

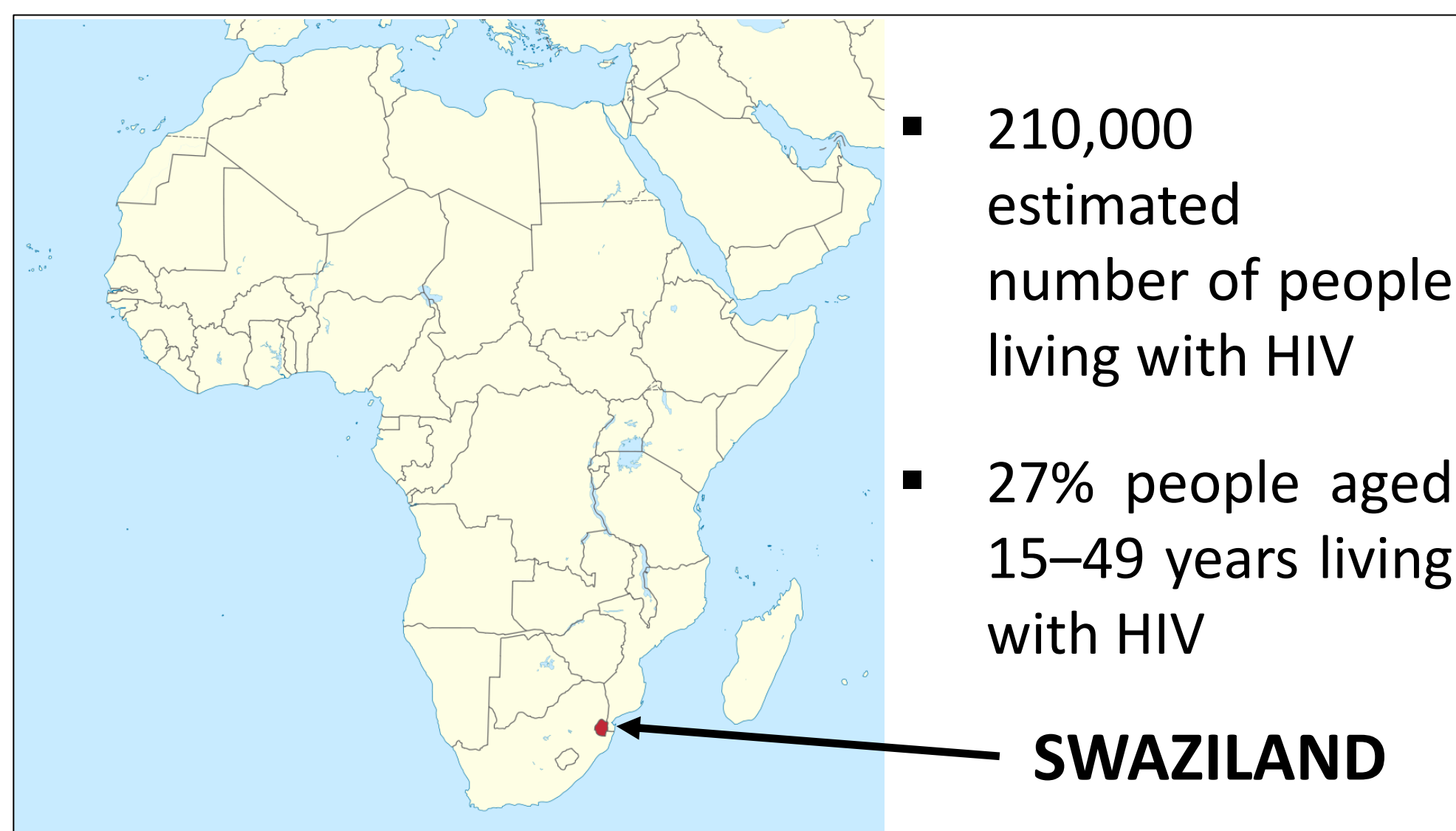
OPTIMIZING HIV INVESTMENT IN SWAZILAND: MODELLING HIGH-IMPACT INTERVENTIONS

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INTRODUCTION

- Swaziland has the highest global HIV prevalence with an estimated **27%** of people aged 15–49 years living with HIV.
- To address this issue, the Government aimed to optimize HIV investment by assessing the impact of key interventions.



METHODS

We used **Optima** to assess the impact of moderate- and high-intensity scale-up of five interventions scaling-up or implementing:

INTERVENTION	CURRENT COVERAGE	MODERATE INTENSITY COVERAGE TARGETS				HIGH INTENSITY COVERAGE TARGETS				
		2014	2015	2018	2020	2030	2015	2018	2020	2030
ART (CD4 count <500 cells/mm ³)	55%				65%	75%			85%	90%
VMMC (males aged 10–49 years)	19%			55%	55%	55%	45%	70%	70%	70%
PMTCT (reduction of breastfeeding (BF) in HIV-positive mothers)	84%			90%	90%	90%	95%	95%	95%	95%
Tuberculosis/HIV co-treatment	73%	75%	85%		90%		75%	85%		95%
Conditional cash transfers (females aged 15–24 years)	0%		60%	60%	60%		95%	95%		95%

Data were provided by the Swaziland Government for general and key populations disaggregated by age and sex for 2000–2013. Assumptions of efficacy, effectiveness, and cost of each intervention are available at optimamodel.com/pubs/swaziland-report.pdf

RESULTS

By 2030, compared to current coverage:

INTERVENTION INTENSITY	NEW INFECTIONS AVERTED	AIDS-RELATED DEATHS AVERTED
Moderate	27%	12%
High	49%	24%

The discounted cumulative additional program cost of these combined interventions was US\$74 million with an incremental cost-effectiveness ratio of US\$2,700 per infection averted (for moderate scale-up) and US\$309 million with an incremental cost-effectiveness ratio of US\$6,300 per infection averted (for high intensity scale-up).

The highest impact interventions are ART and VMMC.

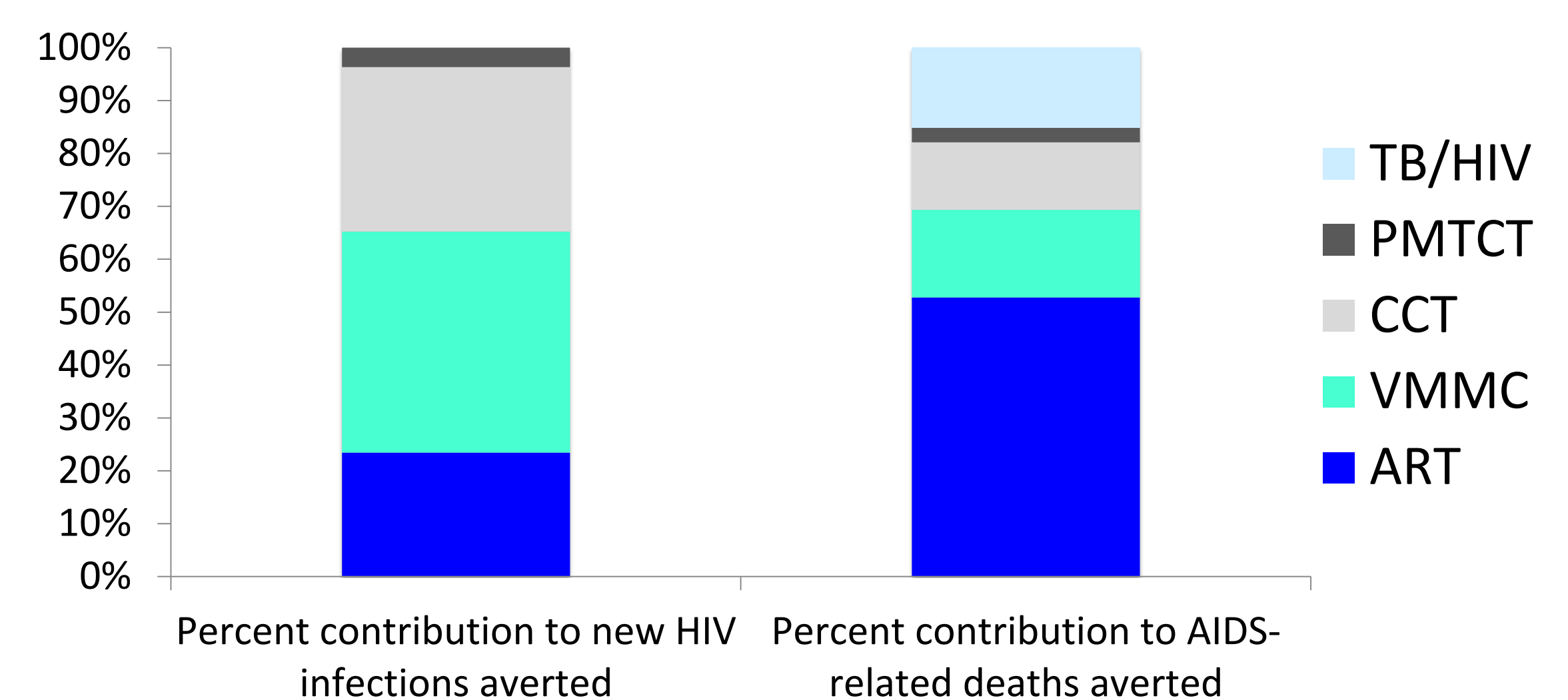


Figure 2: Estimated percent contribution of moderate scale-up interventions in reducing new HIV infections and AIDS-related deaths by 2030

CONCLUSION

To inform the Swaziland Government in HIV program planning, our analysis showed that rapid scale-up of ART and VMMC would yield the greatest impact on reducing new HIV infections and AIDS-related deaths.

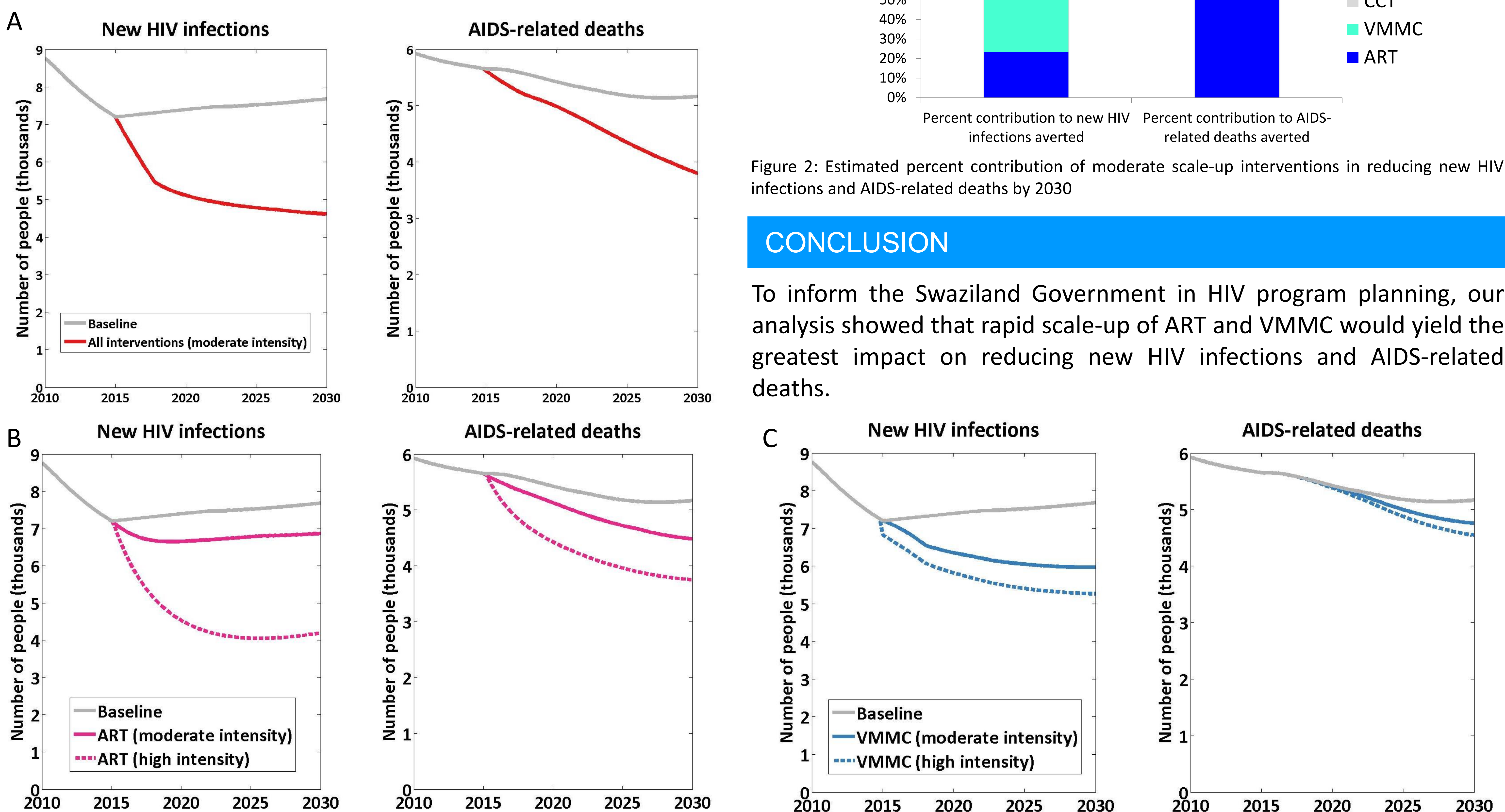


Figure 1: Epidemic trajectories for scale-up of (A) all interventions combined, (B) ART, and (C) VMMC compared to current trends of new HIV infections and AIDS-related deaths

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