

Niche product or expanded HIV prevention coverage? Better data about uptake will be key to forecast market size for the dapivirine ring.



CHOICE Collaboration for HIV Prevention Options to Control the Epidemic

Three approaches to forecasting potential numbers of dapivirine ring users for HIV prevention among women in sub-Saharan Africa

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Background

The monthly dapivirine vaginal ring (henceforth “ring”) for HIV prevention was recommended by the World Health Organization in January 2021 as an additional prevention choice for women at substantial risk of HIV infection.

Objective

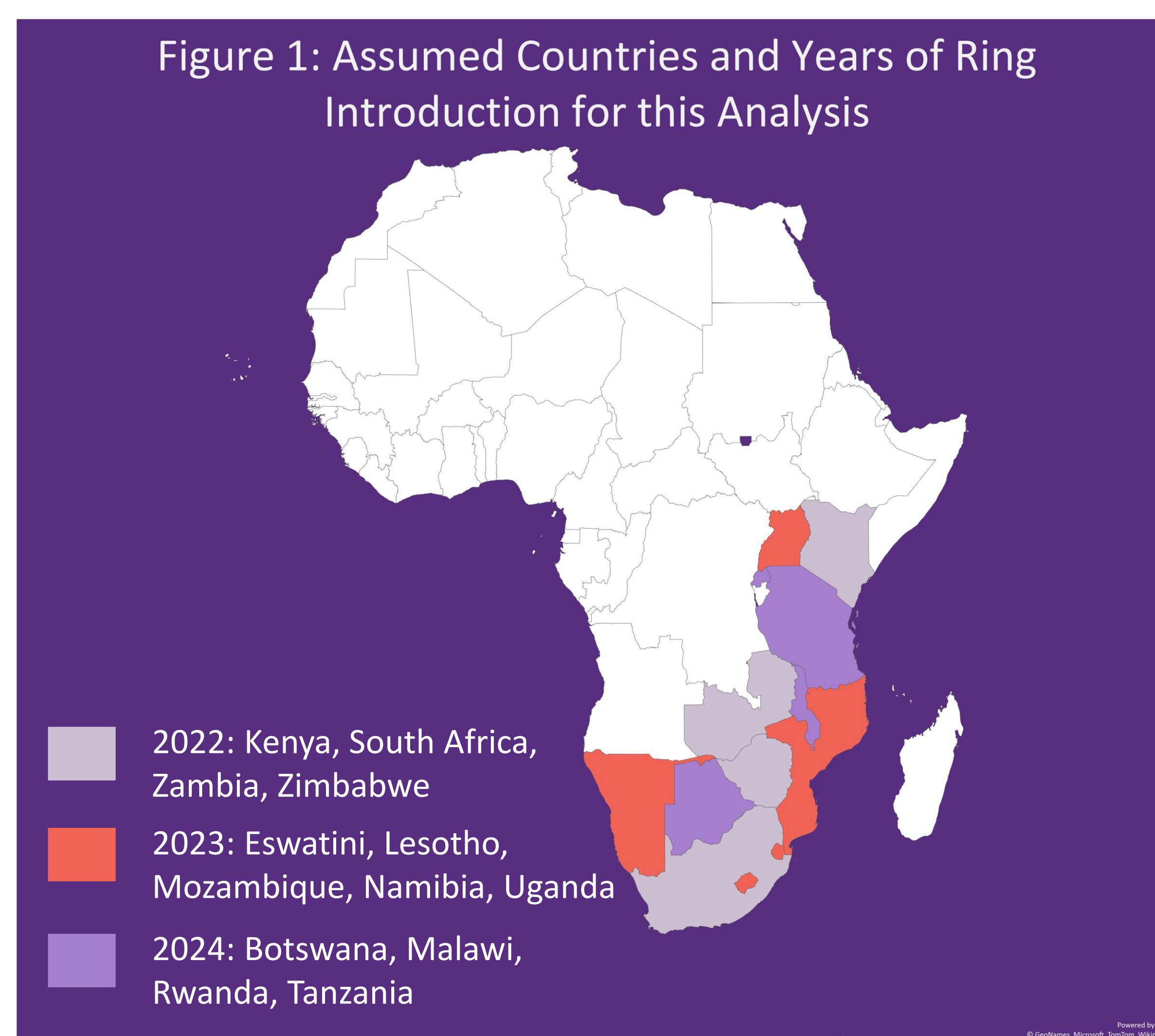
Suppliers, funders, and Ministries of Health need ways to estimate how many ring users there will be post-introduction for planning and budgeting purposes.

Assumptions

- Countries and year of introduction (Figure 1)
- Potential user population was assumed to be sexually active, HIV-negative women ages 18-45
- Low (2%), moderate (40%), and high (117%) estimates of ring uptake relative to oral PrEP were derived from results of a discrete choice experiment of multipurpose prevention products previously conducted during the TRIO study¹

Approaches

1. Assumed ring initiations will follow **trend of oral PrEP initiations** in each country; applied assumptions about ring uptake relative to oral PrEP uptake
2. Started with **UNAIDS 2020 World AIDS Day Report-derived oral PrEP targets** for AGYW and adult women; applied scale-up trends and assumptions about ring uptake relative to oral PrEP uptake
3. Maximum potential size of user population (**unmet need**): applied uptake projections from market research in 5 countries to the estimated size of the HIV negative female population ages 18-44 in 2026 across the 13 countries in this analysis



Results

Table 1. Total number of ring users by 2026

Approach to estimate numbers of ring users	Low estimate	Moderate estimate	High estimate
Oral PrEP trends	7,300	140,000	420,000
Oral PrEP targets	140,000	2.7 M	8.1 M
Unmet need			44 M

Discussion

Despite using the best evidence available, the uncertainty around potential future use of the ring is considerable across 13 sub-Saharan African countries, ranging from a minimum of 7,300 to a maximum of 8.1 million projected users by 2026. Nevertheless, unmet need is 44 million women, and more concerted introduction efforts along with leveraging existing implementation infrastructure and lessons learned could raise the speed of ring roll-out compared to oral PrEP. If that is the case, the oral PrEP trends approach can be considered conservative, despite being based on total oral PrEP initiations and not just those among women and girls. The UNAIDS oral PrEP targets are aspirational, and therefore this approach will likely overestimate roll-out and uptake of the dapivirine ring. Regardless, the largest source of uncertainty in the estimates stems from uncertainty around uptake of the ring relative to oral PrEP. Stated preferences for a monthly vaginal ring relative to daily oral tablets in the TRIO discrete choice experiment varied based on country of respondent (South Africa or Kenya) and relative efficacy of the two products. The study was based on the products offering multipurpose prevention, and it was not designed to measure relative uptake of these two products, so actual uptake across the 13 countries is difficult to predict. Additional data on product preferences, speed of rollout, and rates of ring uptake are required before these projections can be further refined.

¹Minnis AM, Browne EN, Boeri M, et al. Young Women’s Stated Preferences for Biomedical HIV Prevention: Results of a Discrete Choice Experiment in Kenya and South Africa. *J Acquir Immune Defic Syndr*. 2019;80(4):394-403. doi:10.1097/QAI.0000000000001945 – supplemental unpublished results