TECHNICAL BRIEF

KEY POPULATIONS STRATEGIC INFORMATION

RECOMMENDED POPULATION SIZE ESTIMATES OF MEN WHO HAVE SEX WITH MEN

NOVEMBER 2020

World Health Organization

UNAIDS

KEY MESSAGE

Countries using population size estimates for men who have sex with men that are less than 1% of the total adult male population should revise their estimates.

Data and tools are available to help countries estimate the number of gay and other men who have sex with men. Arriving at an estimate that is as close to the actual population size is important for three reasons. First, it allows national programmes and implementation partners to invest in HIV services at a level that is commensurate with actual need. Second, it allows all actors to track progress on the path to achieving the HIV prevention, testing and treatment 95-95-95 commitments. Finally, failure to provide HIV prevention, diagnosis and treatment interventions to men who have sex with men and other key populations at scale will likely lead to failure in general epidemic control at the national level.

Global experience and data tell us the following.

❶ In all regions, at least 1% of adult men have had sex with another man in the past 12 months.

A recent analysis by UNAIDS of population size estimates of men who have sex with men, submitted to the Global AIDS Monitoring system through 2019 and deemed recent (<5 years old) and nationally adequate (38 countries), estimated a global median proportion of adult men who had sex with another man in the previous year of 1.9% (Table 1) *(1)*. This is commensurate with other published data *(2)*.

The national proportion of men who have had sex with another man can be assumed to be relatively stable over time. The number may increase or decrease in accordance with increase or decrease in the adult male population, whether due to migration or population growth rates.

Experts generally agree that the size estimates adopted officially by many countries underestimate the actual population of adult men who have had sex with a man. For example, recent analysis suggests that, in many countries, size estimates of men who have sex with men reported through the Global AIDS Monitoring survey are far below the estimated number of users of gay-social network websites *(3)*. Data from these analyses show that, in countries in which the population size estimate for men who have sex with men is well below 1% of adult men, the estimated number of active users of gay websites can be many times larger.

Table 1. Regional estimates for low- and middle-income countries of the proportion of the population of adult (15–49 years old) men who have sex with men using only nationally adequate estimates

Region	Number of countries	Median %	Interquartile range: 25% and 75% of the submitted estimates
Asia and the Pacific	12	1.63	0.26–3.10
Caribbean	4	2.7	–*
Eastern and Southern Africa	2	1.45	–*
Eastern Europe and Central Asia	6	2.11	1.75 -2.49
Latin America	3	3.37	–*
Middle East and North Africa	3	1.02	–*
Western and Central Africa	8	1.28	0.45-1.50

Source: AIDSInfo.unaids.org; Underlying data available in aidsinfo.unaids.org and WPP 2019.
* Too few data to calculate an interquartile range

Reasons that underlie underestimates generally fall under two categories, structural and technical. Structural impediments to good estimates include non-recognition of the existence of men who have sex with men, punitive laws targeting homosexuality and the absence or paucity of services friendly to men who have sex with men. Technical impediments are similar for all stigmatized or criminalized populations that hide from plain sight. Estimation methods that rely on surveys require good quality, representative surveys. Surveys of stigmatized or criminalized populations are difficult to conduct safely though it is possible. Lack of representativeness and other noted biases require correction to final estimates, which often are not made. Additionally, most surveys reflect estimates of a small geographic area within a country. These estimates need extrapolation to present a national estimate. This step is often skipped, so reported estimates might be the total from three cities, for example, and not the entire country.

The effect of this undercount in 2019 is substantial. There were 130 estimates submitted to Global AIDS Monitoring, totalling 21.5 million men who have sex with men. One per cent of the population of adult men 15–49 years old in these countries would yield 39.6 million adult men who have sex with men. Consequently, the global underestimate of men who have sex with men is estimated to be at least 18 million.

❷ The observed regional differences (as seen in Table 1) in the proportion of adult men who have sex with other men may partly result from variation in how countries define the men who have sex with men included in these estimates, differences in methods used and/or coverage of size estimation exercises in countries.

Standard methods for estimating the number of men who have sex with men have been developed and yet each method has limitations *(4)*. A thorough review of these limitations is beyond the scope of this brief.

Estimates that exclude men who do not self-identify as gay or are hidden from society and do not identify or report risk behaviour in surveys of men who have sex with men may be substantially lower than the true numbers. Further, countries that use a risk profile in which only men having anal sex with another man in the past 12 months are included will have a smaller population proportion than those that use broader inclusion criteria of male-to-male sexual behaviour. The definitions reported in the Global AIDS Monitoring survey vary widely from region to region and country to country *(5)*.

Some country estimates may be low because the estimated numbers of men who have sex with men have a limited geographical scope (such as covering only those in areas where estimates were conducted, mostly being urban) but are submitted as the number of men who have sex with men in the whole country.

In some regions, the median value presented in Table 1 is based on a very small number of countries, which reduces the representativeness of the population proportion for that region.

Additional analysis also suggests that countries in which sex between men is an illegal or highly stigmatized act are likely to have lower (or no) estimates of the number of men who have sex with men *(6)*. It should not be inferred that the absence of an estimate means the population does not exist.

Some methods of estimating population size may only be able to capture the group of men who are visible and constitute only a small portion of those who are at risk.

All of these limitations suggest that countries with nationwide estimates of men who have sex with men that are less than 1% should revise their estimates preferably by reviewing the current estimates for biases and, if needed, applying new, more robust methods.

❸ In countries using an unrealistically low population size estimate for men who have sex with men, reported coverage of interventions will be misleadingly high while actual coverage of those at risk will be low even if the targets are reached. Without appropriately targeted interventions, many men who have sex with men will not access services, leading to ongoing increases in the number of new HIV infections and HIV-associated mortality.

Countries that fail to act to provide adequate, tailored services for men who have sex with men will likely fail to achieve epidemic control and elimination goals. Epidemic models developed for Dakar, Senegal quantify the impact of HIV prevention and antiretroviral therapy coverage for men who have sex with men on the overall HIV incidence. The model showed that population-level HIV incidence can be greatly decreased (by 68%) by scaling up antiretroviral therapy among men who have sex with men to 74% coverage and reducing their susceptibility to acquiring HIV by two thirds through any method of prevention, suggesting that early investment and adequate service coverage for men who have sex with men can prevent a more serious epidemic later *(7)*.

How countries can use their data more effectively for planning programmes for men who have sex with men

1) Critically appraise the strengths and limitations of country-specific sources of data used in estimating the population size of men who have sex with men by:

- convening a technical working group which includes members of the community of men who have sex with men, whether M&E-, surveillance- or key population-focused, to conduct the following activities;
- reviewing qualitative data from the community of men who have sex with men; *(5)*
- reviewing the method of calculating the direct size estimates in each geographical area;

- documenting the definition of the subgroup of men who have sex with men included in the direct estimate;
- noting which geographical areas were covered by available size estimation data;
- articulating the adjustment factors applied in each geographical area and/or method of extrapolation used to estimate the population size in the areas without direct estimates to get a national estimate;
- reviewing data over time to identify trends;
- triangulating population size estimate data with service coverage data from programmes (the true number of men reached by programmes), including users of dating apps, to assess plausibility; and
- considering the limitations of each data source and estimation method.

WHO/UNAIDS guidelines *(4)* and guidance from the United States Centers for Disease Control and Prevention *(8)* discuss this process in more detail.

2) Address the gaps in estimating the population size before using for programmatic planning by:

- adjusting population size estimates to ensure that the number of adult men who have sex with men is at least 1% of adult men.
- presenting population size estimates with descriptors to communicate clearly who is included and not included and implications for the programme planned or budgeted;
- building consensus among stakeholders to gain acceptance for more realistic estimates of the population of men who have sex with men as a way to inform and provide effective coverage for a public health impact;
- including activities that will strengthen the estimates and characterization of subgroups missed by the currently available data on population size; and

3) Define the relevant group of men who have sex with men for effective programming

We recommend that the national population size estimate include the group of men who had anal and/or oral sex with another man in the past 12 months. A realistic national estimate should be at least 1% of the population of adult men, such that 1% is used as a lower limit in national estimates. Subnationally, this percent could vary across different locations, particularly between urban and rural sites.

4) Develop appropriate targets by engaging communities of men who have sex with men and other stakeholders

When developing targets for HIV prevention, testing and treatment services for men who have sex with men, programme managers should work in collaboration with representatives of the community of men who have sex with men and other supportive community representatives or stakeholders.

Understanding the following can help when setting targets for HIV service coverage for men who have sex with men:

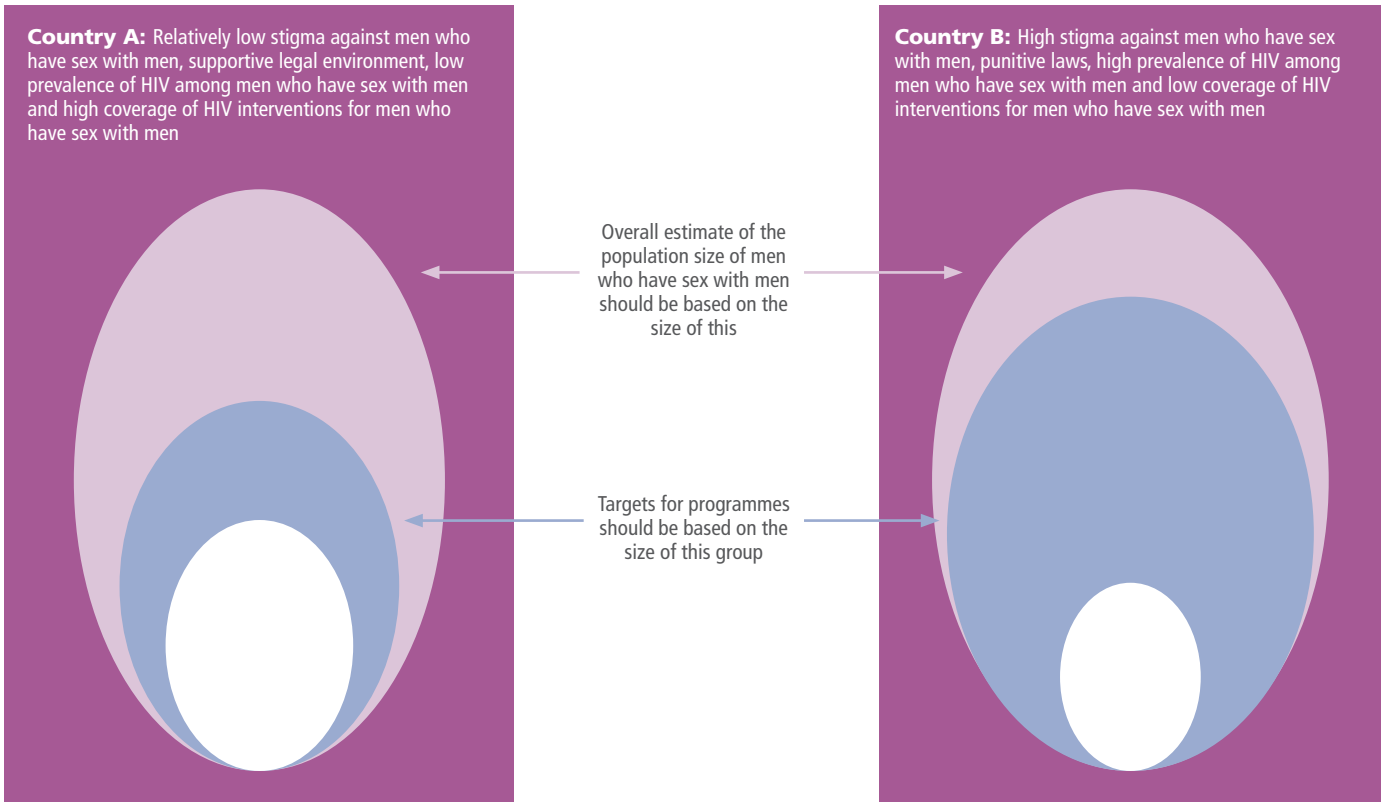
- HIV incidence and/or prevalence among men who have sex with men – where HIV prevalence among men who have sex with men is high, and particularly when incidence is increasing over time, the targets for men to be reached with HIV interventions should be ambitious;
- the proportion of men who have sex with men who are not reached with HIV interventions – as mentioned above, if the estimated population size is too low even if targets based on the estimates are reached or exceeded, there are likely men who need services who are not being reached. Using a variety of sources to understand how many men who have sex with men are not able to or do not access services will help to improve the development of appropriate targets; and
- stigma and discrimination and punitive laws and policies lead to underestimating the population size of men who have sex with men *(6)*, and they also lead to fewer men accessing services *(9)* and, in turn, more men who have sex with men acquiring HIV *(10)*. Where punitive laws exist, countries could assume that more men are at higher risk than in other settings and increase the targets for men to be reached accordingly. Both WHO and UNAIDS recommend that, punitive laws should be repealed.

See the example in Fig. 1.

Programme targets for HIV treatment and viral suppression should focus on the estimated population size of men who are living with HIV. Community engagement to promote services, particularly among the most vulnerable among the community of men who have sex with men, and reduce barriers is critical.

Countries can also seek advice and support from relevant external scientific and technical experts and form a technical advisory group to assist in improving the collection and use of data on the estimated population of adult men who have sex with men, including developing appropriate targets.

Fig. 1. Proportions of men who have sex with men for developing programmatic targets



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