



# Epidemiologically informed HIV pre-exposure prophylaxis targets for Uganda using PrEP-it and the UNAIDS Population Size Estimate tool

KRIPKE K,<sup>1</sup> TUTEGYEREIZE L,<sup>2</sup> AGWAU AKELLO C,<sup>2</sup> LUWUNZU M,<sup>3</sup> MUBANGIZI J,<sup>4</sup> COLLETAR AWOR A,<sup>5</sup> MELILLO S,<sup>6</sup> KASOZI D,<sup>6</sup> **KADAMA H,<sup>7</sup>** KIRUNGI W<sup>3</sup>

<sup>1</sup>Avenir Health, Takoma Park Maryland, United States; <sup>2</sup>FHI 360, Kampala, Uganda; <sup>3</sup>Uganda Ministry of Health, Strategic Information Department, Kampala, Uganda; <sup>4</sup>UNAIDS, Kampala, Uganda; <sup>5</sup>U.S. Centers for Disease Control and Prevention, Kampala, Uganda; <sup>6</sup>U.S. Agency for International Development, Kampala, Uganda; <sup>7</sup>Uganda Ministry of Health, AIDS Control Program, Kampala, Uganda

## Background

Uganda adopted oral pre-exposure prophylaxis (PrEP) in 2016. Over 550,000 clients had initiated PrEP by the end of December 2023. PrEP-it—the PrEP Implementation planning, monitoring, and evaluation Tool—helps countries set PrEP targets and forecast costs and commodity needs. In 2023, Uganda used PrEP-it and the UNAIDS Population Size Estimate (PSE) tool (now called the Sub-national HIV Estimates in Priority Populations, or “SHIPP,” tool) to set national targets for oral PrEP, the dapivirine vaginal ring, and injectable long-acting cabotegravir. Since PrEP should be offered to people at substantial risk of acquiring HIV, PrEP-it users must enter the populations indicated for PrEP in their country and customize inputs for each population. The Uganda team had size estimates for the key populations and serodifferent couples but wanted to estimate the size of other populations at substantial risk of HIV within the populations of adolescent girls and young women (AGYW), pregnant and lactating people, and adult men.

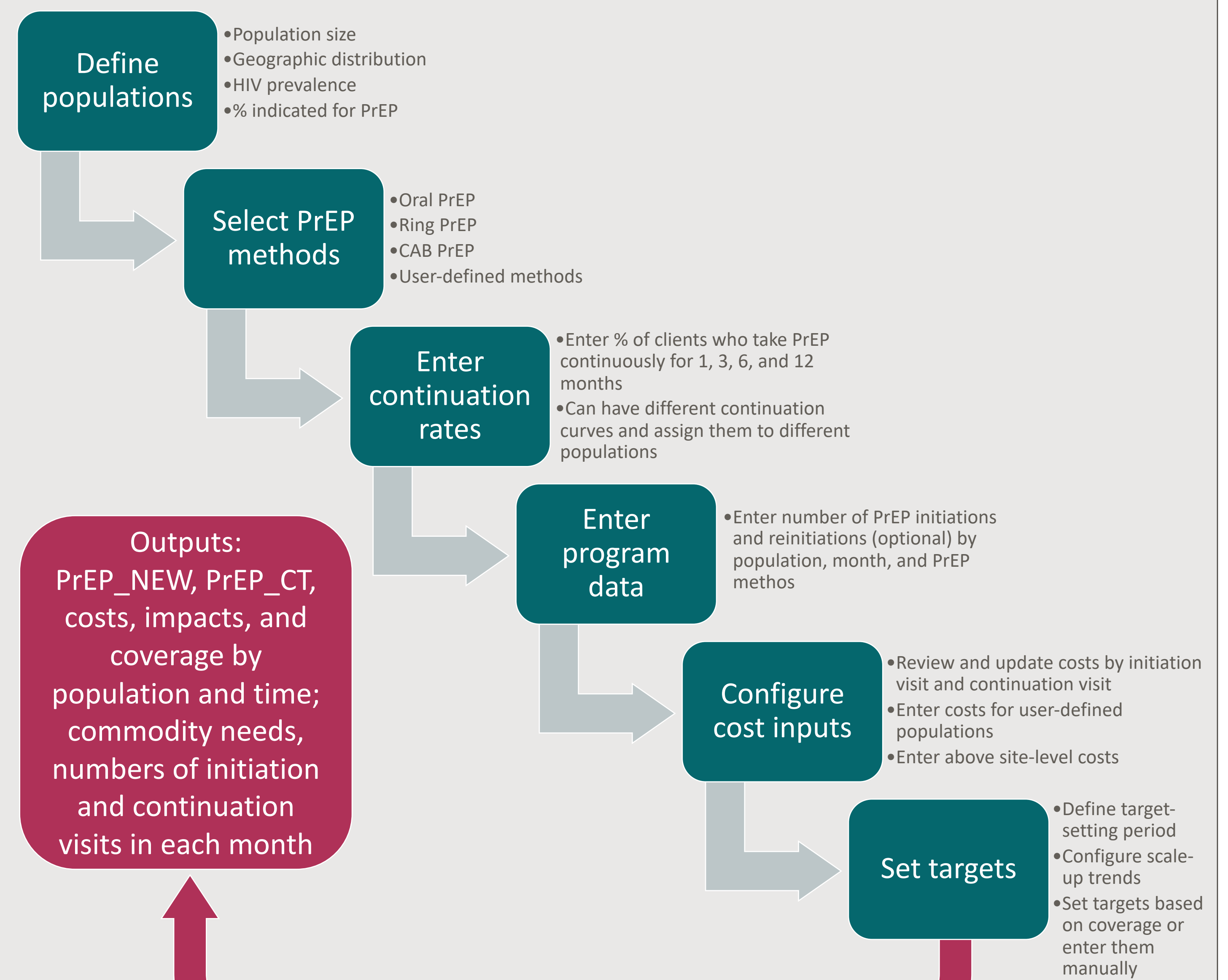
## Using the SHIPP tool in PrEP planning

Country	Area name	Population sizes by behaviour (F15-49)				Estimated HIV incidence rates				
		Regular partner	Non-regular	KPs	All F15-49	No sex	Regular partner	Non-regular	KPs	All F15-49
Uganda	Abim	11855	20828	5479	39665	0.00	0.00	0.00	0.00	0.11
Uganda	Adjumani	18222	27635	9172	57058	0.00	0.00	0.00	0.00	0.14
Uganda	Agago	14040	28649	9044	57139	0.00	0.44	0.93	6.00	0.46
Uganda	Alebtong	11564	40884	9906	66628	0.00	0.25	0.52	4.00	0.28
Uganda	Amolatar	7685	23692	8536	43353	0.00	0.32	0.67	4.00	0.38
Uganda	Amudat	6995	15932	7403	31116	0.00	0.04	0.09	1.00	0.06
Uganda	Amuria	12339	31133	8639	54766	0.00	0.14	0.29	2.00	0.14
Uganda	Amuru	11188	32820	5194	53048	0.00	0.29	0.62	3.00	0.28
Uganda	Apac	14959	28694	7497	55774	0.00	0.37	0.79	4.00	0.38
Uganda	Arua	40107	65030	21428	134631	0.00	0.28	0.59	3.00	0.28
Uganda	Budaka	12379	34939	12301	62112	0.00	0.11	0.23	2.54	0.14
Uganda	Bududa	10737	39528	13286	62112	0.00	0.07	0.15	1.91	0.10
Uganda	Bugiri	21307	69236	23958	114401	0.00	0.12	0.24	2.65	0.14
Uganda	Bugweri	9314	24743	12400	46457	0.00	0.10	0.21	2.40	0.13
Uganda	Buhweju	8708	19275	4738	32721	0.00	0.17	0.35	3.60	0.18
Uganda	Buikwe	31052	55124	26005	112181	0.00	0.41	0.86	5.89	0.46
Uganda	Bukedea	14338	33713	12266	62688	0.00	0.10	0.21	2.40	0.13
Uganda	Bukomansimb	5821	16244	6220	34904	0.00	0.27	0.56	4.28	0.34
Uganda	Bukwo	4769	18326	7571	27571	0.00	0.06	0.13	1.75	0.08
Uganda	Bulambuli	14034	28423	11111	58996	0.00	0.14	0.28	2.97	0.17
Uganda	Buliisa	5859	21882	6122	35701	0.00	0.21	0.42	3.72	0.24
Uganda	Bundibugyo	11224	38125	16802	68137	0.00	0.10	0.19	2.30	0.12

## Methods

- For AGYW, we used the SHIPP tool (above) to identify districts where HIV incidence among AGYW with non-regular partners or with one regular partner is  $\geq 1\%$  and used the data to populate parameters in PrEP-it.
  - HIV incidence among AGYW in selected districts divided by incidence among AGYW across all districts  $\rightarrow$  impact adjustment factor for AGYW
  - AGYW population in selected districts divided by national AGYW population  $\rightarrow$  % of the population in geographic areas prioritized for PrEP
  - Size of population in specific behavior groups where incidence is  $\geq 1\%$  divided by total size of AGYW population in selected districts  $\rightarrow$  % indicated for PrEP
- A similar approach was taken for pregnant and lactating people and adult men.
- We also extracted 205,000 de-identified longitudinal records for clients who initiated PrEP from April 2021 through March 2022 from the national PrEP Tracker database and used a random sample of 1,000 of them in the PrEP-it continuation calculator (right) to estimate continuation and reinitiation rates by population.

## General PrEP-it target-setting process



## Results

Uganda was the first country to leverage the SHIPP tool to customize their population inputs and impact factors for PrEP-it. The country team produced its first national PrEP targets for three PrEP products in December 2023, making good use of epidemiological and program data.

## Conclusions

Uganda will incorporate finalized PrEP targets into its upcoming Health Sector HIV/AIDS Strategic Plan 2025–2030. The SHIPP estimates for 30 countries in Sub-Saharan Africa will be incorporated into PrEP-it in 2024 to automate this process for future country exercises.

## PrEP-it continuation calculator

	TOTAL	SDCs	MSM	FSWs	PWID	PBFP	TG	HRM	O
Number initiating	1010	65	55	478	37	0	10	265	0
% Continuation among initiating									
continued to month 3	51%	65%	67%	51%	65%		50%	42%	
continued to month 6	21%	31%	22%	21%	38%		20%	17%	
continued to month 12	8%	12%	7%	8%	22%		20%	4%	
continued to month 18	1%	5%	0%	1%	3%		0%	0%	
continued to month 24	0%	0%	0%	0%	0%		0%	0%	
re-initiated PrEP	26%	34%	25%	28%	30%		10%	21%	

Data Entry Worksheet		Return 1				Return 2		Return 3		Return 4	
PrEP ID	Birth year	Priority population	Date initiated	# Days drug supply	Date returned	# Days drug supply	Date returned	# Days drug supply	Date returned	# Days drug supply	Date returned
		HRM	26-Jul-21	30	22-Nov-21	60	23-Feb-22	60			
		FSWs	25-Jan-22	30	22-Feb-22	60	13-Jun-23	90	5-Sep-23	90	
		HRM	3-Feb-22	30	27-Jul-23	90					

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For more information, contact Katharine Kripke [kkripke@avenirhealth.org](mailto:kkripke@avenirhealth.org)