Appendix H

Strengthening Capacity for Leveraging Existing HIV-related Data among Key Populations to Assess Data Gaps and Prioritize Specific Data Collection in eSwatini

19 July 2018, Ezulwini, eSwatini

Objectives

1. Review evidence on key populations from eSwatini, including a review of quality of available data

2. Introduce new methods for leveraging existing data, including small area estimation and dynamic transmission modeling

3. Identify gaps in knowledge and programming that impede effective intervention in key populations

The new Global Fund 2017-2021 strategy and PEPFAR 3.0 increasingly focus on data to improve evidence-based responses to HIV epidemics, in terms of both the content and scale of HIV programs. Traditionally, in the context of generalized HIV epidemics, most countries have focused almost exclusively on the "general population" with minimal attention towards characterizing the needs of specific key populations. When the majority of new infections occur in general populations, interventions for that population are crucial. Nonetheless, even in countries where HIV prevalence is high in the general population, there are key populations that have disproportionately high risks of HIV acquisition and transmission, such as sex workers, men who have sex with men, and injection drug users. These key populations are important for countries to consider because they represent cost-effective opportunities for prevention; their contributions to the epidemic are much higher relative to their overall population size. Indeed, no epidemics will end unless these key populations are also targeted for prevention efforts. To date, efforts to intervene in key populations have been hindered by: 1) lack of high quality data on epidemiology of transmission and prevention, and 2) limited efforts to incorporate existing data on key populations into country plans.

List of Attending Organizations

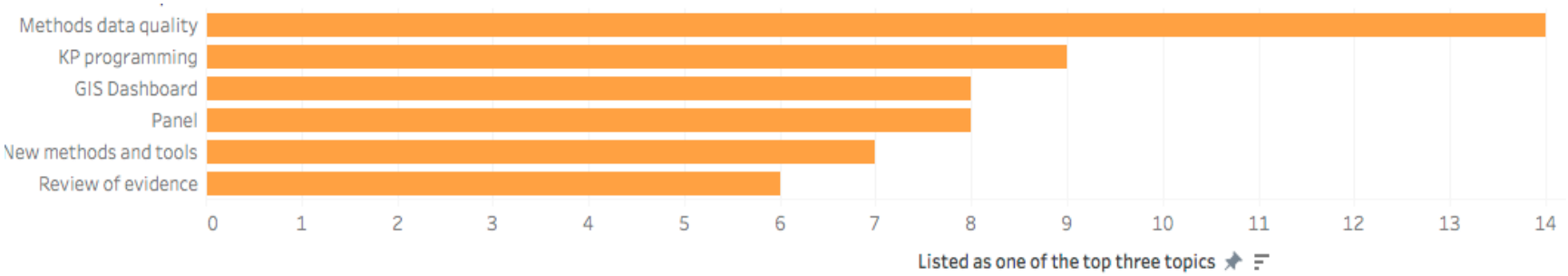
- Coalition of African Lesbians (CAL)
- DHSI
- Elizabeth Glaser Pediatric AIDS Foundations (EGPAF)
- FHI 360 – LINKAGES
- Family Life Association of Swaziland (FLAS)
- Health Management Information Systems (HMIS)
- HealthPlus 4 Men (HP4M)
- ICAP
- Institute of Medicine
- International Organization for Migration IOM
- Johns Hopkins University
- Ministry of Health: SNAP
- Ministry of Health: Monitoring and Evaluation
- Ministry of Health: Sexual and Reproductive Health
- National Emergency Response Council on HIV and AIDS (NERCHA)
- Palladium
- PEPFAR/USAID
- PEPFAR SI
- TransSwati
- UNAIDS
- Voice of Our Voices

Agenda: 19 July 2018

Time	Name of talk	Primary lead
8:15 -- 8:30	Registration	
8:30 -- 8:40	Introductions	Ms Matse
8:40 -- 8:50	Opening Remarks (Program Manager)	Mr Muhle
8:50 -- 9:00	Objectives	Ms Matse
9:00 -- 10:00	Use of data for decision-making (Panel discussion)	Stefan Baral
10:00 -- 10:30	Key population programming in eSwatini (LINKAGES Project)	FHI 360
10:30 -- 10:45	Tea Break	
10:45 -- 11:45	Methods for assessing data quality and worked example	Amrita Rao
11:45 -- 12:45	Lunch	
12:45 -- 13:15	Review of the evidence from key populations studies in country with assessment of quality of evidence	Amrita Rao
13:15 -- 14:45	New methods and tools that leverage existing data -Small Area Estimation -Dynamic Transmission Modeling	Stefan Baral
14:45 -- 15:45	GIS Dashboard Platform for monitoring and planning of HIV intervention programs	Liz Nerad
15:45 -- 16:30	Small working group discussion	Marianne Calnan
16:30 -- 17:00	Priorities, next steps, and closing of the workshop	Ms Matse

Workshop Evaluation

At the end of the workshop, participants were given an evaluation form **(Appendix 1)** to give feedback on the contents, organization, and relevance of the workshop. We received feedback from 20 of 32 total attendees (62.5%). Based on feedback from these 32 attendees, the workshop received an overall mean score of 4.1/5, where a score of 1=poor and 5=excellent. When asked to select the top three topics discussed during the day's presentations, participants indicated the 1) panel discussion on data use for decision-making, 2) GIS dashboard, 3) key population programming in eSwatini, and 3) methods for assessing quality of evidence, as the most interesting or useful.



Overall, participants felt that the workshop did achieve the programme objectives, but would have preferred a slightly longer workshop, indicating preference for a 1.5 or 2-day workshop.

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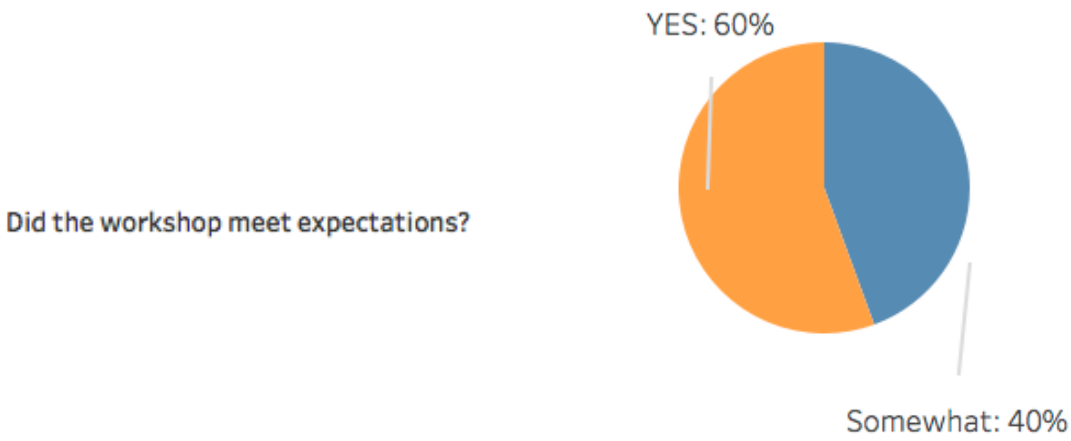
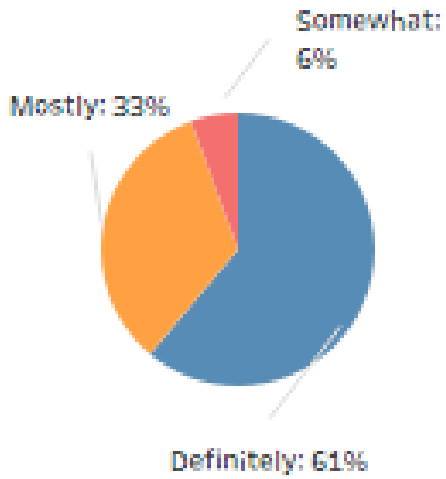
Over half indicated that the workshop met their expectations, with another 40% indicating that the workshop somewhat met their expectations.



About half reported that the knowledge and information gained during the workshop would definitely be useful/applicable in their work, with no participants indicating that the information was not useful.

Will the knowledge and information gained be useful/applicable in your work?



The workshop received a score of 4.5/5 for organization. Some **suggestions** included:

1. Would prefer a longer workshop and more time for methods-based presentations
   "It should have taken at least 2 days because the information is critical and bulk needing more time for understanding"
2. Would like to see more group work, group discussions
3. Would like to have received the final agenda earlier
4. Would like to see the work continue and not have this be a once-off workshop

Notes

Use of data for decision-making: Panel Discussion

Panel questions

1. What types of data help inform your current decision-making and program planning?
    a. Does source or quality of data factor into whether or not it gets used?

2. How do you normally access data when needed?

3. How important are data in decision-making in the short term? In the long term?

4. What are the important data gaps for key populations?
    a. Which data points would help either further advocacy for key population-related funding or improve implementation?

Panel discussion

- To date, there has been a strong reliance on two biobehavioral surveys (BBSS 2011 and BBSS 2014)
    - But resources for surveys are extensive and because of this, relying on older data
    - FHI through LINAKGES is periodically responsible for mapping hotspots and yield results through program data
    - Routine data only comes in from FHI, and there is no way to capture KP identity in facilities

- National estimates for population size are not being used, partially because there is no consensus on extrapolated estimates

- It is important to be able to verify the source of the data and determine the methods used in order to determine the quality of the data

- There is a need to better understand misreporting of data from implementing partners and to determine ways to improve transcription errors

    - If we can improve errors upstream, we can rely on better quality data
    - There is also a need to review the tools used for data capture to strengthen and ensure that reports that are being provided are as accurate as possible
        - And also think through issues of double-counting and how to resolve
        - Need for mentoring and supervision and for training in what indicators mean and why they are important

- Current quality assurance procedures include:
    - Data quality checks done by M&E manager
    - Data collectors trained by HMIS representatives to ensure consistency

- Flexibility in data collection and use based on local context is important

Key populations programming and data in eSwatini

Bheki Sithole and Philiswe Dlamini, LINKAGES FHI360

- Key populations served include female sex workers, men who have sex with men, male sex workers among the MSM population, and transgender women
- Three main results areas
    - Increased availability of comprehensive services, including reliable coverage across the continuum of care for key populations
        - Package of services provided by the Mobile clinic
    - Demand for comprehensive prevention, care, and treatment services among key populations enhanced and sustained
    - Strengthened systems for planning, monitoring, evaluating, and assuring the quality of programs for key populations
        - Competency, capacity, gender, and human rights
- eSwatini key population program implementation by partner [FHI360; Global Fund]
    - only FHI provides mobile clinical health services
- Data flows from key population peers to mobile clinic to monitoring and evaluation for confirmation of successful linkage

Review of methods for assessing data quality

Amrita Rao, Johns Hopkins School of Public Health

- The purpose of this presentation is to introduce the methods used in the quality assessments of available data.
- Having access to data is important
    - For understanding the problem, identifying gaps in current problems, informing development of new programs, making the case for investment
- Deciding whether or not to use certain data should depend on availability of, but also quality of the data
- To this end, a quality assessment tool was developed to evaluate the quality of available evidence for key populations
    - Prevalence, incidence, care continuum, PSEs
- Scores are based on performance in three main categories: study design, study implementation, and study-specific criteria
- Differentiating between target, source, and sample population
- In evaluating the study design, we should consider whether or not a study is an accurate and representative picture of the population of interest
- In evaluating study implementation, we should consider whether those who chose to participate were similar to those who did not participate
- Finally, in evaluating indicator-specific criteria, we should consider whether testing measures, statistical adjustments, and other analytical factors are consistent across person, place, and time
- *Worked example*

Review of the evidence from key population studies in eSwatini with assessment of quality of evidence

Amrita Rao, Johns Hopkins School of Public Health

- Review of the current and available evidence for key populations in eSwatini
    - Just to note that these were the data we were able to gather and collate, but also realize that there may be data either being collected in real time or that have been previously reported (but unpublished) that we may not have had access to. If there are other data sources that you know of that seem to be missing here, we'd love to hear about them.
- In an ideal setting, we'd have information on key indicators for key population groups
- In reality, there are gaps in the available data
- To help facilitate use of available data and identification of gaps where further data collection is needed, a data repository is being developed of all available data on key populations. This data repository is intended to be accessible and sustainable
- Data pulls are customizable and can include some or all of the available data, but again, include data on these primary indicators.
    - Link to google form for data requests: https://goo.gl/forms/cbc94Qlii3BUZYmB2
- Data gathered here are based on a larger systematic review and focuses primarily on articles published between 2006 and 2016. A preliminary search was done to update this for more recent articles.
- Female sex workers
    - The repository identified 10 sources that were published between 2011 and 2014 for FSW. Just to note these 10 sources are not necessarily from 10 distinct studies of FSW and some of them are just additional publications from the same study.
    - For an estimate of prevalence, we identified one main source taken from a single RDS study conducted in 2011.
        i. Graph pulled from the published paper that shows prevalence of HIV by age, with the highest prevalence seen among women 30-34 years old.
    - No incidence of HIV data was identified as available for FSW.
    - As for the care continuum, we identified one fair source of data which indicates that about 62% of FSW from that same study conducted in 2011 had been tested for HIV in the last 12 months.
    - A report published in 2015 also reported care continuum data, by city.
    - As for size estimates, we were able to identify one source of published size estimates for FSW conducted in 2014, which showed a prevalence of between 2.4% - 6.5% sex workers among women of reproductive age. These estimates

were calculated based on use of unique object method, and service multiplier methods.

- MSM
    - The repository identified 6 sources that were published between 2011 and 2014.
    - For an estimate of prevalence, we identified one main source taken from a single RDS study conducted in 2011.
        i. The authors reported that this lower than expected prevalence could be associated with the make-up of their sample. This graph compares MSM in the sample with men in the DHS, showing that prevalence was consistent with that of other reproductive-age men until age 24-26, when the prevalence of HIV among age-matched MSM appears to be higher than that of other men sampled as part of the Swazi DHS study
    - No incidence of HIV data was identified as available for MSM.
    - As for the care continuum, we identified one fair source of data which indicates that about 54% of MSM from that same study conducted in 2011 had been tested for HIV in the last 12 months.
    - For size estimates, the same report gave estimates of about 2% across sites. These estimates again were calculated based on use of unique object method, and service multiplier methods.
- For People who use drugs, we were not able to identify any information on our key indicators.
- For transgender people
    - We identified a single estimate of prevalence that disaggregated previously collected data on MSM to get at prevalence among transgender women. The study based on data collected in Mbabane in 2011 found that 14% of transgender women were living with HIV. This number should be interpreted with caution, because if you'll remember, this is from the same study of MSM that had a lower than expected prevalence due to the age distribution of the sample.
- Similarly, for incarcerated populations, we were not able to identify any available data.

New methods and tools that leverage existing data

Stefan Baral, Johns Hopkins School of Public Health

Approaches to population size estimation and opportunities for leveraging existing data

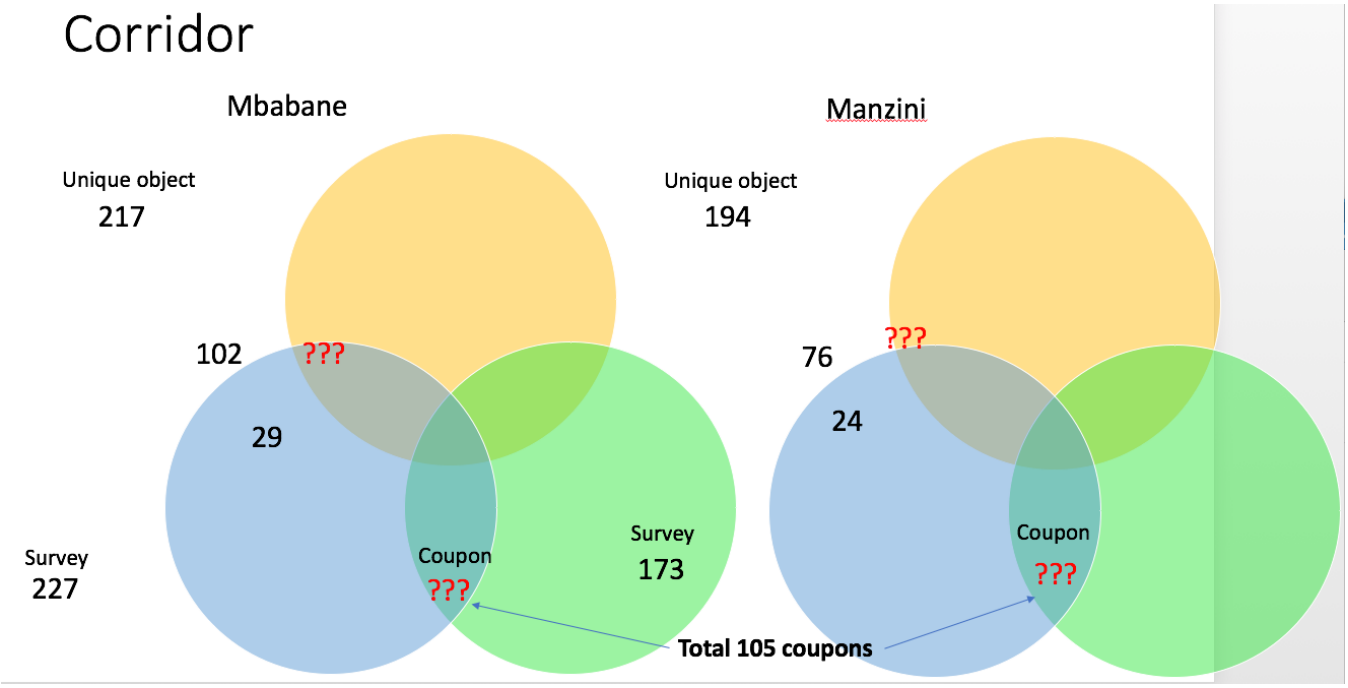
- Need to reexamine existing models and methods
- Population size estimation can be broken into two distinct phases
    - Phase I: local, direct size estimation
    - Phase II: extrapolation from areas with local/direct size estimates to regional or national level
- Phase-I approaches include survey-based approaches that are derived from methods from ecology and animal behavior
    - Can also include routine or program data based approaches
- Small area estimation: one form of Phase II size estimation
    - To produce reliable estimates for where only small samples or no samples are available
    - The key idea is to borrow information from other areas that have more samples
    - Cost/scientific rigor spectrum
- Phase II approaches include
    - Expert opinion, simple and stratified imputation, regression, more complex models
    - Most politically challenging to get buy-in around phase II

Small area estimation

- Sources (multipliers):
    - Multiple sources providing counts of MSMs for each region
        - Unique Object Identifier
        - Rainbow night participation
        - Coupons

- Survey participation
    - Survey participants were also asked whether they received unique object, coupons, or participated in rainbow night (532 participants)

- **Bayesian hierarchical model**
    - Borrows strength across regions for the inclusion probabilities in the survey or the other multiplier events
    - Generates the missing overlap values
    - Predicts the MSM population size for each area based on the incomplete/misaligned capture-recapture data
    - Provides uncertainty of predictors



- **Next steps**
    - Add the total population data in the model to estimate the proportion of MSM for each area
    - Borrow strength across areas to predict the MSM proportion in Lubombo
    - Sensitivity analyses to validate the model choices

Small Working Group Discussion

- Was really useful to see the data gaps and now we can begin working on ways to fill those gaps in the interim using existing data and advocating for new data collection
- As a next step, need to meet with departments within the MOH and finish and close out the existing extrapolation approaches
    - Need TA to ensure this and to get buy-in from others
- Would like to have:
    - Extrapolation at each region and the national level to establish targets
    - Models that include differential risks of acquisition and transmission
- Need to better understand the key challenges and concerns of data collection partners
    - More to be done in terms of stakeholder engagement around data quality and data use at all levels

Project SOAR (Cooperative Agreement AID-OAA-13-00060) is made possible by the generous support of the American people through the President's Emergency Plan for AIDS Relief (PEPFAR) and United States Agency for International Development (USAID). The contents of this document are the sole responsibility of Project SOAR and Population Council and do not necessarily reflect the views of USAID or the United States Government.

Through operations research, Project SOAR will determine how best to address challenges and gaps that remain in the delivery of HIV and AIDS care and support, treatment, and prevention services. Project SOAR will produce a large, multifaceted body of high-quality evidence to guide the planning and implementation of HIV and AIDS programs and policies. Led by the Population Council, Project SOAR is implemented in collaboration with Avenir Health, Elizabeth Glaser Pediatric AIDS Foundation, Johns Hopkins University, Palladium, and The University of North Carolina.