health Organization. EMHJ is an open access journal. All papers published in EMHJ are available under the Creative Commons Attribution Non-Commercial ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo>).

Every year, WHO and UNICEF estimate the immunization coverage for 195 Member States, based on reported data and independent coverage surveys (1,2). These estimates indicate progress in reaching children with life-saving vaccines while identifying coverage gaps (3). The 2022 estimates were much awaited, given that the COVID-19 pandemic caused a setback in coverage (1). Overall, there are encouraging signs of recovery in the WHO Eastern Mediterranean Region (EMR). For example, coverage of the third dose diphtheria-pertussis-tetanus containing vaccine (DTPcv3) and the second dose measles containing vaccine (MCV2), both almost restored or exceeded their 85% and 76% pre-pandemic 2019 levels, respectively (1). However, there are disparities across countries. Low-income countries with fragile, weak health systems and those in conflict situation are lagging. The number of children who missed their routine first dose of measles immunization increased from 3 million in 2019 to 3.16 million in 2022 (1). This underperformance, along with the accumulated immunity gap in 2020–2021, exposes us to the risk of preventable deadly outbreaks.

DTP, along with hepatitis B vaccine and *Haemophilus influenzae* type b (Hib) vaccine, is offered as pentavalent vaccine in all 22 EMR Member States. The WHO/UNICEF Estimates of National Immunization Coverage (WUENIC) (1) shows the regional third dose coverage of pentavalent vaccine at 84% in 2022. The high-income, and some middle-income countries, exceeded 95%, while Afghanistan, Djibouti, Lebanon, Libya, Jordan, and Yemen had below 80% coverage and Somalia and Syria below 50%.

For the birth dose of hepatitis B vaccine within the first 24 hours of life, only 1 in every 3 newborns in EMR was reached in 2022 (1). Improving facility-based delivery can help improve birth dose coverage while providing essential neonatal care.

For rotavirus vaccine, the coverage for last dose was only 58% in EMR (1). Six countries accounting for one-third of the regional population have not yet introduced this vaccine. We need to support Egypt, Islamic Republic of Iran, Oman, Somalia, Syria, and Tunisia, with this introduction to prevent childhood diarrhoea.

For pneumococcal vaccine (PCV), third dose coverage was 55% in 2022, with only 17 EMR countries offering this vaccine (1). Egypt, Islamic Republic of Iran, Jordan, Somalia, and Syria are next in line to address this unmet need.

All Member States except Afghanistan, Djibouti, Somalia, and Sudan introduced rubella vaccine for a regional coverage of 42% (1). Introduction in these four countries will be key to eliminate rubella and congenital rubella syndrome.

By 2022, only Libya, Morocco, Saudi Arabia, and United Arab Emirates introduced human papillomavirus (HPV) vaccine while Kuwait and Qatar introduced it in 2023. As a result, only 1 in 10 adolescent girls in EMR is protected against cervical cancer through the vaccine (1). Scaling up HPV vaccination will be a priority for our region.

Aside from the antigen specific considerations, and in the context of the Immunization Agenda 2030 (4), a lot of attention is now focused on zero-dose children. In 2022, about 2 million infants did not receive an initial dose of DTP-containing vaccine, indicating a lack of access to immunization and other health care services (1). An additional 1 million children were only partially vaccinated. Overall, since 2019, there have been 8 million zero-dose children and 4 million partially vaccinated children in EMR.

Lack of access to services also affects measles. Since 2019, the number of zero-dose measles children has accumulated to 13 million, with 5 million more who missed their second dose (1). More than two-third of these children who lack protection against measles and other vaccine-preventable diseases (VPDs) live in Afghanistan, Pakistan and Somalia.

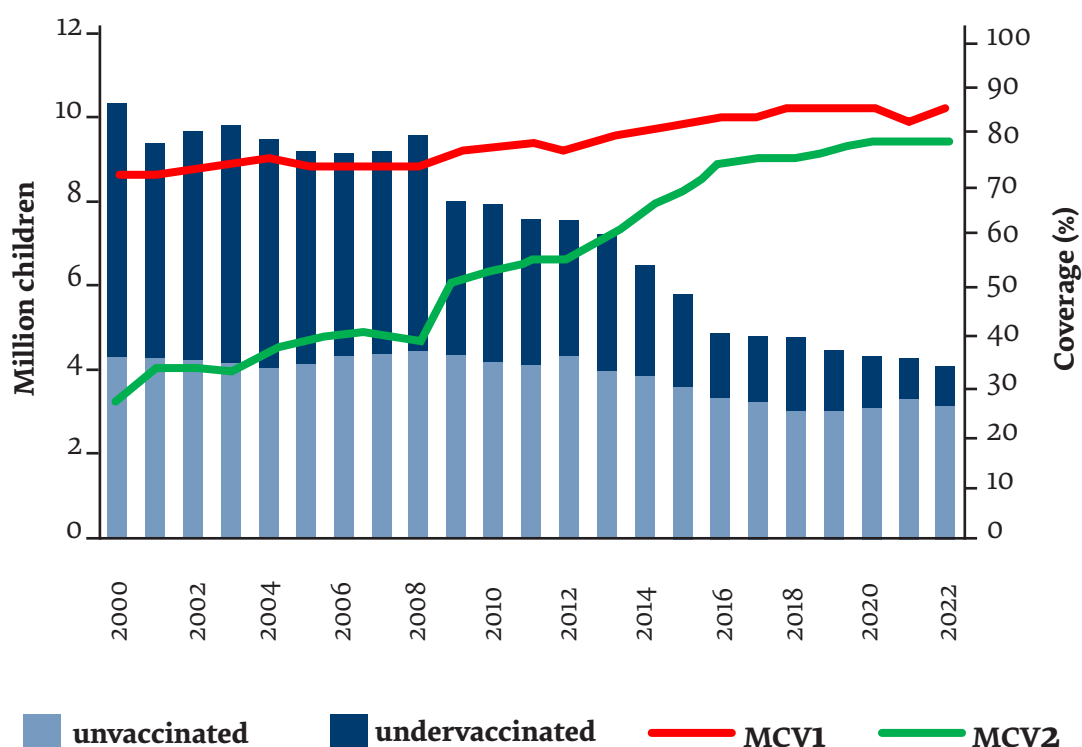
The WUENIC figures are not only a statistical exercise, they are also very important for measuring and monitoring progress, for informing policies, and for guiding interventions aimed at improving coverage (5). The data unfortunately exposes the failure of our health systems in reaching every child. Zero-dose children often live in zero service communities. We should offer immunization services as an integral part

of primary health care (PHC) (6), especially for countries that have large numbers of unvaccinated and partially vaccinated children. Countries must adapt their national immunization policies to allow administration of missed doses beyond the standard 24 months age. Countries also need to build their PHC systems to deliver immunization service in a sustainable way (6). Only then will we be able to close the immunity gap created by low coverage, pandemic disruptions and other emergencies.

Countries should consider different strategies, including Periodic Intensification of Routine Immunization (PIRI) and Supplementary Immunization Activities

(SIA) to catch-up missed children (7). WHO is working with UNICEF, Gavi and other immunization partners to support low- and middle-income countries in planning, advocacy, resource mobilization, and implementation for the “big catch-up”. WHO is also supporting countries for evidence-based decision-making to introduce new vaccines of public health importance. Our national immunization programmes must seize these opportunities to introduce new vaccines that will protect their children and close the immunity gaps created during the pandemic before we are hit by large-scale outbreaks of vaccine-preventable diseases.

Figure 1. Trend of vaccination coverage for measles containing vaccine and number of unvaccinated and under-vaccinated children in EMR, 2000–2022



References

1. World Health Organization. WHO-UNICEF estimates of national immunization coverage. Geneva: World Health Organization. <https://immunizationdata.who.int/listing.html?topic=&location=>.
2. Anthony Burton, Roeland Monasch, Barbara Lautenbach, Marta Gacic-Dobo, Maryanne Neill, Rouslan Karimov, Lara Wolfson, Gareth Jones, Maureen Birmingham. WHO and UNICEF estimates of national infant immunization coverage: methods and processes. *Bull World Health Organ* 2009;87:535–541. doi: 10.2471/BLT.08.053819.
3. Danovaro-Holliday MC, Gacic-Dobo M, Diallo MS, Murphy P, Brown DW. Compliance of WHO and UNICEF estimates of national immunization coverage (WUENIC) with Guidelines for Accurate and Transparent Health Estimates Reporting (GATHER) criteria. *Gates Open Res.* 2021 May 10;5:77. doi: 10.12688/gatesopenres.13258.1.
4. IA2030. Immunization Agenda 2030: A global strategy to leave no one behind. Geneva: IA2030, 2020. https://cdn.who.int/media/docs/default-source/immunization/strategy/ia2030/ia2030-draft-4-wha_b8850379-1fce-4847-bfd1-5d2c9d9e32f8.pdf?sfvrsn=5389656e_69&download=true.
5. Utazi CE, Jochem WC, Gacic-Dobo Marta, Murphy P, Sahu SK, Danovaro-Holliday C, Tatem AJ. Bayesian hierarchical modelling approaches for combining information from multiple data sources to produce annual estimates of national immunization coverage. *arXiv:2211.14919v1 [stat.ME]*, 27 Nov 2022. <https://arxiv.org/pdf/2211.14919>.

6. Teleb N, Atta H, Hajjeh R. Measles and rubella elimination in the Eastern Mediterranean Region: successes and challenges. *East Mediterr Health J.* 2019;25(10):667–668. <https://doi.org/10.26719/2019.25.10.667>.
7. World Health Organization. Essential Programme on Immunization. Geneva: World Health Organization. <https://www.who.int/teams/immunization-vaccines-and-biologicals/essential-programme-on-immunization/implementation/immunization-campaigns>.