

Commentary

## Oman eliminates mother-to-child transmission of HIV and syphilis

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On 28 September 2022, WHO certified that Oman had eliminated mother-to-child transmission (MTCT) of HIV and syphilis, becoming the first country in the WHO Eastern Mediterranean Region (EMR) and the sixteenth country in the world to achieve this (1). Oman's achievement serves as an example of how strong political leadership, long-term planning and investment in comprehensive maternal and child health services can contribute to programme success despite the socio-cultural sensitivities surrounding sexually transmitted infections. Other countries with similar health system and social context can now aspire to replicate Oman's experience.

Oman has a low HIV prevalence (2), and the first case was reported in 1984. The Joint United Nations Programme on HIV/AIDS (UNAIDS) estimated that there were 2500 people living with HIV in Oman in 2021 (3). The journey towards EMTCT of HIV and syphilis started in 1987 with the launch of the National AIDS Control Programme, which was subsequently incorporated into the Third Health Development Plan (1986–1990) and continued as one of the priority programmes in subsequent years. Sexually transmitted infections (STIs) was included in the programme during the fifth national 5-year Health Development Plan (1996–2000) in January 1997, when the WHO syndromic case management of sexually transmitted infections was adopted.

Oman has an extensive network of laboratories in the public (n = 260) and private (n = 212) sectors, which provide antenatal screening and other diagnostic services. Both sectors are ultimately regulated by the Ministry of Health (MOH) and are mandated to adhere to the national accreditation standards issued and enforced by the Directorate General for Quality Assurance Centre at MOH.

The programme to improve maternal and child health services was launched nationally in August 1987, same year with the HIV/AIDS programme, to provide comprehensive care to mothers and their babies, promote their health, reduce morbidity and mortality, and promote hospital deliveries. To achieve its objectives, the programme targeted improvements in antenatal care (ANC) coverage and good prenatal care by promoting early booking during the first trimester of pregnancy. ANC coverage increased to more than 99% in 2019, with ANC booking during the first trimester reaching 79.5%

(4). About 73.9% of mothers delivered in 2019 had visited ANC clinics 4 or more times during their pregnancy, and 62% were assessed medically at least once during the last 4 weeks of their pregnancy (4).

Achieving elimination of MTCT (EMTCT) of HIV and syphilis in Oman builds on a solid foundation of primary health care services that were established 4 decades earlier. Screening for syphilis (1990) and HIV (2009) were incorporated at ANC booking (5,6), with consistently good coverage over the past decade (4). And since 2018, HIV and syphilis testing coverage during ANC has been > 95% (4). The hospital-based specialised multidisciplinary teams care for pregnant women who test positive for HIV or syphilis and their exposed infants. The rate of MTCT of HIV has been < 2% since 2017, and the number of vertically infected HIV-positive children and children with congenital syphilis cases are below 50 per 100,000 livebirths (1). Indeed, the 2019 data submitted for WHO validation showed that HIV and syphilis testing coverage during ANC was 96% (89 141/92 897) and 99.9% (89 167/89 244), respectively. The HIV MTCT rate was 0% (0/39) and the rate of congenital syphilis per 100,000 livebirths was 1.18 (1/84 452) (1).

Training is an integral part of any successful healthcare programme and it should focus on developing the workforce to support programme priorities, implementation and outcomes. Since 2009, the MOH has conducted numerous capacity-building activities for ANC staff and HIV/STI service providers, to ensure high-quality EMTCT services. In January 2016, the Department of Communicable Diseases (DCD) introduced a package of interventions, including capacity building for HIV service providers and the development of clinical care pathways, to improve the quality of HIV services in the country (7,8). And despite the challenges of rolling out a national COVID-19 vaccination programme in 2021, DCD organised regional training workshops to support the use of national STI treatment guidelines, including the management of maternal and congenital syphilis.

Having achieved the validation for EMTCT of HIV and syphilis, Oman is now preparing for the validation of EMTCT of hepatitis B virus (HBV). Of note, the global community recently revitalised their commitment to triple EMTCT. Indeed, the global health sector strategies on HIV, viral hepatitis and sexually transmitted infections for the period 2022–2030 sets ambitious targets of 50 and 100 by 2025 and 2030, respectively, for the number of countries validated for EMTCT of HIV, HBV or syphilis (9). The WHO-defined core EMTCT services are: primary prevention of HIV, syphilis and HBV among women of childbearing age; ANC for HIV, syphilis and HBV; prompt linkage to care for pregnant women who test positive; safe delivery; treatment and follow-up of exposed infants; and optimal infant feeding (10). All these services are provided in Oman except ANC screening for HBV, due to high vaccination coverage; however, the MOH is planning to introduce ANC screening for HBV because it is a key requirement for the validation of EMTCT of HBV (10).

One of the most important concerns of any public health programme is its sustainability. The success of Oman in achieving EMTCT of HIV and syphilis should be seen more as the culmination of 3 decades of progress in implementing public health policies than as a targeted approach with a narrow objective. Systems and processes for collecting and monitoring epidemiological data and clinical case management are based on nationally agreed guidelines and protocols (11-13). Engagement with civil society and human rights organisations in Oman has contributed not only critical insight into developing key EMTCT policies and strategies but also to providing the necessary stakeholder support to implement and sustain these objectives. Continued strong political and public health leadership as well as multi-sectoral coordination are needed to ensure universal access to high-quality and decentralised EMTCT services as well as sustainability of the validation status.

## References

1. Ministry of Health, Sultanate of Oman. Validation of elimination of mother-to-child transmission

- of HIV and syphilis, Oman 2018–2019 report. Muscat: Sultanate of Oman, 2022.
2. UNAIDS. UNAIDS Data 2020. Geneva: UNAIDS, 2020. [https://www.unaids.org/sites/default/files/media\\_asset/2020\\_aids-data-book\\_en.pdf](https://www.unaids.org/sites/default/files/media_asset/2020_aids-data-book_en.pdf).
  3. UNAIDS. UNAIDS Country Factsheets. Geneva: UNAIDS, 2022. <https://www.unaids.org/en/regionscountries/countries/oman>.
  4. Ministry of Health, Sultanate of Oman. Annual health report 2019. Muscat: Sultanate of Oman, 2019. <https://www.moh.gov.om/en/web/statistics/annual-reports>.
  5. Ministry of Health, Sultanate of Oman. HIV testing in pregnancy guidelines. Muscat: Sultanate of Oman, 2012. <https://www.moh.gov.om/documents/272928/4017900/HIV+in+Pregnancy.pdf/88d30eb6-234a-d0c9-a1f1-531511ce41e4>.
  6. Ministry of Health, Sultanate of Oman. Pregnancy and childbirth management guidelines. Muscat: Sultanate of Oman, 2016. <https://www.moh.gov.om/documents/272928/4017900/ANC+Level+1+2nd+edition.pdf/2faec81b-46b3-7071-5d5f-3a4a676089aa>.
  7. Elgalib A, Shah S, Al-Habsi Z, Al-Fouri M, Lau R, Al-Kindi H, et al. The cascade of HIV care in Oman, 2015-2018: A population-based study from the Middle East. *Int J Infect Dis.* 2020;90:28-34. [10.1016/j.ijid.2019.09.017](https://doi.org/10.1016/j.ijid.2019.09.017).
  8. Elgalib A, Al-Hinai F, Al-Abri J, Shah S, Al-Habsi Z, Al-Fouri M et al. Elimination of mother-to-child transmission of HIV in Oman: a success story from the Middle East. *East Mediterr Health J.* 2021; 27(4):381–389. <https://doi.org/10.26719/2021.27.4.381>.
  9. World Health Organization. Global health sector strategies on, respectively, HIV, viral hepatitis and sexually transmitted infections for the period 2022-2030. Geneva: World Health Organization, 2022. [https://cdn.who.int/media/docs/default-source/hq-hiv-hepatitis-and-sti-library/full-final-who-ghss-hiv-vh-sti-1-june2022.pdf?sfvrsn=7c074b36\\_13](https://cdn.who.int/media/docs/default-source/hq-hiv-hepatitis-and-sti-library/full-final-who-ghss-hiv-vh-sti-1-june2022.pdf?sfvrsn=7c074b36_13).
  10. World Health Organization. Global guidance on criteria and processes for validation: elimination of mother-to-child transmission of HIV, syphilis and hepatitis B virus. Geneva: WHO, 2022. <https://www.who.int/publications/i/item/9789240039360>.
  11. Ministry of Health, Sultanate of Oman. HIV in primary health care manual, 1st Edition. Muscat: Sultanate of Oman, 2019 <https://www.moh.gov.om/en/home>.
  12. Ministry of Health, Sultanate of Oman. HIV Management in Oman – A guide for health care workers. Muscat: Sultanate of Oman, 2015 <https://www.moh.gov.om/documents/236878/0/A+guide+for+health+care+workers/2ef88339-1211-43b3-ad4a-8b326bc3c9a3>.
  13. Ministry of Health, Sultanate of Oman. Management of sexually transmitted infections. A quick reference guide for Primary Care. Muscat: Sultanate of Oman, 2019.