

Assessing the cost, affordability and cost effectiveness of innovative strategies for VMMC programming for improved sustainability in Zimbabwe



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BACKGROUND

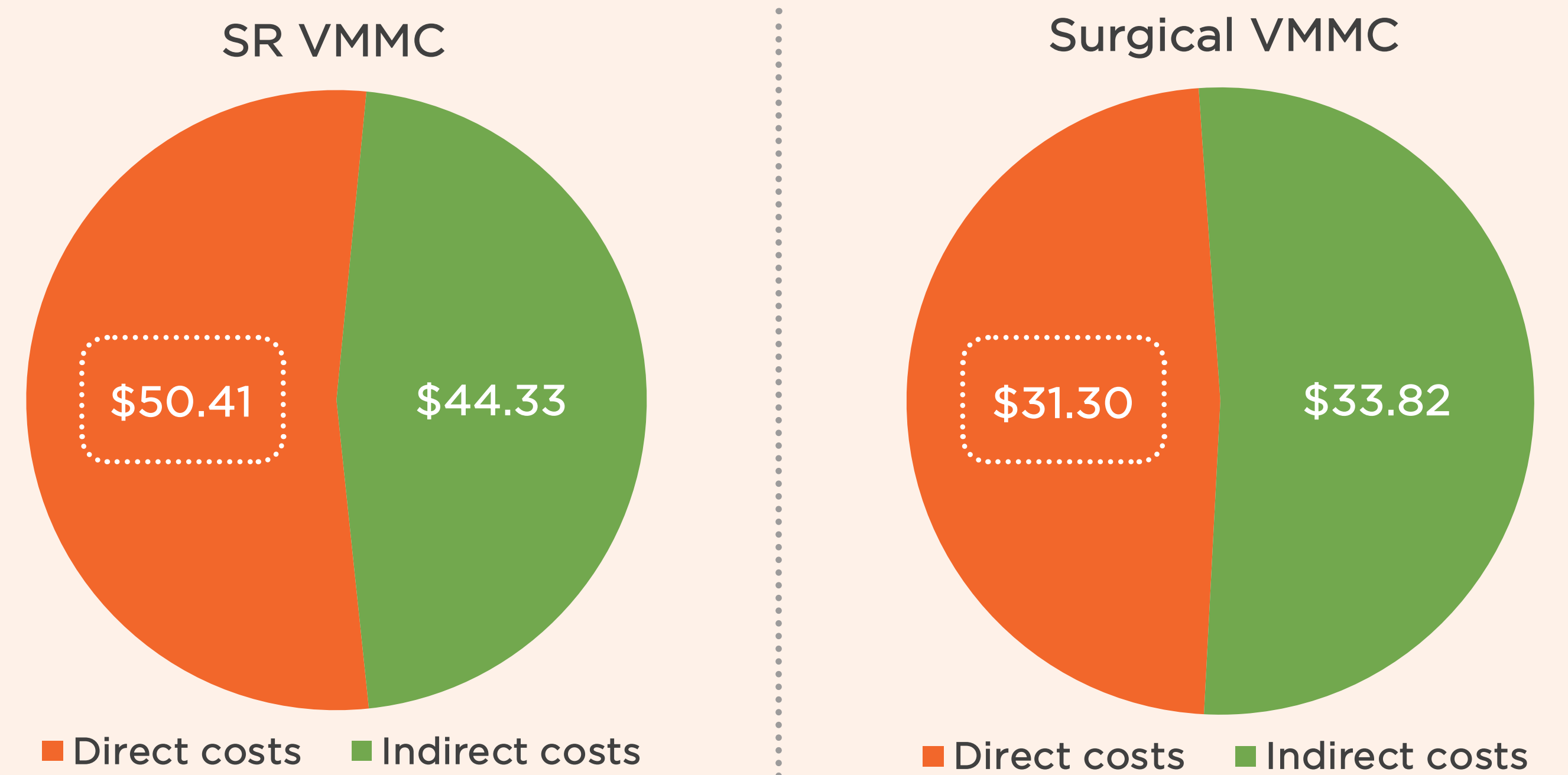
Population Services International (PSI), Population Solutions for Health (PSH) and the Ministry of Health (MOH) in Zimbabwe tested several sustainability approaches in the VMMC programme to transition it to the MOH. This included piloting Shang Ring (SR) device circumcision and introducing VMMC into MOH results-based financing (RBF).

This study evaluated upfront and recurring costs and included budget impact and cost-effectiveness analyses (BIA, CEA) of implementing these sustainability efforts under various scenarios.

METHODS

- Retrospective, ingredients-based and top-down, financial and economic costing of surgical and SR VMMC.
- Purposive sample of 28 facilities across 8 districts.
- Facility and district-level costs.
- Cost estimates were adapted for the BIA and CEA, considering different VMMC coverage and SR scale-up scenarios for 2023-2027, costs associated with introducing RBF and the programme's planned transition to the MOH in the 8 study districts.
- CEA employs Goals Age-Structured Model to estimate lifetime number of HIV infections and disability-adjusted life years (DALYs) averted.

SR VMMC costs US\$19.11 more than the surgical procedure due to cost of device, additional instruments and non-medical consumables used for device removal and anaesthetic cream



We found insufficient evidence to suggest incremental indirect costs are attributable to the introduction of SR.

Upfront investment costs (training) associated with SR introduction: **\$ 12,761 per district** (not included in unit costs).

Limited SR rollout, adding VMMC to RBF, and partner transition will save fiscal costs over 5 years from a payer perspective

Scenario	2023	2024	2025	2026	2027	Total	Saving/additional cost compared to (1)	Budget impact model assumptions		
								RBF rollout	SR rollout	PSH transition
(1) Partial RBF rollout; no SR; PSH remains	\$639,133	\$394,817	\$267,655	\$204,399	\$166,477	\$1,672,480	-	In 4/8 districts in 2023 only	In 4/8 districts based on AIM 1 uptake in 2023, no SR after 2023	None
(2) Full RBF rollout; low SR rollout; PSH exits	\$634,018	\$353,374	\$231,533	\$164,900	\$128,287	\$1,512,133	-\$160,368	In 7 districts from 2023 onward, in all 8 from 2024 onward	Same as (1) in 2023; 10% uptake in 8 districts in 2024 onward (15y & older)	By 2025
(3) Full RBF rollout; medium SR rollout; PSH exits	\$672,923	\$498,29	\$298,309	\$221,176	\$173,141	\$1,864,478	+\$191,998		Same as (1) in 2023; 25% uptake in 8 districts in 2024 onward (13y & older)	
(4) Full RBF rollout; high SR rollout; PSH exits	\$672,923	\$528,875	\$318,570	\$236,585	\$185,721	\$1,942,674	+\$270,194		Same as (1) in 2023; 40% uptake in 8 districts in 2024 onward (13y & older)	

Cost savings under scenario (1) results from reduced incentives under RBF and lower HR costs as PSH exits the program. These offset additional costs of SR VMMC and upfront investments of SR and RBF.

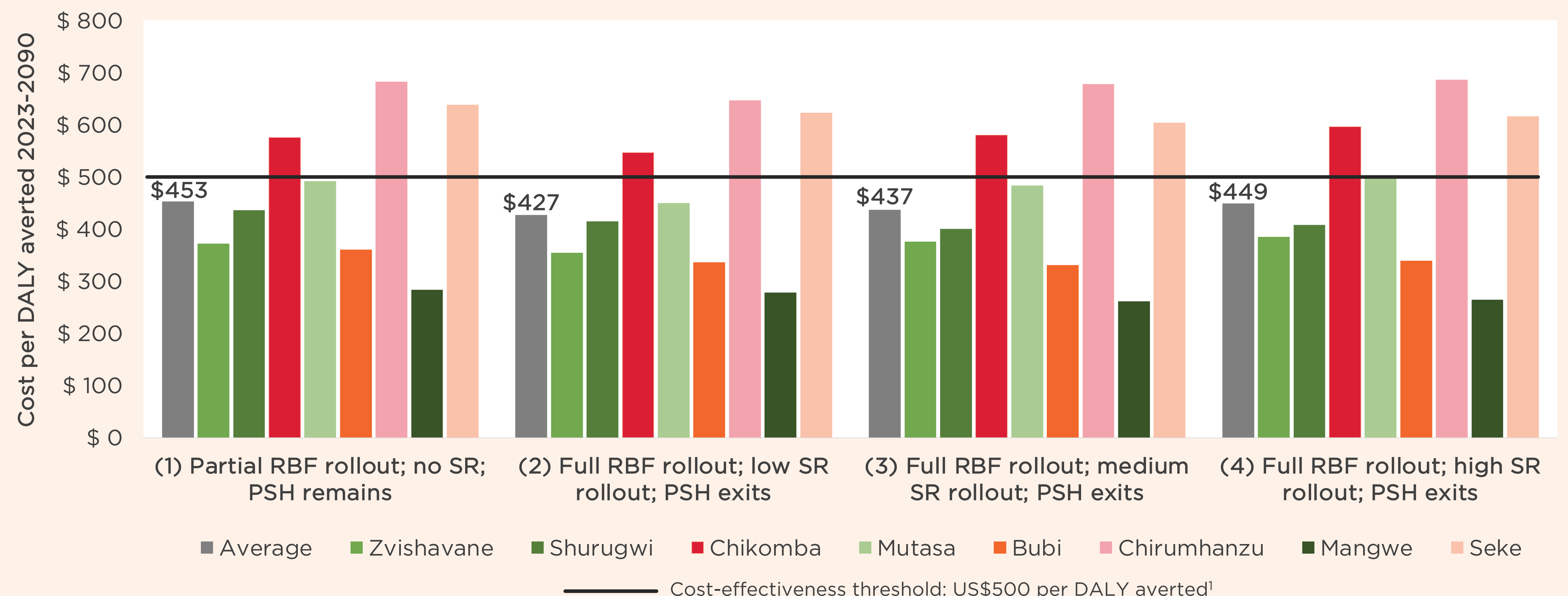
The overall budget impact will increase if:

SR rollout/uptake increases, e.g., from 10% to 25% (available to those 13 years and older). This will result in additional costs of \$352,345 over 5 years.

Achievements of RBF indicators improve, increasing incentive earnings.

Based on an average unit cost of US\$80.94 per circumcision and a cost-effectiveness threshold of US\$500 per DALY averted¹, 10% SR adoption in all districts from 2024 alongside RBF and PSH transition is the most cost-effective option for SR rollout, with an average cost per DALY averted of US\$427 across all 8 districts.

However, in 3 of the 8 districts, none of the modelled scenarios are cost-effective. In case of funding shortages, these findings can be used to direct resources to the most cost-effective districts.



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REFERENCES: ¹. Bansi-Matharu, L., et al. (2023). Cost-effectiveness of voluntary medical male circumcision for HIV prevention across sub-Saharan Africa: results from five independent models. The Lancet Global Health, 11(2), e244-e255.

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