

# **Low uptake of malaria testing within 24 hr of fever despite appropriate health-seeking among migrants in Myanmar: a mixed-methods study**

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## **Abstract**

The World Health Organization (WHO) recommends immunization programmes to monitor vaccine wastage at storage and service delivery points. As there were no vaccine wastage assessments in Myanmar, we aimed to assess the vaccine wastage rates in the Mandalay region. We conducted a cross-sectional descriptive study with the inclusion of all immunization sessions conducted through the twenty randomly selected subcentres in the year 2018. The wastage rates were calculated by aggregating vaccine utilization data from selected subcentres. The vaccine wastage rates for Bacillus Calmette–Guérin (BCG) (54.9%), inactivated polio vaccine (28.3%), and measles-rubella (27.4%) were higher than the WHO indicative rates. The high vaccine wastage rates were seen in lyophilized vaccines (36.9%), vaccines requiring only a single dose per child for complete immunization (39.1%), and those with a large vial size of 20 doses (38.8%). The median session size for BCG (6), measles-rubella (4) and inactivated polio vaccine (2) were lower than their vaccine vial size of 20, 10, and 5 doses, respectively. The wastage was high due to smaller session size and larger vial size, necessitating the disposal of unused doses. Better micro-planning to increase the session size and procuring vaccines with smaller vial sizes needs to be tested as a strategy to reduce vaccine wastage.

**Keywords:** vaccine wastage; vaccine utilization; EPI; service delivery point; Myanmar