Key Population HIV Care & Treatment Cascade Dashboard User Manual and Guide

Background

The Key Population (KP) HIV Care & Treatment Cascades available on this platform were develop through a consultative process, facilitated by the South African National AIDS Council (SANAC). SANAC established a KP cascades working group in September 2016 to develop HIV treatment cascades for KP in South Africa. Since then, this KP cascades working group has met and participated in three workshops and several teleconferences. Technical Advisors (TA) from the University of California, San Francisco (UCSF) has provided technical assistance to synthesize data from completed KP HIV Surveillance studies and worked with the group to develop a consensus-based approach towards developing uniform assumptions and methods to enable extrapolation of surveillance data for the development of sub-national treatment cascades for female sex workers (FSW) and Men who have Sex with Men (MSM). The cascades development process has been iterative, integrating advances in the fields of KP population size estimation and surveillance.

The KP cascades working group has endorsed developed cascades to inform multiple KP strategic planning processes, including PEFPAR Country Operational Planning (COP) in 2017, 2018 and 2019; SANAC's midterm reviews of the National Strategic Plan (NSP) 2017-2022, and its companion National Sex Worker HIV Plan (NSWP) 2016-2019 and National LGBTI HIV Plan 2017-2022; and the previous and current round of Global Funded KP programs. This process has enabled diverse stakeholders to become familiar with existing KP surveillance and related data and build capacity around cascade development and utilization for planning, monitoring, evaluation and other purposes. It is envisioned that the KP cascades group will continue to meet on at least annually to review these cascades and update them in relation to newly available data.

The cascades development process has been iterative, integrating advances in the fields of KP population size estimation and surveillance. At of the time of creating this document, September 2019, technical advisors have visually presented the dashboard platform, cascades for FSW, MSM and PWID.

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Visualization & Dashboard

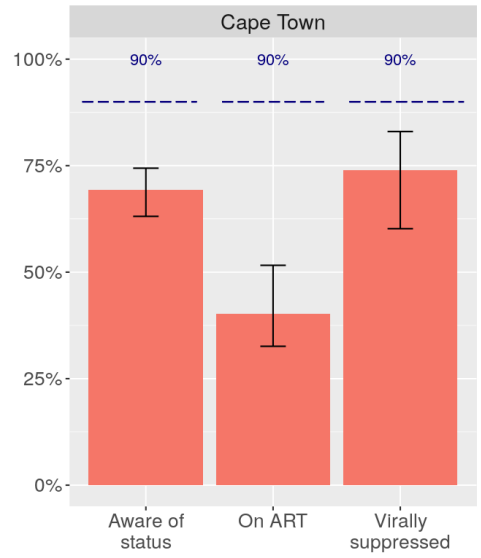
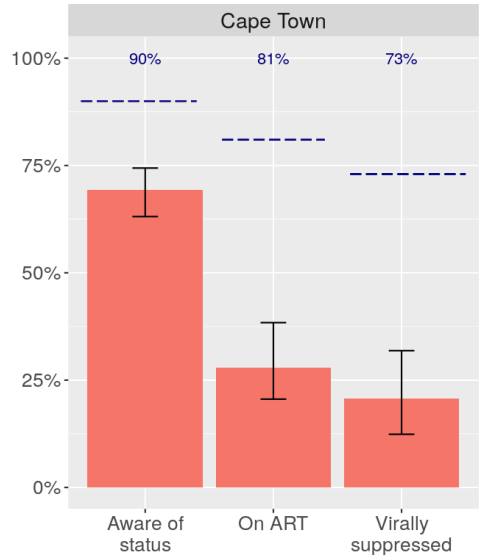
Cascades are a method that are used to outline the steps of care that people go through when accessing a health service. HIV care & treatment cascades reflect the pathway people living with HIV go through from diagnosis towards achieving viral suppression. The cascade graphs depict the proportion of people engaged at each stage of the care pathway.

The following shiny website provides an interactive platform to upload and visualize HIV cascade data:

https://shiny.dide.imperial.ac.uk/kpcascade/

Care & Treatment cascades are available in two configurations - comparing the progress of a single population over time, or comparing multiple populations at a single point in time. If treatment cascades for the general population are uploaded, the latter configuration can assist with the visualization of the treatment gap.

The dashboard presents two cascade types, 90-90-90 and 90-81-73 types. For the 90-90-90 type, the denominator for each step is the numerator for the previous step in the cascade. For example, for Cape Town, 69.3% of people living with HIV were aware of their status, 40.3% of those who were aware of their status were on ART and 73.9% of those who were on ART were virally suppressed. For the 90-81-73 type, the denominator is fixed for each step and it is all people living with HIV. For example, for Cape Town, 69.3% of people living with HIV were aware of their status, 27.9% (i.e. 69.3%x40.3%) of people living with HIV were on ART, and 20.6% (i.e. 69.3%x40.3%x73.9%) of people living with HIV were virally suppressed.

Example for a Cascade type: 90-90-90	Example for a Cascade type: 90-81-73
	

Uploading New Data

KP Cascade has data preloaded for FSW from the South African Health Monitoring Survey (SAHMS 2014 and 2018), MSM from the South Africa Men's Health Monitoring Survey (SAMHMS 2013, 2016 and 2018), and PWID from the South African TipVal Study (2017).

If you would like to upload additional data, please download the template from dashboard (example in Appendix 1) and upload the amended file.

Please ensure that:

- Prevalence and treatment cascade data are entered as decimals, not percentage
- Cascade data are of the form 90-90-90, not 90-81-73
- Row names for the cascade status are exact matches to those given in the template
- There is only a single value for each unique combination of identification variables (e.g. No more than 1 size estimate for FSW in Johannesburg in 2018)
- If for example you do not have viral suppression data for a year for a population, keep the line but do not put any data for the point, lower and upper estimates (e.g. row 20 in the following table)

Please note that whenever you upload your own data, you can see the visualization of your data till the time you close the web browser. So, save the graphs and visualization for later use, otherwise you need to upload your data again when you reopen the shiny website.

Recommendations on Indicators, Methods, and Work plans

Please note that the tool is only presenting the data you have uploaded. So, before uploading your data, make sure that you have calculated the cascade indicators correctly. To have accurate cascade indicators you may need to fix some inconsistencies in your data. For example, those participants self-reported negative and not on PrEP, but who have ART viral analytics in the blood (defined by Lab tests), are most likely to not want to disclose their status – these folks need to be recoded in the data as HIV positive and aware of their status. You might want to consider more data cleaning strategies as needed. For accurate estimates for the 95% confidence interval lower and upper limits, you need to consider the study sampling approaches if your cascade estimates are coming from a survey. For example, if it was a survey with respondent-driven sampling (RDS) methodology, then you need to use RDS-adjusted estimates for HIV prevalence, and other indicators in the cascade. Population size estimation data are required only if you wanted to present the cascade for the population size estimates for each step. We highly recommend to include an updated valid population size estimation for your target population. For more information about tools to reach to one consensus data-driven population size estimation, please visit our web tool, the Anchored Multiplier Calculator.
(https://globalhealthsciences.ucsf.edu/resources/tools)

Cascade frameworks and the visualization we provided in this shiny website are a tool to better monitor the progress towards closing the gap in HIV case finings, treatment, and downstream treatment outcomes. It is recommended that HIV programs evaluate the cascade indicators for key populations every 3 years as part of their routine surveillance surveys. In addition, program data can provide annual progress indicators for key populations reaching the 90-90-90 targets.

Appendix 1

	Cascade.status	KP	Year	City.Region	Point.Estimate	Lower.Bound	Upper.Bound
1	Size Estimate	FSW	2018	Johannesburg	7981	5534	11013
2	Prevalence	FSW	2018	Johannesburg	0.604	0.563	0.647
3	Aware of Status	FSW	2018	Johannesburg	0.807	0.756	0.852
4	On ART	FSW	2018	Johannesburg	0.75	0.702	0.814
5	Virally Suppressed	FSW	2018	Johannesburg	0.859	0.793	0.917
6	Size Estimate	FSW	2018	Cape Town	6678	4559	9204
7	Prevalence	FSW	2018	Cape Town	0.365	0.325	0.41
8	Aware of Status	FSW	2018	Cape Town	0.693	0.631	0.744
9	On ART	FSW	2018	Cape Town	0.403	0.326	0.516
10	Virally Suppressed	FSW	2018	Cape Town	0.739	0.602	0.83
11	Size Estimate	FSW	2018	Durban	9304	8622	10001
12	Prevalence	FSW	2018	Durban	0.755	0.715	0.795
13	Aware of Status	FSW	2018	Durban	0.861	0.823	0.898
14	On ART	FSW	2018	Durban	0.595	0.517	0.671
15	Virally Suppressed	FSW	2018	Durban	0.831	0.773	0.893
16	Size Estimate	FSW	2014	Johannesburg	7697	5000	10895
17	Prevalence	FSW	2014	Johannesburg	0.718	0.565	0.812
18	Aware of Status	FSW	2014	Johannesburg	0.738		
19	On ART	FSW	2014	Johannesburg	0.259		
20	Virally Suppressed	FSW	2014	Johannesburg	0.8		
21	Size Estimate	FSW	2014	Cape Town	6500	4579	9000
22	Prevalence	FSW	2014	Cape Town	0.397	0.301	0.498
23	Aware of Status	FSW	2014	Cape Town	0.567		
24	On ART	FSW	2014	Cape Town	0.452		
25	Virally Suppressed	FSW	2014	Cape Town	0.8		
26	Size Estimate	FSW	2014	Durban	9323	4000	10000
27	Prevalence	FSW	2014	Durban	0.535	0.375	0.655
28	Aware of Status	FSW	2014	Durban	0.77		
29	On ART	FSW	2014	Durban	0.360		
30	Virally Suppressed	FSW	2014	Durban	0.8		

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