Transition to Dolutegravir-Based ART in Low- and Middle-Income Countries in IeDEA

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BACKGROUND

- In 2019, the World Health Organization recommended dolutegravir (DTG)-based antiretroviral therapy (ART) for first-, second-, and third-line HIV treatment regimens to mitigate increasing levels of drug resistance (DR) to NNRTI-based ART regimens.
- The proportion of HIV treatment sites in low- and middle-income countries (LMICs) that have rolled out or plan to roll out DTG-based ART is unknown.

Study objectives:

- Determine the proportion of IeDEA sites in LMICs that planned to or did transition to DTG-based ART regimens by 2021.
- Describe the impetus for transition to DTG-based ART regimens (e.g., National or Institutional/practice-level initiative).
- Describe viral load (VL) and DR testing practices and whether switch to DTG regimens is based on VL monitoring and whether DR testing is performed at switch.

METHODS

- Between September 2020 and March 2021, the International epidemiology Databases to Evaluate AIDS (IeDEA) consortium conducted a cross-sectional survey of 179 HIV treatment sites in 35 LMICs to document the transition to DTG-based ART regimens.
- All sites participating in IeDEA in 2020 were eligible for the survey, with purposive and random sampling used to select sites from large programmatic cohorts in IeDEA's Southern Africa region.
- We linked site data to national HIV prevalence estimates for 2020, obtained from UNAIDS[1] and other sources[2,3], and categorized as low (<1%), medium (1-4.9%), or high (≥5%) HIV prevalence.
- We stratified descriptive statistics by HIV prevalence category.

Table 1: Type of initiative used to rollout DTG regimens

Initiative type	HIV prevalence category		
	Low (n=35)	Medium (n=83)	High (n=57)
National	57% (20)	88% (73)	95% (54)
Institutional or practice-level	29% (10)	7% (6)	5% (3)
Not applicable	14% (5)	5% (4)	0% (0)

Most ART programs transitioned to first-line DTG regimens by 2021, but only about a third transitioned all treatment lines to DTG regimens

RESULTS

- 175 sites completed the survey; 78% (137) were from 21 countries in Africa, 17% (30) from 8 countries in the Asia-Pacific and 5% (8) from 6 countries in Latin America.
- 84% (147) of sites reported rollout of DTG-based regimens was based on national initiatives (Table 1).
- 95% of sites (166) reported rolling out 1st-line, 68% (119) 2nd-line and 42% (73) 3rd-line DTG-based ART regimens by 2021; 37% (64) reported transitioning all three treatment lines to DTG-based ART regimens (Figure 1).
- 97% (170) of sites reported VL testing available for routine patient care; 79% (139) based switch to DTG regimens on VL measurements (Figure 2), with 70% (97) relying on VLs obtained within 6 months, 20% (28) within 12 months and 10% (14) having criteria that varied by patient group.
- 79% (139) of sites reported DR testing was available for routine patient care; 15% (26) reported performing DR testing at time of switch to DTG regimen (Figure 2).

Figure 1: Transition to DTG regimens by HIV prevalence category and treatment line

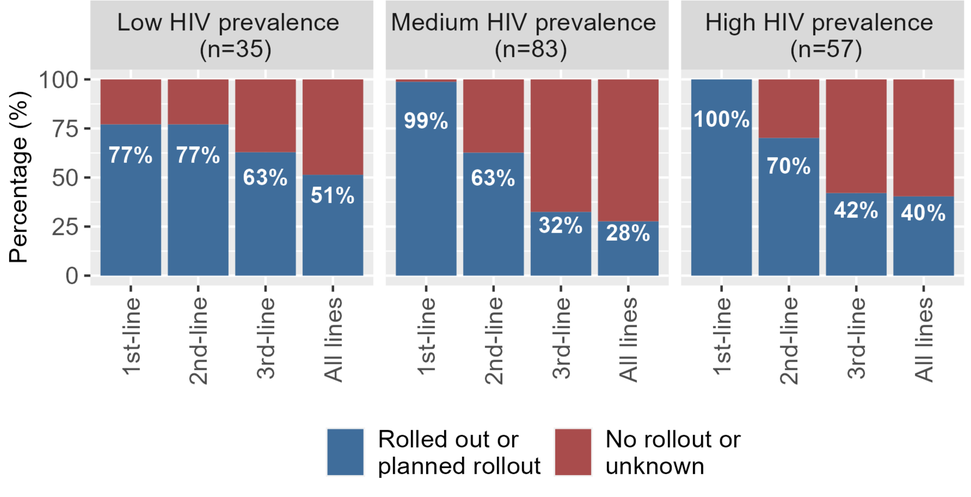
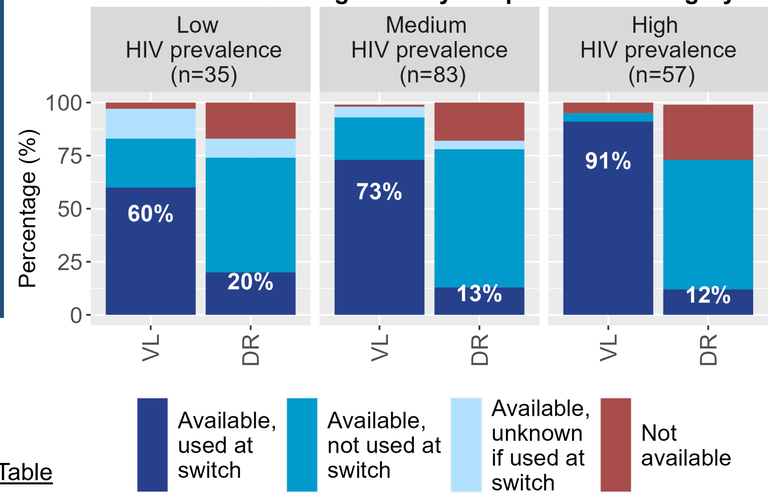


Figure 2: VL monitoring and DR testing availability and use at switch to DTG regimens by HIV prevalence category



CONCLUSIONS

- Incomplete rollout of DTG-based ART and suboptimal DR monitoring may impede efforts to reduce HIV DR, particularly in high HIV-burden settings.

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REFERENCES

[1]Joint United Nations Programme on HIV/AIDS (UNAIDS). HIV estimates with uncertainty bounds 1990-Present. 2022. https://www.unaids.org/en/resources/documents/2022/HIV_estimates_with_uncertainty_bounds_1990-present. [2]CDC Division of Global HIV & TB. Mozambique Country Profile: Strategic Focus. 2022. https://www.cdc.gov/globalhivtb/where-we-work/Mozambique.pdf. [3]China-Joint United Nations Programme on HIV/AIDS. Community-based organizations call for scaled up internet-based HIV prevention services in China. China-Joint United Nations Program HIV/AIDS. 2021. https://www.unaids.org/en/keywords/china.

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IeDEA International epidemiology Databases to Evaluate AIDS