# MORTALITY AMONG PEOPLE LIVING WITH HIV IN INDIA: EMERGENCE OF NONCOMMUNICABLE DISEASES

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## BACKGROUND

- Expanded access to antiretroviral therapy (ART) has significantly reduced HIV-related mortality in adults and children worldwide, including a 77% decline in India between 2010 and 2021
- Yet, 79,755 deaths among people living with HIV (PLHIV) were reported across all of India's government treatment centers between January 2019 and March 2020
- While mortality patterns among PLHIV have shifted to non-communicable diseases (NCDs) in high-income settings, limited data on mortality patterns among PLHIV in low-and-middle-income countries (LMICs) exists

## OBJECTIVE

- To characterize mortality trends among PLHIV receiving care and treatment in public sector facilities in India

## METHODS

- Verbal autopsy is a method used (when medical certification is unavailable) to determine the most probable cause of death through interviews of caregivers We conducted verbal autopsies on all deaths in 28 government-supported treatment centers across 18 Indian states between Jan 2019 and March 2020
- Trained interviewers employed the WHO-VA-2016 tool and collected data on signs, symptoms, medical history and circumstances preceding death
- Two independent physicians utilized ICD-10 classifications to determine cause of death

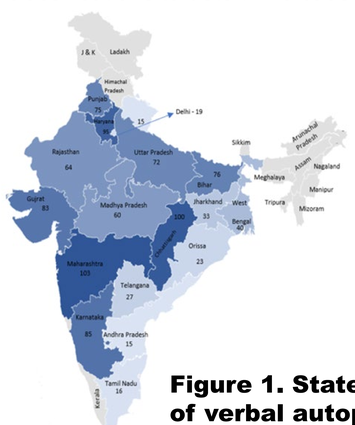



**Figure 1. State-wise break up of verbal autopsy cases**

**Early diagnosis and treatment are critical to reducing the predominantly OI-related mortality observed among PLHIV in India; as people live longer on ART, screening for non-communicable diseases is critical**

## RESULTS

- Among the 1,001 deaths investigated, the median age was 42 years (IQR: 35-50), 68% were men, most deaths occurred in Northern India (32%), and 62% of deaths occurred at home
- Non-communicable diseases (NCDs) accounted for only 8% of mortality among those on ART for <1 year compared to 33% of mortality for those on ART for more than 5 years (p<0.001)
- The most prevalent form of malignancy in men was head and neck cancer (24%), while cervical cancer (27%) was the most common in women

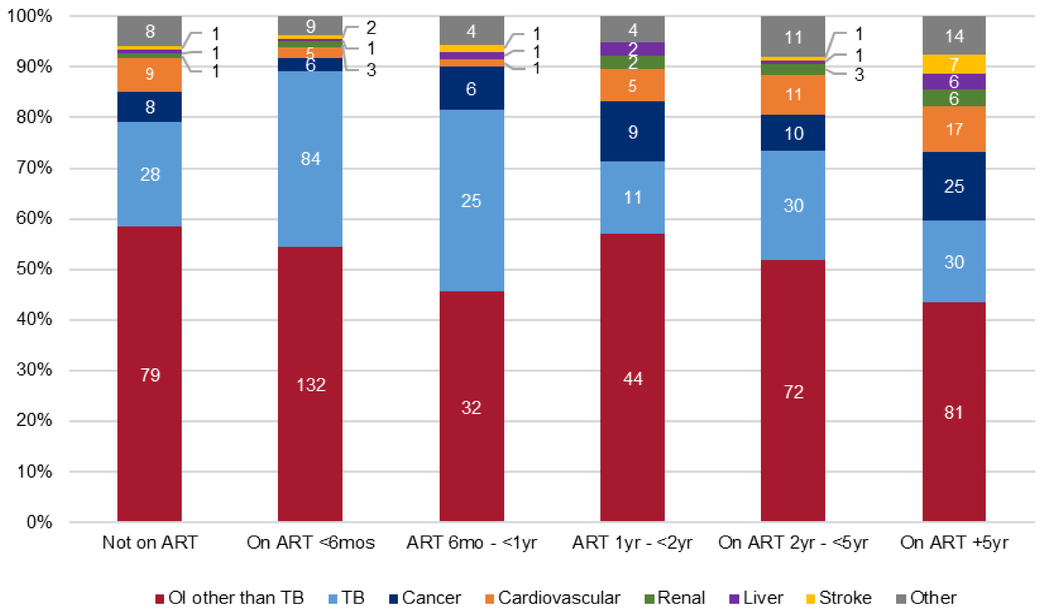



**Figure 3. Distribution of causes of death by duration of ART use at time of death**

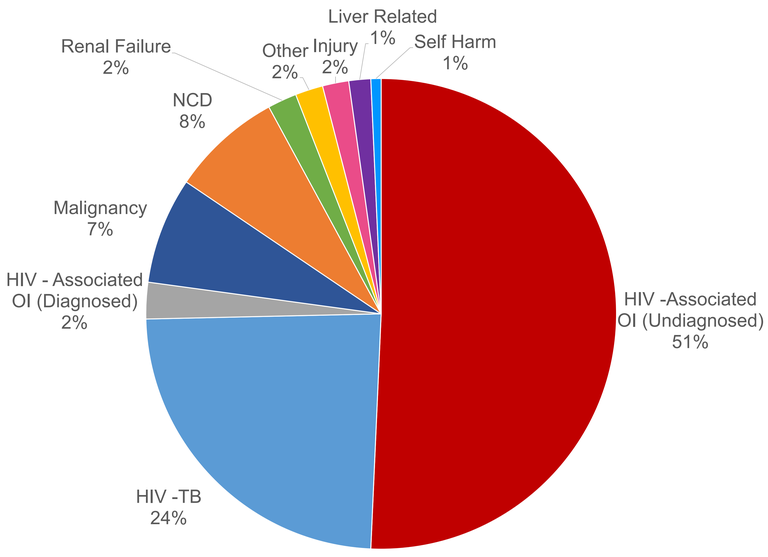



**Figure 2. Overall causes of death among PLHIV in India**

## CONCLUSIONS

- Mortality attributable to HIV-related OIs, particularly TB, remains high in this setting, particularly among individuals who had recently started ART. This underscores the urgent need for early detection and engagement of PLHIV in treatment programs along with adherence support
- As PLHIV age, the proportion of deaths attributable to NCDs, including various types of cancers, is expected to rise. This shift accentuates the importance of integration of NCD screening and management into ART programs in LMICs

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