When the only intervention left to optimise is retention: Comparing the 2021 and 2016 South African HIV Investment Cases

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BACKGROUND

• South Africa has the largest HIV-positive population in the world, with 18 million people living with HIV
• Current UNAIDS targets are estimated at 93% of people living with HIV knowing their status. 74% of HIV-diagnosed people on antiretroviral treatment (ART), and 92% of those on ART being virally suppressed
• Since 2016, annual updates of the South African HIV Investment Case have identified the optimal mix of HIV interventions: with recommendations changing over time due to novel interventions and increasing coverage.

METHODS

• The 2021 HIV Investment Case was updated with the latest Thembisa model (4.4), recent public sector cost data, and a custom-built optimisation routine which iteratively adds the most cost effective intervention (cost per life year saved) to a rolling baseline.
• The order of recommended interventions changed substantially between 2016 and 2021: (Fig 1)
• This was due to changes in baseline intervention coverage, addition of new interventions, and updates of cost and effectiveness assumptions.
• Increasing condom provision remains the most cost effective intervention.
• Increasing ART linkage remains amongst the most cost effective interventions.
• MMC retains good cost-effectiveness, however has moved down in the order of recommended interventions.

RESULTS

Table 1: List of HIV interventions ranked by cost-effectiveness for two ART coverage scenarios (78% and 95%), 2021-40

Table 2: Summary of incremental impacts and cost-effectiveness over 20 years (2021-2040)

Figure 2: Annual epidemiological impacts on key indicators of the HIV epidemic, for 78% and 95% ART coverage scenarios

CONCLUSIONS

• While most interventions have become affordable under the current budget, only maximizing ART retention will significantly increase the South African HIV programme’s impact.

95% ART coverage is responsible for significantly reducing HIV incidence sooner than under current 78% ART coverage (Fig 2).

Increasing ART coverage to 95% in itself will double the impact on reducing AIDS deaths, compared to current 78% ART coverage. However, this will require substantial incremental cost to the programme (+10% [Table 2])

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