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The bio-behavioural survey "lite":

a methodology for monitoring programmes providing HIV, viral hepatitis and sexual health services to people from key populations. Implementation tool

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Abbreviations

ACASI	audio computer-assisted self-interviewing
BBS	bio-behavioural survey
BBS-lite	lite bio-behavioural survey
Global Fund	Global Fund to Fight AIDS, Tuberculosis and Malaria
HBV	hepatitis B virus
HCV	hepatitis C virus
HIV	human immunodeficiency virus
IBBS	integrated biological behavioural surveillance survey
PEP	post-exposure prophylaxis
PEPFAR	United States President's Emergency Plan for AIDS Relief
PrEP	pre-exposure prophylaxis
RNA	ribonucleic acid
SOP	standard operating procedure
TB	tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
USAID	United States Agency for International Development
WHO	World Health Organization

Executive summary

The BBS-lite (bio-behavioural survey "lite") is a programme-based survey methodology for gathering actionable information on people from key populations to improve service delivery and guide decisions on programming for HIV, viral hepatitis and sexually transmitted infections.

Existing programmes, human resources and simplified recruitment methods are used. The BBS-lite involves the consecutive recruitment of clients from HIV programmes and related services (facility-based and outreach) and through snowball sampling. Participants complete a brief questionnaire and may be tested for HIV, hepatitis C virus (HCV), hepatitis B virus (HBV) and sexually transmitted infections. The brief questionnaire includes core indicators and issues identified locally as being of high priority. Testing for HIV, HCV, HBV and sexually transmitted infections is performed and funded under routine local testing arrangements. Recruitment, data collection and testing are undertaken by staff of participating HIV programmes and related services.

The results supplement data from other sources. Because the BBS-lite involves non-probability sampling methods, in many cases the results are most useful for understanding the local situation for programming purposes. The results may also have a valuable but limited role in surveillance. It cannot provide a generalizable HIV prevalence measure nor be used for robust size estimates.

The BBS-lite is less technically demanding and may be undertaken with fewer resources than larger-scale, more comprehensive bio-behavioural surveys (BBS). It can also be repeated more frequently and yield results more rapidly.

The BBS-lite provides additional information to routine programme data because it gathers behavioural and other information about participants and recruits people not currently accessing services. The survey is not intended to replace BBS or the collection and analysis of programmatic data. It complements these data sources by providing data that can be used to build a timely picture of the epidemic and the response alongside these other data sources.

The BBS-lite can be implemented by government bodies, research institutions, service providers, and organizations led by communities and key populations.

Introduction

Key populations are defined groups that, due to specific higher-risk behaviours, are at increased risk of HIV, viral hepatitis and sexually transmitted infections, irrespective of the epidemic type or local context. Key populations include gay men and other men who have sex with men, transgender and gender-diverse people, sex workers, people who inject drugs, and people in prisons and other closed settings. These populations often have legal and social issues related to their behaviours that increase their vulnerability to HIV. They are essential partners in an effective response to the epidemic and should be engaged in HIV service planning, provision and monitoring.

Ongoing data collection and surveillance are required to track HIV, viral hepatitis and sexually transmitted infections among people from key populations, and to assess accessibility, coverage and quality of programmes providing prevention, diagnosis and treatment. Collection of data on tuberculosis (TB) prevalence and related services may also be relevant for key populations, particularly among people in prisons and other closed settings. This important strategic information is required to shape policy, determine funding allocations, guide programming, and enhance the reach and quality of services.

A range of indicators are used by national governments, programme managers, implementers and service providers to monitor the epidemics of HIV, viral hepatitis and sexually transmitted infections, and the success of responses in meeting their objectives. Table 1 outlines the various domains addressed by these indicators. To report on these indicators, survey data and routine programme data are required.

The frequency at which different indicators need to be measured depends on reporting requirements, programming needs, and how quickly the results of the indicator being measured might change over time.

Table 1.

Indicators to monitor HIV, viral hepatitis and sexually transmitted infections, and responses for people from key populations

Prevalence and incidence of HIV, hepatitis C virus (HCV), hepatitis B virus (HBV) and sexually transmitted infections
Coverage of HIV prevention interventions
Coverage of HIV, HCV and HBV testing, STI testing (where available) and knowledge of status
Coverage of antiretroviral therapy among people living with HIV
Prevalence of HIV viral suppression among people receiving antiretroviral therapy
Coverage of HBV treatment among people living with HBV
Coverage of HCV treatment among people living with HCV
Prevalence of HCV viral suppression among people receiving treatment for HCV
Health-seeking behaviours and service use
Prevalence of different behaviours associated with increased risk of HIV, viral hepatitis or sexually transmitted infections
Experiences of stigma and discrimination
Changes in risk environment (e.g. changes in drug markets, policing practices)

Sources of data on key populations

Data can be obtained through surveys or collected by programmes in the course of delivering services.

Routinely collected programmatic data can be collected and analysed on an ongoing basis and provide information on people receiving services. Systems that can collect individual-level data generated when a person receives health services can provide rich granular information to improve care and to strengthen and monitor programme performance. Guidance on these systems and the use of these data is described in the following resource:

Consolidated guidelines on person-centred HIV strategic information: strengthening routine data for impact. Geneva: World Health Organization; 2022 (https://apps.who.int/iris/rest/bitstreams/1454979/retrieve).

Programmatic data can only be collected for people accessing services. Information on people not accessing services is not captured.

If different service providers within a country use different data collection systems, it may not be possible to combine data from these different sources or to compare data across programmes. To understand service use and exposure to interventions, it is necessary for data collection systems to have some form of unique client identification.

Although programmes that provide services specifically for people from key populations may be able to easily identify and record a person's key population status, services that are not targeted towards key populations may not be able to easily identify whether a person is from a key population and may not be able to record such information within programmatic data systems. As a result, information on people from key populations may not be captured well in programmatic data.

Bio-behavioural surveys (BBS) and integrated biological behavioural surveillance surveys (IBBS) are essential components of an ongoing cycle of surveillance activities and are recommended by the Joint United Nations Programme on HIV/AIDS (UNAIDS)/World Health Organization (WHO) Working Group on Global HIV/AIDS and STI Surveillance as an essential means to collect strategic information on people from key populations. Extensive guidance on implementing BBS is available—the method is well described in the following resource:

World Health Organization, Centers for Disease Control and Prevention, Joint United Nations Programme on HIV/AIDS, FHI 360. Biobehavioural survey guidelines for populations at risk for HIV. Geneva: World Health Organization; 2017 (https://apps.who.int/iris/rest/bitstreams/1088520/retrieve).

Typically, BBS require substantial investment of time and resources, are technically demanding to plan and implement, and commonly require employment of a dedicated research team and the establishment of research infrastructure.

Although it is recommended that BBS are completed every three to four years for each key population, in many settings they are undertaken less frequently given the time and financial resource requirements. More timely data are critical for an effective HIV response and are commonly requested by major donors.

BBS collect a broad range of information across many different domains. In many cases, much of the information collected is unlikely to change significantly from year to year (e.g. population demographics), but other factors may be more variable across time, with changes occurring between BBS rounds (e.g. access to and coverage of health services). In many cases, the information gathered through BBS may not be available in a timely enough manner to usefully evaluate and guide programmes.

Development of a simplified programme-based survey methodology—the BBS-lite

In 2019, WHO and UNAIDS convened a consultation with partner organizations, global experts and strategic information practitioners to review current methodologies for collecting data on key populations. Given the limitations of BBS and programmatic data collection described above, the need was identified for a simplified BBS method that could provide strategic information on key populations in a timely manner and include people not engaged in services. A set of principles that this methodology should adhere to was proposed (Box 1).

Box 1.

Principles of proposed simplified programme-based survey methodology

- Does not replace BBS or collection and analysis of programmatic data and provides supplementary data to complement these sources.
- Uses questionnaires that are brief, focused and relevant to the local context:
  - Draws questions from previous BBS questionnaires to allow for easier interpretation of data from these different sources.
  - Selects questions that prioritize the collection of data to aid programmatic decision-making and to meet evaluation and reporting requirements.
- Ensures the safety and security of participants and the confidentiality of the data collected.
- Engages people from key populations in planning, implementation, analysis, and use of the survey results for advocacy and programmatic adjustments.
- Requires fewer financial resources.
- Involves simplified processes for recruitment, data collection, analysis and reporting.
- Yields results rapidly and can be repeated more frequently than BBS.
- Requires minimal or no external technical assistance.
- Easy-to-use guidance materials and training resources are available.
- Can be implemented by service providers, peer workers and community organizations, while identifying and mitigating conflicts of interest that may arise.
- Builds capacity of service providers and communities to undertake surveillance activities and to interpret and use data.
- Does not interrupt or impede delivery of services and is aligned with programme quality improvement activities.
- Can be adapted for a range of applications (e.g. smaller and larger epidemics; national and smaller subnational areas; focusing on one or more key populations; focusing on HIV, viral hepatitis or sexually transmitted infections).
- Produces findings that are useful for local and national programming needs, that have relevance to international reporting commitments, and that may contribute to modelling of the HIV epidemic, including for use in producing national Spectrum files.

To ensure the survey is less technically demanding, is less costly and yields results more rapidly than a larger-scale BBS, different aspects of the methodology are simplified, including using non-probability sampling, fewer questions, a simplified analysis framework, and a reduced research infrastructure.

Differences between BBS and BBS-Lite

BBS	BBS-Lite
Comparable sample size to BBS-Lite	Comparable sample size to BBS
Significant field work time	Less field work time
Conducted by research implementers	Can be conducted by program implementers, including community-led organizations
Respondent-Driven Sampling or Time-Location Sampling	Consecutive recruitment at sites, mobile outreach, snowball sampling
Selection bias is minimized in the recruitment method	Potential selection bias inherent in the recruitment method
182 questions + 10 questions for network size	37 questions (core indicators)
Administered by external interviewers	Administered by trusted facility counsellors or outreach staff
Data collection location constraints (in office)	Flexible data collection locations (in office or during outreach)
Interview time >1 hour	Interview time 10-15 minutes
Cost can be 2.5 times that of BBS-Lite	Cost is ~ USD 80 000 (on average)
Delays for results (release of approved results can take years)	Yields results rapidly (within 6 months)
Interrupts service delivery	Does not interrupt service delivery
Produces key population size estimates	Does not produce key population size estimates
Findings do not immediately support program quality	Findings can quickly inform program quality
Heavy external technical support often needed	Minimal technical support required

The methodology was piloted in Georgia and Uganda (Boxes 2 and 3). The guidance provided in this document was informed by the experiences of implementing the methodology in these two pilot studies.

Box 2.

Pilot study in Georgia

Context: BBS among people who inject drugs was last undertaken in Georgia in 2017. Previous BBS required significant time and resources. Key stakeholders wanted to examine whether a simplified survey methodology could yield useful information and allow for BBS to be undertaken less frequently.

Commissioning partner: National Center for Disease Control and Public Health.

Implementing partner: Georgian Harm Reduction Network.

Approval: Medical Ethics Commission of the National Center for Disease Control and Public Health.

Population: People who inject drugs.

Total cost: US$ 75 000.

Location: Seven cities (Batumi, Gori, Kutaisi, Rustavi, Telavi, Tbilisi, Zugdidi).

Data collection period: 6 weeks (December 2021–January 2022).

Interview time: 10–15 minutes.

Data collection: Web-based questionnaire filled by respondent; live dashboard allowed tracking recruitment.

Sample size: 2000 people.

Recruitment: 29% recruited at harm reduction facilities, 24% through outreach, and 47% through snowball sampling; 33% had not previously accessed harm reduction services.

Results: Demographic characteristics, types of drug injected, harm reduction client status, rates of condom use at last sex, reuse of equipment at last injection, and having received needles and syringes from a needle–syringe programme in the past 3 months were similar to the 2022 BBS results. The BBS-lite sample had a greater proportion of participants who had received opioid agonist maintenance treatment or tested for HIV in the past 12 months. 1.4% of participants were living with HIV, and 14.7% were positive for HCV RNA.

Lessons learned and reflections: The flexibility, simplicity and low cost of the survey made it easy to implement. The survey could reach and engage people who had not previously accessed services. The number of participants was comparable to the 2017 and 2022 BBS sample sizes.

Duration (planning to dissemination): 12 months, of which 3 months was field work.

Box 3.

Pilot study in Uganda

Context BBS among people from key populations was last undertaken nearly 10 years ago and only in the capital, Kampala. A series of BBS are currently under way in Kampala and will be expanding to other areas. The Ministry of Health was keen to pilot a methodology that might be able to produce data more frequently to assist with programme planning and service delivery.

Commissioning partner: Uganda Ministry of Health.

Implementing partner: Most at Risk Populations Initiative.

Approval: The AIDS Support Organisation Uganda Institutional Review Board.

Populations: People who inject drugs and sex workers.

Total cost: US$ 86 000.

Location: Nine towns in the eastern region.

Data collection period: 7 weeks (March–April 2022).

Interview time: 10–15 minutes.

Data collection: Tablet-based questionnaire using Open Data Kit administered by health and peer workers. Data uploaded to remote server.

People who inject drugs:

- Sample size: 417 people.
- Recruitment: 13% recruited at health facilities, 71% through outreach, and 16% through snowball sampling; 28% had not previously accessed services.
- Results:
  - 5% of participants were female.
  - 22% of participants injected daily; 50% injected monthly or less frequently.
  - Most common primary drugs of choice were heroin (44%) and cocaine (43%).
  - 74% of participants had never received needles and syringes from a needle–syringe programme.
  - 3.6% of participants were living with HIV, of whom half were aware of their positive status.

Sex workers

- Sample size: 859 people.
- Recruitment: 16% recruited at health facilities, 74% through outreach, and 10% through snowball sampling; 26% had not previously accessed services.
- Results:
  - 60% of participants reported inconsistent condom use at last three sexual encounters with clients.
  - 61% of participants had received condoms and lubricant from a programme in the past 3 months.
  - 43% of participants had never been tested for sexually transmitted infections.
  - 19% were living with HIV, of whom 74% were aware of their positive status.

Lessons learned and reflections: A health clinic worker in eastern Uganda who supported the study reported that it "brought on board more new patients [including people living with HIV] whom we had never reached, and more new unknown hotspots were identified … this increased the number of clients seen every day". "Data collection was not a burden on top of normal work duties."

Duration (planning to dissemination): 13 months.

Overview

Objectives

The BBS-lite is intended to gather data on key populations to supplement results from BBS and programme data on:

- Prevalence of HIV, HCV, HBV and sexually transmitted infections (and, where relevant, TB).
- Access to prevention programmes.
- Access to testing for HIV, HCV, HBV and sexually transmitted infections, and knowledge of status.
- Access to treatment for HIV, HCV, HBV and sexually transmitted infections (and, where relevant, TB).
- HIV care cascades by self-report and confirmed where clinical records are available.
- Additional areas of priority, depending on the setting:
  - Experiences of stigma and discrimination.
  - Behaviours associated with increased risk of HIV, viral hepatitis or sexually transmitted infections.
  - Changes in risk environment (e.g. drug markets, policing practices).
  - Fertility (number of births or biological children).

The BBS-lite cannot produce estimates comparable to results from a BBS that uses probability sampling, but it can yield valuable insights on the segments of the key populations that are sampled. In particular, the BBS-lite can provide important and otherwise missing information on people from key populations in locations that are not included in BBS or other surveillance activities.

The BBS-lite can sample people from key populations who are not engaged by programmes and provide information on how they might be reached by services.

The BBS-lite can be implemented by government bodies, research institutions, service providers, and organizations led by key populations and other affected communities. In cases when BBS-lite is not implemented by a key population-led network or group, key populations still should be engaged in all stages of the survey, from the development of the study protocol to data collection, analysis and interpretation of the results, as well as their use for advocacy and service adjustments.

The BBS-lite is not intended to produce key population size estimates.

Methodology

The BBS-lite is a cross-sectional BBS among people from key populations that uses non-probability sampling methods.

Participants are sampled through consecutive recruitment of eligible people accessing services at selected HIV programmes and other health services, including facility-based and outreach services. In addition, through snowball sampling, participants are given coupons to recruit peers from their social networks to participate in the survey.

The survey questionnaire is comprised of questions from previous BBS to allow for interpretation alongside data from these other surveys.

The BBS-lite uses existing resources and infrastructure. Data collection is undertaken by health service staff and peer workers. Specimen collection and testing for HIV and other biomarkers follow national testing algorithms and can be funded under regular testing arrangements.

Brief situational assessment

Several important steps are required in preparation for implementation of the BBS-lite. This includes undertaking a situational analysis to:

- Determine whether the BBS-lite is the most appropriate method for the context and objectives in a particular setting.
- Inform protocol development.
- Identify whether the methodology needs to be adapted.

The brief situational assessment should include a desk review and consultation with local stakeholders. It can be undertaken by the implementing partner organization or an expert consultant with input and guidance from relevant stakeholders.

Stakeholder consultation

Consultation with stakeholders can involve individual interviews with organizations or key informants or convening one or more consultation meetings attended by multiple stakeholders. The consultation identifies important priorities that the survey should focus on and any issues that might impact how the survey should be conducted.

Key population-led organizations and networks are central stakeholders in this consultation process. Other stakeholders include:

- The national AIDS commission or equivalent body.
- Managers of HIV and other programmes.
- Service providers, including HIV services, sexual and reproductive health and rights services, drug treatment services, harm reduction services and key population services.
- Government representatives, including from the ministry of health (e.g. HIV, population health).
- Representatives from donor agencies, including from the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund), the United States Agency for International Development (USAID) and the United States President's Emergency Plan for AIDS Relief (PEPFAR).
- National Centres for Disease Control and Prevention or equivalent public health agency or institution.
- Research and academic groups or experts who have undertaken research with the key populations of interest.
- Country office representatives of relevant United Nations organizations, including UNAIDS, the United Nations Development Programme, the United Nations Office on Drugs and Crime, the United Nations Population Fund, and WHO.

The consultation process should aim to gather information on:

- Issues that people from key populations have identified as priorities, particularly with respect to service delivery or with implications for programme planning.
- Stakeholders' experiences providing services and working with people from the key population communities of interest.
- Issues that impact on people from key populations accessing services, and factors that might help or hinder recruitment of participants, including legal constraints.
- Lessons learned from undertaking previous surveys and other research among people from key populations.
- Monitoring and evaluation or reporting requirements that the BBS-lite could contribute to or be useful for.
- Any issues related to programme staff or peers being involved in survey implementation.

Desk review

A desk review should be undertaken and include collation of information from the following sources:

- Reports from previous BBS.
- Reports and peer-reviewed articles from research on the key populations of interest.
- Reports on any population size estimate exercises.
- Routine programmatic data from services, including:
  - Programmes providing HIV prevention, testing, treatment and care.
  - Sexual and reproductive health and rights programmes.
  - Programmes providing viral hepatitis testing and treatment.
  - Programmes and services for people from key populations, including health services specifically for people from key populations such as drop-in centres, support services, outreach services and peer-led services.
  - Governmental and nongovernmental organizations and service providers.
- Reports from key population-led organizations and service providers.
- National and subnational (if relevant) strategic plans on HIV, viral hepatitis and sexually transmitted infections.
- Other policy documents related to the key populations of interest.

The following information should be collated to inform the development of the protocol and planning for implementation of the survey:

- Characteristics of the key populations, including (for sex workers) the types and location of sex work (e.g. street-based, brothel, venue-based, private), and (for people who inject drugs) the type(s) of drug(s) injected.
- National and subnational key population size estimates, and information on the geographical distribution of the key populations.

- Key population hotspots (locations where people from key populations gather), including dates for when these hotspots were last identified as being active, as these hotspots may change over time.
- Epidemiological and other data:
  - Prevalence of HIV, TB, HCV, HBV and sexually transmitted infections, with disaggregations by age and gender.
  - Knowledge of HIV, HCV and HBV status.
  - Prevention, testing and treatment coverage.
  - Prevalence of individual risk behaviours (e.g. condom use, use of sterile injecting equipment).
- Listing of HIV, hepatitis, and sexual and reproductive health and rights services and other support programmes:
  - Number and location of key population-specific and generalized services including HIV testing.
  - Number and location of programmes undertaking outreach.
  - Number and location of key population support programmes (e.g. drop-in centres, health and welfare services).
- Programmatic data on the number of people accessing different services and interventions in a defined time period, disaggregated by key population.

Pre-survey planning

The information gathered through the brief situational assessment is used to develop the BBS-lite protocol and to plan the implementation of the survey.

It is important to confirm whether the BBS-lite is an appropriate methodology for a given setting and context, and whether it can meet the objectives and strategic information requirements. This can be assessed using the guiding questions below:

Is the key population well characterized, and have there been previous surveys measuring HIV, viral hepatitis and sexually transmitted infection vulnerability, prevalence and service use among this group?

If no previous research of the key population of interest exists, it is useful to conduct formative research to better understand the key population and to inform how and where a survey should be conducted. This formative research will likely involve qualitative research methodologies (key informant interviews, focus groups). Previous guidance from WHO and partner organizations on undertaking formative research among key populations is available:

The rapid assessment and response guide on injecting drug use (IDU-RAR). Geneva: World Health Organization; 1998 (https://www.who.int/publications/i/item/rapid-assessment-and-response-guide-on-injecting-drug-use-(idu-rar)).

Rapid assessment and response adaptation guide on HIV and men who have sex with men. Geneva: World Health Organization; 2004 (https://iris.who.int/handle/10665/70942?&locale-attribute=ru).

SEX-RAR guide: the rapid assessment and response guide on psychoactive substance use and sexual risk behaviour. Geneva: World Health Organization; 2002 (https://www.who.int/publications/i/item/sex-rar-guide-the-rapid-assessment-and-response-guide-on-psychoactive-substance-use-and-sexual-risk-behaviour).

Rapid assessment and response: adaptation guide for work with especially vulnerable young people. Geneva: World Health Organization; 2004 (https://iris.who.int/handle/10665/339284?&locale-attribute=es).

HIV in prisons: situation and needs assessment toolkit. Vienna: United Nations Office on Drugs and Crime; 2010 (https://www.unodc.org/documents/hiv-aids/publications/HIV_in_prisons_situation_and_needs_assessment_document.pdf).

Are there services accessed by people from key populations that would be suitable for recruiting participants for the survey?

Recruitment relies on accessing participants from among clients of HIV and other related health services, including services led by key populations. If there are no services that people from key populations are known to access, the BBS-lite may not be an appropriate methodology for that setting.

Are people from key populations able and willing to recruit other participants from their social networks?

Since this recruitment method relies on people recruiting peers, it is important to know whether people in the key population have social networks that include other people from the key population, and that people know who among their networks are also from the key population. In contexts where there are formal key population-led networks or groups, they can lead on or support the recruitment process.

Is deriving a population size estimate a primary objective of the proposed survey?

The BBS-lite does not involve probability sampling, and therefore it does not collect data to derive population size estimates. If obtaining a population size estimate is an essential objective, another methodology is more appropriate. Guidance on population size estimation is available:

Guidelines on estimating the size of populations most at risk to HIV. Geneva: World Health Organization and Joint United Nations Programme on HIV/AIDS; 2010 (https://www.unaids.org/sites/default/files/media_asset/2011_Estimating_Populations_en_0.pdf).

Table 2.

What the BBS-lite can and cannot do

The BBS-lite is intended to ...	The BBS-lite cannot ...
Produce data that provide early warning signals, particularly over time, indicating changes in prevalence among segments of the key population, need for services and other indicators	Produce prevalence estimates derived from probability sampling methods
Gather information on people who have not previously accessed services	Produce data to derive population size estimates
Measure coverage of services in the broader population	Collect data on a large number of domains in the same survey
Be undertaken with relatively modest resources compared with other methods	Produce data generalizable to the wider key population of interest

BBS and other survey / surveillance methodologies

The BBS-lite offers the possibility of recruiting respondents from the community, including people who do not access services. It obtains HIV status either by self-report or from tests offered at the study site, the results of which can be linked to the survey responses.

Polling booth surveys (PBS) only interviews program users. Data are collected in a way that all question responses cannot be linked to a single respondent. Responses are only available in aggregate and HIV status is only self-reported. It gives the respondent a clear sense that responses are anonymous because they often just put a slip of paper in a box at the same time others are doing so.

Other approaches might include the HIV sentinel survey plus (HSS+) which traditionally captured only demographic data and HIV status based on testing offered within the survey. No behavioural questions were asked in sentinel surveys. The "plus" is the added questionnaire.

Each method offers electronic data collection as an option.

Each has limited numbers of questions and takes about 10 minutes from consent to completion.

Each is relatively straight-forward to analyse so results can be reported quickly. None use probability-based sampling to provide representative statistical results.

Protocol development

The following features and attributes of the BBS-lite protocol need to be defined and adapted for the context and setting in which the survey is to be implemented to achieve the intended objectives. Relevant tools are available in the appendix:

- Sampling frame—the population of interest and geographical location of the survey.
- Programmes, service providers and sites for recruitment.
- Recruitment strategy.
- Sample size and any stratification.
- Eligibility criteria.
- Participant compensation.
- Questionnaire development.
- Data collection methods.
- Biomarkers, specimen collection and processing.
- Ethical considerations and approvals.
- Data analysis and interpretation of data.
- Dissemination.

Protocol development should be undertaken with the active and meaningful participation of the people who are the subjects of the survey, service providers who will participate in survey implementation, and other relevant stakeholders.

Sampling frame

Two important attributes of the sampling frame need to be defined:

- Key populations—selection of one or more key populations, informed by the need for data on particular populations. This includes when the last BBS was conducted and when the next one is planned. For each key population, definition of the population and corresponding survey eligibility criteria should be consistent with previous and planned BBS, including alignment for age and gender.
- Geographical location—selection of geographical areas in which to conduct recruitment may be based on locations sampled in previous BBS (to allow comparison or to gather data from locations where previous surveys have not been conducted); areas where people from key populations are known to be concentrated or to access services; areas where prevalence of HIV or viral hepatitis among people from key populations is highest or unknown; and areas where there are resources and capacity to recruit participants and undertake data collection.

Selecting recruitment sites

Recruitment of participants from people accessing health services is integral to the BBS-lite. Selection of services to function as recruitment sites is informed by listing of all relevant programmes and service sites within the selected geographical area (see "Brief situational assessment" above). When selecting recruitment sites, the following should be considered:

- Use programmatic data to identify the number of people from key populations accessing a programme or service. Use the estimated number of participants likely to be recruited within the defined recruitment period from each site to ensure the target sample size could potentially be reached (see "Sample size" and "Sample stratification" below).
- A variety of HIV and related services might be accessed by people from key populations, including services established specifically for people from key populations, and services intended to provide services to the wider general population but also accessed by people from key populations. Identifying people from a key population can be more difficult among people accessing services for the general population. The investigators, in consultation with key populations networks and groups, should assess whether recruitment from services not specific for people from key populations is feasible—and, if so, what steps are required to safely identify and invite people from key populations to join the study in these settings that avoids stigma and discrimination.
- If sites do not routinely collect biological samples for testing, an assessment is required to determine whether adding specimen collection and testing for the purpose of the survey is feasible—and, if so, whether training and any necessary capacity-building activities can be provided to facilitate this. Testing for HIV, viral hepatitis and sexually transmitted infections must include the return of results, appropriate counselling and referral to relevant services, even where testing is introduced for the purpose of the survey.
- Outreach activities are an effective means by which to reach people from key populations and can be a successful source of recruitment. Outreach programmes that cap the number of people they serve and do not actively find new clients may be less suitable for survey recruitment.
- Information collected in previous BBS on services accessed by participants can be used to identify suitable recruitment sites.
- Staff of the services and programmes selected to participate in recruitment and data collection must have the capacity and be willing to take on survey responsibilities and be able to conduct the survey tasks with minimal disruption to normal service provision. Staff involved in survey activities will be required to undertake training in research ethics and good clinical practice. If the survey is undertaken at a service that is not focused on providing services for people from key populations, sensitivity training may be required to avoid use of stigmatizing behaviours and language.

Recruitment strategy

Sampling methods that approximate probability-based sampling for recruiting people from hard-to-reach populations such as respondent-driven sampling or time–location sampling are typically recommended when undertaking BBS. These sampling methods can be costly, time-consuming and technically demanding to implement. The BBS-lite uses non-probability sampling methods that are easier and cheaper, take less time,

and require fewer staff to implement. The use of non-probability sampling methods introduces the potential for selection bias, which limits the generalizability of the results to the wider population. These limitations are important to consider when analysing and interpreting results.

Participants are recruited through two pathways:

- Consecutive recruitment of clients of HIV programmes and related services (including facility-based, mobile and outreach services).
- Snowball recruitment, which allows for sampling of both clients and non-clients of services.

The sampling method favours recruitment of people already reached by services. It may under-sample people who have not previously accessed services unless specific recruitment efforts are made to go beyond the current patient and beneficiary lists.

Targets can be set for the proportion of the total sample recruited through each of these pathways, depending on the objectives of the survey and the anticipated feasibility of achieving target sample sizes within the required timeframe by these different methods. If understanding more about people who do not access services is a priority, then a greater proportion of the sample could be recruited through snowball sampling.

Recruitment of clients from selected programmes

Sampling starts with recruitment of clients from selected service providers. This involves consecutive recruitment of eligible people accessing these programmes during the recruitment period. People are likely to be accessing programmes for a variety of reasons, including for HIV-related services, for other health or support services, to use a drop-in centre, or to be reached through outreach activities.

Consecutive recruitment when sampling programme clients requires all eligible clients accessing the service during the recruitment period to be invited to participate in the survey and to have an equal chance of being recruited. The larger the sample recruited, the more representative it is of the total client population. Clients who access the service more frequently will be more likely to be sampled—and the longer the recruitment period, the greater the opportunity for less frequently attending clients to be recruited.

For programmes that provide services for the general population or other groups in addition to people from key populations, identifying an eligible person from a key population may require additional steps such as asking screening questions about behaviours.

Participants can be recruited through mobile services and outreach. Outreach programmes may reach new clients through various means, including strategies that involve active peer referral.[1] Such approaches are particularly effective in recruiting people who might be harder to reach and may offer insights into the broader population who may not otherwise access services. These approaches have similarities to snowball recruitment methods (see below).

1 This is similar to the enhanced peer outreach approach undertaken by many LINKAGES programmes funded by USAID and PEPFAR. For more information, see United States Agency for International Development, United States President's Emergency Plan for AIDS Relief, LINKAGES, FHI 360. LINKAGES enhanced peer outreach approach (EPOA): implementation guide. Washington, DC: United States Agency for International Development; 2017 (https://www.fhi360.org/sites/default/files/media/documents/resource-linkages-enhanced-peer-outreach-implementation.pdf).

Whether through fixed sites or mobile and outreach services, recruitment should aim to be consecutive, where every eligible person accessing the programme during the recruitment period is invited to participate in the survey. Adhering to this approach may be challenging, but giving all attending clients the chance to be recruited reduces potential selection bias, so the sample is a better representation of the programme's client population.

Snowball recruitment

All study participants recruited through HIV and related services, as described above, are given referral coupons to distribute to people in their social networks inviting them to participate in the survey.

The coupons have basic information about the study and instructions on how to participate. Coupon recipients interested in joining the study are asked to attend any of the selected recruitment sites or outreach locations at listed times. These potential participants are screened and, if eligible, invited to join the study.

Participants recruited through snowball sampling are also given coupons to distribute within their social networks, inviting additional people to join the study.

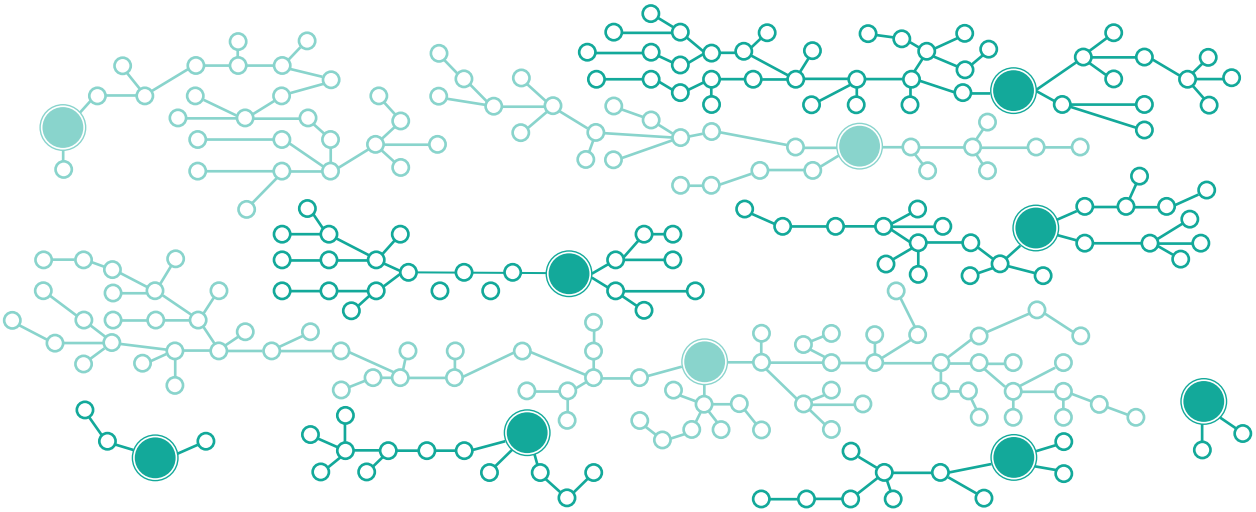
It is important to understand the nature of the sample that is recruited and the insights that can be gained from the data collected.

The potential for selection bias may still be introduced if the likelihood of a person choosing to not participate is not random but is associated with particular characteristics, such as their level of engagement or trust in the programme, or if refusal is associated with their level of risk and practice of certain risky behaviours. If consecutive recruitment is achieved, the lower the rate of choosing not to participate, and the better the sample might represent the total client population.

Snowball sampling is a non-probability sampling method, and it is not possible to estimate sampling error or calculate meaningful uncertainty bounds for the observed prevalence of the variables measure. In other words, it is not possible to understand with certainty how representative the snowball sample is of the total population. The particular snowball sampling method of the BBS-lite involves having many "seeds" (large numbers of participants recruited through programmes, who are given coupons to recruit other people within their networks) with short referral chains, where each seed might recruit only one or two people, and where only one or two waves of recruitment occur (Figure 1).

This method allows for both clients and non-clients of programmes to be recruited. It may not be possible to estimate how representative the sample of non-clients recruited is of the total population of people not accessing services (i.e. the level of potential selection bias remains unknown, and uncertainty cannot be estimated), but understanding the sample of people who are recruited is useful for programming purposes. Because these people were able to be reached through a very limited number of recruitment waves, they can be considered to be adjacent to people accessing the programme and potentially within reach of the programme, particularly if the survey is able to provide insights on their needs and the nature of any barriers to accessing services. Having these people referred by peers in their network may function as a positive social influence to encourage their engagement with the service.

Figure 1.
Example of BBS-lite snowball recruitment compared with BBS respondent-driven sampling



BBS Respondent-driven sampling with 10 seeds and multiple waves

BBS-lite Snowball sampling with many seeds and only one or two waves

Sample size

The BBS-lite can be implemented by service providers while causing minimal disruption to regular service provision. To simplify implementation in the context of an operational health service, recruitment should involve a take-all approach, inviting all potentially eligible participants to join the study during a set period of time.

The size of the sample to be recruited may be constrained by the time and resources available to undertake data collection.

Programme data can be used to estimate the number of participants who can be recruited in a given time period (Box 4).

Box 4.
Example of using programme data to estimate the number of people who can be recruited in a given time period

- Programme data from selected recruitment sites identify that 1000 unique individuals from the key population of interest are reached at facilities or through outreach in 1 month.
- Assuming that 30% of people invited to join the study decline to do so, the potential number of people recruited to join the study in 1 month is estimated to be 70% of 1000 = 700 people.

Estimating how many participants might be recruited through snowball or chain referral is more challenging due to the influence of various factors that are difficult to account for, such as network size, the capacity and motivation of participants to distribute coupons, and the motivation of recipients of coupons to take the steps necessary to join the study.

In the pilot study in Georgia, for every participant recruited through consecutive sampling at harm reduction services, an additional participant was recruited through snowball sampling.

In the pilot study in Uganda, for every five people who inject drugs recruited from HIV services, one participant was recruited through snowball sampling. For every 10 sex workers recruited from HIV services, one participant was recruited through snowball sampling.

To project rates of recruitment, it is suggested that investigators assume that for every 10 participants recruited through consecutive sampling from HIV services, an additional three to five participants might be recruited through snowball sampling. Success rates will vary so it is important to consider input from community members.

Sample stratification

As noted above, because recruitment starts from the clients reached by services, the sample is biased towards inclusion of this segment of the key population. Recruitment targets can be set to ensure a certain proportion of the sample comprises people who are not reached by services. Recruitment of this segment of the sample will be through snowball sampling.

It may be useful to stratify samples by different characteristics and to purposively select participants accordingly, if required. Additional stratifications might include:

- Time since first accessing service (to distinguish recent versus longer-term clients).
- Key population subgroups (e.g. street-based versus brothel-based versus online-based sex workers, or women who inject drugs.)
- Method of recruitment (e.g. facility-based, outreach, snowball).

Eligibility criteria

It is recommended that eligibility criteria are consistent with any previous or planned BBS. Variations from these definitions should be justified by programmatic requirements, and with an understanding that it will make interpretation alongside other results more difficult.

Inclusion criteria typically address the following:

- Minimum, and sometimes maximum, age.
- Behavioural criteria relating to the definition of the key population of interest—for example:
  - For people who inject drugs—having injected drugs within a defined period before participation in the survey.
  - For sex workers—having exchanged sex for money or goods within a defined period before participation in the survey.

  - For gay men and other men who have sex with men—having sex (sometimes specifying anal sex) with another man within a defined period before participation in the survey.
  - For transgender people—having sex (sometimes specifying anal sex) with a man within a defined period before participation in the survey.
- Capacity to understand and communicate in the local language used for the survey.
- Capacity to provide informed consent to take part in the study.

These criteria can be assessed systematically using a short screening questionnaire. Records should be kept of the number of people screened and the number meeting or not meeting the eligibility criteria.

Informed consent

Obtaining informed consent from all study participants is essential.

Even though the BBS-lite involves only a brief survey and collection of a non-invasive biological sample (typically an oral swab or small volume of blood collected via fingerprick), and in most instances involves only low levels of risk, it is important to ensure information about the study is explained clearly to the participants, including any potential risks and their rights as research participants. Declarations and documentation of consent should meet requirements specified by local ethics review bodies.

Participant compensation

Investigators, in consultation with the community, should consider whether it is appropriate for compensation to be provided to the participants in recognition of their contribution, inconvenience and any expenses they might incur through their participation in the study.

Questionnaire development

The questionnaire should be as concise as possible. It should focus on gathering data to aid programmatic decision-making, improve service delivery, and meet evaluation and reporting requirements, including the reporting of Global AIDS Monitoring indicators. Variables should not be collected if there is no plan to analyse and use the data.

Keeping questionnaires brief allows for rapid data collection and for interviews to be undertaken as an adjunct to regular service delivery activities, including when conducting outreach. Longer questionnaires require participants to give more of their time, and compensation for participation may need to be greater.

It should be possible to complete the questionnaire within 10–15 minutes. In most cases, this will mean the questionnaire contains 15–30 questions.

To allow for interpretation alongside BBS data, question items should be consistent with previous BBS, with the addition of any updated or additional questions addressing specific issues if these are deemed to be a priority. It is important to consider the purpose for which the data are being collected and the nature of the sample that

will be recruited through the convenience sampling methods, which might limit the generalizability of the results.

Core question areas might include:

- Demographic characteristics
- Access to prevention for HIV, viral hepatitis and sexually transmitted infections.
- Testing for HIV, viral hepatitis and sexually transmitted infections, and knowledge of status.
- Treatment of HIV, viral hepatitis and sexually transmitted infections.

Optional question areas might include:

- Individual risk behaviours.
- Health-seeking behaviours and service use.
- Barriers to accessing services.
- Experiences of stigma and discrimination.
- Changes in risk environment (e.g. changes in drug markets, policing practices).
- Fertility (number of births or biological children).

An example questionnaire from the pilot of this method among people who inject drugs in Georgia is included in Annex 2.

Data collection

The method of data collection should be simple and efficient. Data collection can be paper-based or electronic. Using a computer or tablet to enter responses directly into a database when administering the survey avoids the need for data entry and can reduce the amount of missing data, particularly if the survey instrument is programmed in such a way that responses must be given for a question before advancing to the next question.

If suitable devices or technical capacity are unavailable, paper-based forms can be used and the data entered into the database at a later time.

The survey can be administered by interviewers (e.g. trained health service staff or peer workers) or completed by participants. Self-completed questionnaires can be administered on a computer or tablet using software such as audio computer-assisted self-interviewing (ACASI).

Biomarkers, specimen collection and processing

It is necessary to decide which tests will be conducted in line with the objectives of the study and available resources. Tests include:

- HIV or HIV viral load.
- HCV antibody or HCV antigen.
- Hepatitis B surface antigen (HBsAg), hepatitis B surface antibody (anti-HBs) or hepatitis B core antibody (anti-HBc).
- Sexually transmitted infections (e.g. syphilis, *Neisseria gonorrhoeae*, chlamydia).
- Other conditions (e.g. TB), if considered a priority.

Where possible, specimen collection and testing should be conducted and funded under regular national testing programme arrangements. This will determine the diagnostic and screening methods used. It might include oral swabs, sero-samples or dried blood spot collection. In many settings, rapid point-of-care tests are used, with sero-samples taken for confirmatory testing for people who test positive.

If data collection is to occur through outreach, specimen collection and testing must be undertaken in the context of outreach. If a programme or service does not offer testing or ordinarily collect biological samples, it is necessary to assess whether it is possible to set up temporary specimen collection and testing procedures.

Hiring additional testing and counselling staff, contracting with laboratory services and procuring test kits can be a cause of significant delays. Logistics should be considered to limit such delays.

Tests results must be returned to participants, with relevant services provided and referrals made according to the positive or negative test result.

Ethical considerations and approvals

Ethical guidelines for research principles include integrity, voluntary participation, informed consent, anonymity, confidentiality, potential for harm, and results communication. They require researchers to respect persons, beneficence, and justice, and to follow international agreements like the Declaration of Helsinki (https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/.)

Review and approval by an institutional review board or other relevant research ethics committee is required in most settings when undertaking a survey of this nature.

The process for obtaining approval can be lengthy and contribute to significant delays. In some contexts, full institutional review board approval may not be required if certain criteria are met indicating the study involves low or negligible risk.

In some circumstances, the activity of gathering data by service providers may be considered a quality improvement exercise and may not require the same institutional review board approval required for other research activities. The relevant institutional review board should be able to advise on this.

If the survey is undertaken as a repeated research activity, it may be possible to obtain an ongoing approval granted for repeated surveys.

Regardless of whether institutional review board approval is required, ethical standards must be maintained, including regarding informed consent and confidentiality of data.

Special ethical considerations must be made for surveys that will engage young people that fall under the age of sexual consent or minors <18 years. These individuals may have a heightened vulnerability and risk. Survey planners and implementers should ensure the survey protocol captures all relevant considerations, including any need for informed assent, as well as safety and other precautions to be put into place during survey implementation. Both national and international ethical guidance should be consulted in formulating the survey protocol.

Analysis

Analysis can comprise of basic descriptive statistics and, where data are available, be interpreted alongside data from previous BBS and routine programme data. Variables should be collected only if there is a plan to analyse and use the data.

Because the BBS-lite relies on convenience sampling, understanding the potential selection bias inherent in the recruitment method is important when undertaking analysis and interpreting the survey results. A simple approach that will not negate these biases but may assist with interpretation of the results is to stratify the data by categories known to influence the variables of interest, and to analyse different segments of the sample separately to answer questions about specific groups.

Participants who access programme services

Examining the subsample recruited through consecutive sampling of programme clients can provide important insights into the client population. The sample will be more representative of the client population if all eligible clients have an equal and known chance of being recruited within the defined timeframe. The lower the refusal rate, the more representative the sample is likely to be. When interpreting results for this subsample, it is important to report and consider the rate of refusal and, if possible, the basic characteristics (age, sex) of those choosing not to participate to better understand potential selection bias.

Choosing not to participate may be associated with particular characteristics, such as level of engagement or trust in the programme, or level of risk and practice of certain risky behaviours. Because the people invited to participate are programme clients, it may be possible to use information from routine programme data to better understand the characteristics of people who choose not to participate compared with people who do participate. It may be possible to link people to their clinical records using programme unique identifiers or comparing the characteristics of the respondents with the characteristics of the total client population. Engaging key population-led networks and groups or individuals from key populations as interviewers can increase the trust and the willingness of clients to participate in the survey.

If the selected services where recruitment occurs are a good representation of all services, then findings might be considered more representative of the total client population. If there are differences between types of service where recruitment occurred, it may be useful to stratify by service type to understand the different client populations—for example, services led by a key population compared with public or government-operated programmes and health services.

The indicators in Table 3 are helpful to understand the needs of the segment of the key population accessing services and how well those needs are being addressed.

Table 3.
Critical Indicators for service use

Prevalence of behaviours associated with risk of infection and other harms: ▪ Frequency of drug injection and types of drug injected ▪ Sharing of injecting equipment ▪ Condom use ▪ Protection at last sexual encounter Prevalence of HIV, viral hepatitis and sexually transmitted infections Mental health status	Identifies level of risk and need for prevention and treatment need among client population
Coverage of HIV prevention interventions (pre-exposure prophylaxis (PrEP), post-exposure prophylaxis (PEP), condom distribution, needle–syringe programmes, opioid agonist maintenance treatment) Coverage of combination HIV prevention (package of interventions for combination prevention defined in local setting) Access to and coverage of testing and treatment services for sexually transmitted infections HIV and viral hepatitis testing history Knowledge of HIV and viral hepatitis infection status Coverage of antiretroviral therapy among people living with HIV Prevalence of viral suppression among people living with HIV on antiretroviral therapy Coverage of treatment for HCV and HBV	Identifies gaps in prevention, testing and treatment coverage among client population Enables calculation of prevention and treatment cascades among client population
Barriers to accessing services Experiences of stigma and discrimination accessing health-care and other services	Identifies issues to be addressed to improve access to services and safety of client population

By definition, this subsample comprises clients of programmes, and so coverage of different interventions is likely to be high. People may not, however, have access to or receive all the care and different interventions they require to meet all their needs. Coverage of different interventions is influenced by the types of service where clients are recruited. If recruitment takes place at HIV treatment centres, antiretroviral therapy coverage will be higher than among participants recruited at HIV prevention and other programmes.

Participants who are not programme attendees

People who are not clients of services are recruited in the snowball sample. Snowball sampling is a non-probability sampling method, and so it is not possible to estimate how representative the sample of non-clients recruited might be of the total population of people not accessing services. Understanding the sample of non-clients who are recruited is useful, however, for programming purposes. These people are reached through a very limited number of recruitment waves, and so they could be considered a segment of the population potentially within reach of the programme. The programme may wish to better target efforts to engage these people. Understanding the health service needs of this group and identifying barriers to access that can be addressed is important to increasing programme coverage.

The indicators in Table 4 are helpful to understand the needs of people from the key population who are not currently accessing services, and how those needs might be addressed.

Table 4.
Critical indicators to understand needs of key populations not accessing services

Prevalence of behaviours associated with risk of infection and other harms: ▪ Frequency of drug injection and types of drug injected ▪ Sharing of injecting equipment ▪ Condom use ▪ Protection at last sexual encounter Prevalence of HIV, viral hepatitis and sexually transmitted infections Mental health status	Identifies level of risk and need for prevention and treatment need among people not accessing programmes
Barriers to accessing services including gender based violence Experiences of stigma and discrimination accessing health-care and other services	Identifies issues to be addressed to facilitate access to interventions

Generalizability to broader key population data and interpretation alongside other data

This BBS lite methodology relies on non-probability sampling. It is not possible to estimate how well the sample represents the broader key population of interest. It is not correct to calculate confidence bounds or perform parametric statistical tests.

Survey results for the total sample should be examined carefully. When comparing the BBS-lite data with data from other sources, it is important to recognize the potential bias towards oversampling people who access services. It would be advisable to stratify the data by clients and non-clients, or clinic clients, outreach clients and snowball recruits as described above. Alternatively, it may be possible to weight results using population-level programme coverage, where available, to derive adjusted estimates. Other forms of adjusting results are being explored in ongoing pilots of the BBS-lite where different sampling and statistical methodologies are being applied.

The findings from the survey cannot be generalizable to the national level, but the findings may be useful to understand the population at the local level where the data were collected. This is particularly relevant where the BBS-lite has been conducted in locations where data have not been collected previously, and findings can be used to detect potential differences between populations in different locations. Additionally, the simplicity and the lighter resource requirements may allow wider and more frequent data collection to provide a more complete picture of the HIV and other epidemics among people from key populations.

Survey implementation

The BBS-lite can be completed within a relatively short timeframe and with modest resources. The time and resources required differ in different settings, but the steps required to implement the study are similar (Table 5).

Where possible, key population-led organizations should be encouraged to take the lead or co-lead on BBS-lite implementation. In cases when there are constraints to this level of engagement of key populations, for example an absence of a formal key population-led networks or limited resources available for them to lead on BBS-lite, other forms of engagement should be considered. Representatives of key populations should be invited to join all stakeholder consultations, become part of the steering and implementation groups, co-design the tools and protocol, serve as gatekeepers and interviewers and participate in the data analysis, interpretation, and reporting. Adequate renumeration of key population representatives engaged in the survey is essential.

Table 5.

Summary of BSS-lite implementation activities

Planning and preparation
▪ Engage with key population community organizations and representatives and consult with them about their roles, responsibilities and level of effort in the survey. ▪ Brief situational assessment to inform protocol development ▪ Adapt protocol: – Select location and recruitment sites – Determine sample size – Select questionnaire items drawn from previous BBS or other relevant studies to which data will be compared – Select biomarkers to be included – Determine participant reimbursement ▪ Prepare and submit ethics application ▪ Liaise with health services selected as recruitment sites to plan recruitment and data collection staffing and procedures
Training
▪ Prepare training materials ▪ Train health service staff to undertake recruitment and data collection
Database and related infrastructure
▪ Develop database ▪ Develop data collection instrument for use on tablets ▪ Establish secure server to host database ▪ Develop protocol for uploading data from tablets to server ▪ Programme tablets as necessary to install and activate data collection instrument
Data collection
▪ Provide information on study to potential participants ▪ Screen eligibility of potential participants ▪ Obtain informed consent ▪ Administer questionnaire (self-completed by participants or administered by interviewers) ▪ Collect specimens for selected biomarkers ▪ Carry out point-of-care rapid testing or laboratory processing of specimens ▪ Enter test results into database ▪ Refer participants to services, as appropriate ▪ Provide coupons to participants for distribution within their network
Analysis, interpretation and reporting
▪ Clean and prepare database for analysis ▪ Analyse data ▪ Interpret data alongside data from other sources (programmatic data, previous BBS) ▪ Draft report and presentations ▪ Hold meetings with stakeholders to present findings

Implementing partner

An organization or research group (including organizations led by key populations) can be designated to oversee the implementation of the survey. The implementing partner is responsible for:

- Developing the operating procedures to guide the implementation of the survey.
- Conducting training of the health service staff and peer workers who will undertake recruitment and data collection for the survey.
- Providing supervision of recruitment and data collection, and supporting staff and peer workers involved in these activities while the survey is in the field.
- Developing the database, monitoring the data collection process and the data collected, and cleaning the data as required to prepare for analysis.
- Conducting data analysis (following analysis plan) and drafting the survey report. This might be undertaken in collaboration with a technical advisor, research group or academic institution.

It is desirable that the partner has previous experience undertaking bio-behavioural research, in particular with the key population of interest. A consultant may be hired to assist the process.

Involvement of key populations

People from the key populations of interest should be involved from the start of the BBS-lite process and throughout the planning, implementation, analysis and interpretation. Organizations led by key populations may themselves decide to undertake a BBS using the BBS-lite methodology, or they may participate as partners with other civil society or government stakeholders.

If not initiating the study, people from key populations and organizations led by key populations should be invited and supported to participate in the implementation of the study as investigators and implementing partner, and in recruitment and data collection through key population-led programmes or as peer workers.

Staffing

A team of study investigators oversees the survey, is responsible for development of the protocol, ensures ethical standards are maintained, and provides support to the implementing partner. A study coordinator is responsible for liaising with participating health services and providing support and supervision to staff undertaking the research activities of recruitment and data collection.

The BBS-lite relies on existing staff from health services and community-led organizations to undertake recruitment and data collection. Appropriate arrangements are required for existing staff to undertake these additional tasks. This might involve additional salary payments or staff redeployed from their regular duties to undertake survey-related tasks.

An example staffing structure is shown in Figure 2. The roles and responsibilities for these different positions are summarized in Table 6.

Figure 2.
Example of BBS-lite staffing structure

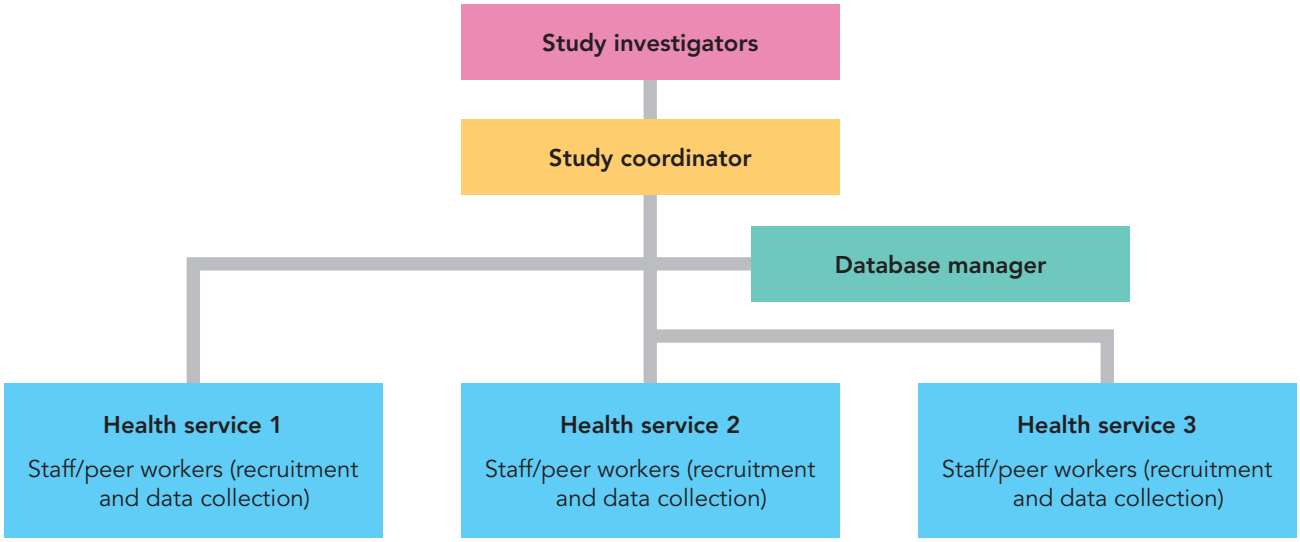


Table 6.
Summary of staff roles and responsibilities for BBS-lite implementation

Study investigators with support from co-investigators or study coordinator
▪ Adapt protocol ▪ Prepare and submit ethics application ▪ Data analysis ▪ Prepare report
Study coordinator from implementing partner organization
▪ Liaise with health services selected as recruitment sites ▪ Provide training, supervision and support of staff undertaking recruitment and data collection
Staff undertaking recruitment and data collection
▪ Attend training ▪ Provide information on study to potential participants ▪ Screen potential participants for eligibility ▪ Obtain informed consent from participants ▪ Administer or facilitate completion of survey instrument ▪ Collect specimens for selected biomarkers ▪ Complete rapid point-of-care tests or send for laboratory processing ▪ Distribute coupons to participants
Database management
▪ Develop and manage the database (engage staff or outsource to a technical service provider)

Training of health service and programme staff undertaking survey activities

The BBS-lite relies on health service and programme staff undertaking research activities. These staff may not have prior research experience. It is important that they receive appropriate training on research principles and standards, including research ethics and the safety of participants, and instructions on how to complete the research tasks required for the study.

In some settings, the relevant ethics review body may require all people participating in recruitment and data collection to complete some form of research accreditation training on ethics.

The standard operating procedure developed for implementation of the study can serve as the foundation of the training on how to perform research activities.

Future development of BBS-lite

UNAIDS, WHO and surveillance partners and stakeholders continue to work on different facets of the methods described in this guide to further the validity of the data while maintaining the relative ease and reduced expense for generating useful data. Additional pilot tests are planned to try different approaches. This guidance will be updated with any new lessons learned.

Annex 1 – Generic BBS-lite protocol

The following protocol for the BBS-lite can be adapted for use in different settings and for studies focusing on one or more key populations of interest. [Text in square brackets] indicates where specific information needs to be added. This includes specifying which key population is the focus of the survey, and where information about the local setting and planned implementation should be added.

Background

[Key populations] and epidemiology of HIV, [HCV, HBV and sexually transmitted infections] in [country/city/province]

- [Prevalence of HIV, HCV, HBV and sexually transmitted infections among adults in the general population]
- [Estimated number of people living with HIV, HCV, HBV and sexually transmitted infections]
- [Estimated percentage of new infections acquired through different routes of transmission]
- [Estimated size, distribution and location of key populations]
- [Prevalence of HIV among people from key populations]
- [Prevalence of HCV and HBV among people from key populations]
- [Estimated prevalence or incidence of sexually transmitted infections among people from key populations]

Prevention, testing and treatment programmes

- [Description of prevention, testing and treatment programmes for HIV, HCV, HBV and sexually transmitted infections available for and accessed by people from key populations]
- [Coverage estimates derived from programmatic data and previous surveys for:]
  - [People from key populations receiving prevention interventions for HIV, HCV, HBV or sexually transmitted infections in defined period]
  - [People from key populations who know their HIV, HCV and HBV status]
  - [People from key populations living with HIV and receiving antiretroviral therapy]
  - [People from key populations diagnosed with HCV who have had or are receiving HCV treatment]

Background of BBS-lite methodology

A strong response to HIV, viral hepatitis and sexually transmitted infections requires implementing effective prevention intervention programmes that consider local data from affected communities in their design. The BBS-lite is a survey methodology

developed by WHO and UNAIDS intended to gather information necessary to guide programming for HIV, viral hepatitis and sexually transmitted infections among people from key populations.

Data collection among some people from key populations can be challenging due to their engagement in stigmatized or otherwise criminalized behaviours. In some cases, being a member of a key population makes a person more vulnerable to HIV, viral hepatitis or sexually transmitted infections. It is critical for programmes to have valid, accurate data that can gauge programme success and inform programme improvements where warranted.

Data gathered from surveys of people from key populations remain an important source of information on key populations that cannot be provided by programmatic data alone. Traditionally, large-scale surveillance studies have been undertaken to provide this information. These BBS or IBBS involve extensive questionnaires and testing of biological specimens. They use probability sampling methods such as respondent-driven sampling or time–location sampling. These surveys represent a substantial funding investment, require the development of large study infrastructure, and are technically demanding to complete successfully. Typically, key population BBS are undertaken every 3–5 years or less frequently and often do not produce results in a timely fashion, reducing the value of these data for service delivery and programme planning purposes.

By contrast, the BBS-lite provides programme managers with a method of data collection that can be undertaken in a rigorous routine manner that is less costly and able to be repeated on a regular (potentially annual) basis. The BBS-lite provides actionable data that can be supplemented and adjusted, if necessary, by surveys with more statistically robust methods such as BBS. The BBS-lite is not intended to replace such surveys.

Rationale

To better understand the prevalence of HIV, viral hepatitis and sexually transmitted infections among people from key populations and their engagement with HIV prevention, testing and treatment services, and inform decision-making on the provision of HIV prevention and care for people from key populations, data are required that cannot be obtained through programmatic data collection and that do not rely on investment in large-scale BBS.

Funding

- [Funding sources, including in-kind support]

Roles and responsibilities of lead institution and key partners

- [Supervising or commissioning partner]
- [Implementing partner]
- [Other stakeholders involved in study support or implementation]

Objectives

- To measure prevalence of HIV, [HCV, HBV and sexually transmitted infections] among people from key populations of interest.
- To measure prevention, testing and treatment coverage for HIV, [HCV, HBV and sexually transmitted infections] among people from key populations of interest.
- To produce data to compare with existing data from other methods.
- To engage people from the key populations of interest in prevention services for HIV, [HCV, HBV and sexually transmitted infections].

Methods

Study design

- A cross-sectional BBS in the key population, with participants recruited at selected facilities providing HIV services and through snowball sampling.
- Participants complete a brief questionnaire and provide a serological sample for HIV, [HCV, HBV, sexually transmitted infections and HIV viral load testing ***consistent with routine care***].

Study population

- The BBS-lite is conducted among [people from the key populations of interest].
- To allow for comparability with data collected in previous and forthcoming BBS, the key population definition used for the BBS-lite is the same as that used for the BBS.

Study sites

- The survey is conducted in [the following cities and locations].
- The study involves HIV programme-based recruitment. Programmes providing HIV and [other relevant services to the key populations] in each of these locations are selected as recruitment sites. These programmes are listed in Table A1.1.

Table A1.1.
Selected study sites

City	Selected programme sites
[City A]	[Site 1] [Site 2]
[City B]	[Site 3]
[City C]	[Site 4] [Site 5]

These programmes all provide facility-based and outreach services to [the key populations].

At all sites, blood is drawn from clients as part of routine care. All sites provide rapid testing on for HIV, [HCV, HBV and syphilis]. Samples are forwarded to relevant facilities for confirmatory testing in accordance with local testing service algorithms.

Staff at these services are willing to be trained and are able to undertake required study activities, including facilitating recruitment of participants and data collection.

Sampling strategy

To simplify the implementation of the survey in the context of an operational health service, recruitment takes place for a set period of time, on a take-all approach, inviting all potentially eligible participants to join the study.

Consecutive recruitment of clients attending selected services

During the defined recruitment period, [key population] clients attending any of the selected HIV programmes for the purpose of receiving HIV-related services or to use a drop-in centre, or those reached through outreach, are invited to participate in the study if they meet eligibility criteria.

Snowball (chain referral) recruitment

All study participants recruited through HIV services, as described above, are given [x] referral coupons to distribute to people in their network who have not already participated in the study.

The coupons have basic information about the study and instructions on how to participate.

Coupon recipients interested in joining the study are asked to attend any of the selected recruitment sites or outreach locations at listed times. These potential participants will all be screened and, if eligibility criteria are met, invited to join the study.

Sample size

Because non-probability sampling methods are used, it is not possible to calculate the sample size required to be appropriately statistically powered.

For the purpose of this study, we aim to recruit a minimum sample of [xxxx] people recruited through consecutive recruitment of clients accessing the selected services either through facilities or outreach. A further [xxxx] people are recruited through snowball sampling. N.B.: a single proportion sample size calculation could be used but is not critical since this is a non-probability sample.

A take-all approach is adopted, whereby any potential participants accessing the selected services during the recruitment period are invited once to join the study, if eligible. A log tracks all people invited to participate in the study, recording the number who are eligible to join the study, and the number who choose not to join.

In the previous 12 months, [xxxx] [people from the key populations] were reached by the HIV prevention programmes selected as recruitment sites.

Accordingly, assuming approximately [xxxx] people access one of the selected services in a year, on average approximately [xxx] people access these services per week and may be eligible to join the study. Assuming a refusal rate of 30%, this would result

in a sample of [xx] people recruited each week. If for each of these participants one additional person is successfully recruited through snowball sampling, this would result in [xxx] people recruited each week.

To simplify the integration of the survey implementation into the normal operation of these services, a recruitment period of fixed duration is set. On the assumptions described above, we might expect to recruit a total of [xxxx] people over a [4-week] period. The recruitment period is then set to 4 weeks. If the rate of recruitment is much slower or faster than anticipated, the principal investigators may shorten or lengthen the recruiting period, as appropriate.

Participant eligibility criteria

The inclusion criteria are consistent with the previous BBS to allow for comparison between studies. Eligibility criteria are assessed using a screening tool.

Inclusion criteria

- [Age criteria].
- [Behavioural criteria (e.g. for people who use drugs, drug injection in the 6 months before participation in the survey)].
- [Ability to understand and communicate in the local language used for the survey].

Exclusion criteria

- Unable to provide informed consent to take part in the study.
- Duplicate recruit who has already participated in the study.

Study procedures

Recruitment takes two forms: consecutive client recruitment and snowball (chain referral) recruitment. These recruitment streams are described separately where the study procedures differ.

Invitation to participate in survey

Consecutive client recruitment

During the recruitment period, all people from key populations attending any of the recruitment sites for the purpose of receiving services or to use a drop-in centre and all those reached through outreach are given information about the survey and asked whether they are interested in participating. Information about the study is communicated verbally by staff of the service and in literature describing the study. People who are interested in joining, but have not already participated, progress to eligibility screening.

Staff keep a record of all people approached to participate. This record includes the number of people invited to participate, the number who choose not to participate, and the number who are screened. This will be important for analysis of response rates.

Snowball (chain referral) recruitment

All participants who completed the survey are given coupons to distribute to up to [x] other key population members in their networks who have not already participated in the study. The coupons contain basic information about the study and instructions on

how to participate by attending any of the recruitment sites or outreach locations at the listed times.

Eligibility screening

Consecutive client recruitment

Clients expressing interest in participating in the survey are interviewed in a private location in the facility or, if in the community on outreach, somewhere where all efforts have been made to ensure privacy and confidentiality where other people cannot overhear. The interviewer or study personnel completes the participant screening form. Eligibility criteria are listed in the previous section. If the participant is eligible, informed consent is obtained. A record is kept of people assessed to be ineligible to participate.

Snowball (chain referral) recruitment

When a person who has received a coupon for the study attends a recruitment site or outreach location to participate in the study, a staff member delegated to collect information for the study completes the participant screening form. If the person is eligible to participate, informed consent is obtained. People assessed to be ineligible to participate are recorded.

Eligibility criteria are listed in the previous section.

Consent

Once eligibility has been confirmed, the interviewer obtains verbal informed consent from participants. Verbal consent is commonly used in similar studies with people from these key populations and is regarded as preferrable to written informed consent to better protect participants' confidentiality and gain trust. Local ethical review committees will make a final determination, however, including the requirement of signed consent. Eligible candidates read the consent form in [local language] at an appropriate reading level, or the interviewer reads it to them in full. Interviewers are trained on how to obtain informed consent and respond to questions from participants.

During the consent process, candidate participants are advised of the purpose of the survey and receive details of the relevant survey procedures, potential risks and benefits, and who to contact to report complaints or concerns. They are informed that a biological sample will be taken for testing for HIV, [hepatitis C, hepatitis B, syphilis or other sexually transmitted infections], and that the information from the test and the survey will be used to improve the health of [people from the key populations]. Testing services are provided as part of routine programme services. Participants are counselled, informed of their test results and referred to appropriate services.

Participants are informed that participation is confidential and voluntary and that they can withdraw from the study at any time without giving an explanation. Participants are able to consent separately for completing the survey and for providing the biological specimen for testing.

A copy of the information and consent forms is offered to all participants.

The interviewer completes a form for all people who choose not to provide informed consent and provide a reason for not doing so. This information can be used to track rates and reasons for refusal.

Questionnaire

A structured questionnaire is administered to participants under supervision of the interviewer.

The questionnaire comprises items drawn directly from previous BBS. The questionnaire includes questions on demographics, vulnerabilities and use of HIV prevention testing and treatment services.

The questionnaire is programmed into tablets and administered using audio computer-assisted self-interviewing (ACASI) software. Responses are colour-coded to assist completion by participants who may be illiterate. The questionnaire may also be paper-based, in which case, data entry arrangements must be made.

The interview takes 10–15 minutes to complete.

The questionnaires are pretested before implementation in the field to ensure language, cultural and peer norms are considered.

Biological sample

Routine clinic health-care providers provide HIV, [HCV, HBV, syphilis and HIV viral load] testing, following national guidelines.

Upon completion of the interview, participants who consent to testing receive pretest counselling for HIV from trained staff. A sero-sample is taken and processed according to national guidelines.

Test results

National guidelines are followed regarding the provision of test results and post-test counselling. [Rapid testing for HIV is routinely performed at the selected sites, with specimens transferred for processing at laboratory services for confirmatory results.]

Counselling and referral

Participants who test positive for HIV, viral hepatitis or sexually transmitted infections are actively referred to available treatment services. Normal processes for engaging diagnosed clients, treatment and care are followed. Participants recruited on outreach who test positive for HIV, viral hepatitis or sexually transmitted infections are referred to an appropriate treatment facility.

Compensation

Each participant is offered financial compensation of [xx]. This compensation is consistent with previous BBS and proportional to the time required to complete the survey.

Laboratory testing procedures

Regular laboratory services and procedures for each recruitment site are followed and aligned with national guidelines.

Data entry, cleaning, processing and management

Screening and questionnaire data are entered into password-protected tablets.

Data are uploaded automatically in real time or at the end of each day (if a secure internet connection is unavailable in a particular location) to a web-based data management system on a secure server in an encrypted format.

The questionnaire software is designed to operate in limited connectivity conditions. Completed responses are stored on the device and uploaded when data connectivity becomes available.

A data manager reviews incoming and stored data from all sites on a daily basis to check for completeness and errors in the data transferred.

Routine progress reporting allows for study supervisors to monitor data collected in real time and to assist with quality assurance.

Only deidentified data are stored in the database. The database is password-protected and has a firewall. Data are backed up on a separate secure server.

Access to the database is restricted to authorized study investigators—the principal investigator, study coordinator, database manager and appointed researcher conducting analysis.

Laboratory and health service staff who return test results to participants have access to laboratory personal identifying information. This personal identifying information is not included in the database. Test results are uploaded along with the participant study identifier to the database. Clinic staff and study data collectors do not have access to the study electronic database. Clinic staff do not have access to the interview data.

Data analysis

No personally identifiable information (e.g. name, phone number, address) is collected. Data are reported only in summary form. No individual information is presented.

Data analysis consists of descriptive statistics with basic frequency tables and assessment of correlates of variables of interest.

One suggested stratified analysis is comparing people who are current clients of HIV services and those who are not and comparing segments of the sample recruited through different sampling methods.

Ethical considerations

Potential risks

Potential risks from participation in this survey are minimal. There are minimal physical risks or potential for bodily harm for participants given the survey has been nested into the standard practice of care. The risk of infection at the site of venepuncture is minimized by use of appropriate infection control and testing procedures, which are all done by trained staff. Physical discomfort at the venepuncture site is minimal.

Care is taken to ensure interview locations afford privacy so that eavesdropping and speculation by outsiders are minimized and confidentiality is ensured.

Diagnosis of HIV or viral hepatitis infection may cause participants psychological and emotional stress. To minimize these harms, trained staff provide post-test counselling and referral to appropriate care and support services. HIV or viral hepatitis serostatus and information identifying criminalized behaviours may lead to stigma, discrimination or criminal sanction of participants if inadvertently revealed to people outside the study. To minimize the risk of disclosure, the survey does not collect any personal identifying information. Only members of the study team have access to study data.

Potential benefits

Direct benefits from participation include knowledge of HIV, [viral hepatitis or sexually transmitted infection] status and, for people who test positive, referral for care and treatment. Study staff provide referral and linkages to appropriate services and/or organizations for other issues, as required.

For some participants, participation in the survey may be the first time they have accessed or a re-engaged with HIV services.

Confidentiality

Priority is given to protecting the confidentiality of participants. Study staff ensure that the identity of survey participants is protected at all times, including using measures to prevent the accidental disclosure of existing relationships between participants and those referred to join the study. Study staff sign confidentiality agreements.

All participants are assigned a study identifier that is included in the data uploaded to the database and on laboratory forms so that test results can be uploaded to the database and linked to participants' survey data. The self-completion of interviews provides increased privacy of participants and confidentiality of information. No identifiable information is included in the data uploaded to the database.

Informed consent

Study personnel thoroughly explain the purpose and procedures of the study to participants. Participants are given extensive information regarding their roles, the potential risks and benefits, and their rights as research participants. Potential participants are further informed that they may discontinue their participation at any time without penalty. Participants have the consent form read to them before data collection, and any questions they have are answered. A copy of the consent form is given to participants, and the original is entered into the consent form on a tablet by project staff..

People can still participate even if they do not agree to biomarker testing. However, completion of the survey is required for participants to receive referral coupons to recruit peers to join the study.

Identifying, managing and reporting adverse events

There are no adverse events anticipated from this study. As noted above, however, there is a that risk participants may experience emotional distress from a new HIV diagnosis. All study sites have trained counsellors on site for support.

There is minimal risk involved in this research. Possible adverse events are most likely related to needlestick or fingerprick blood collection such as infection or minor

bleeding. The principal investigator is responsible for reporting adverse events to the ministry of health and local and other relevant ethical review groups.

There may be a risk of loss of data if a device used to capture questionnaire data is lost or stolen. In this situation, the study personnel must report the loss immediately to the study coordinator, with details of when and where the incident occurred. The coordinator reports to the principal investigator, lead investigators and data manager to ensure the stolen device is disabled and a new device is deployed. The principal investigator is responsible for reporting the incident to the ministry of health and local and other ethics committees. Although there is a small chance of losing data, as the data are uploaded in real time or regularly when a stable internet connection is available, any lost data are treated as missing data. As no identifiable information is collected on these devices, the incident does not put the participant at risk of loss of confidentiality.

Study staff provide study participants with the name and contact information of the local study principal investigator for any questions related to the study, study participation or other information. Study staff provide the name and contact information for the research ethics committee for reporting adverse events if they occur. Any unexpected or adverse events are reported by the study team to the principal investigators within 24 hours of discovering the adverse event, and to all relevant ethical review committees within 5–10 days (depending on the severity and needed information collection), with follow-up reporting of any pending information, action or other follow-up.

Protocol monitoring and compliance are carried about by survey staff and investigators.

Dissemination of research findings

A complete and detailed report will be produced outlining the methods used, results obtained and conclusions drawn.

Priority survey results are shared in the form of a one- or two-page table with key stakeholders 2 months after the end of data collection to inform service provision and policy.

The full report is disseminated to stakeholders.

A dissemination meeting addressing government bodies, international organizations, local nongovernment organizations and the media presenting the study findings is held following endorsement of the report.

The results of the BBS-lite may be published in peer-reviewed manuscripts and presented at conferences.

Data collected for the BBS-lite remain the property of the [supervising or commissioning partner organization].

Annex 2 – Example questionnaire: pilot survey among people who inject drugs in Georgia

The following questionnaire was developed for the pilot implementation of the BBS-lite in Georgia among people who inject drugs. Questions were mostly drawn from the previous IBBS undertaken several years earlier among people who inject drugs. Some questions from the previous IBBS were adapted, and a number of questions were added.

Participant ID ---------- (4-digit code)

A. Participant is:

1. **From service centre**
2. **From outreach**
3. **From "snowball" coupon referral**

Demographics

1	**How old are you?** _____ years
2	**What gender were you assigned at birth? (Select one answer)** 1. Male 2. Female
3	**What gender are you currently? (Select one answer)** 1. Male 2. Female 3. Transgender 4. Nonbinary 5. Intersex 6. Other 99. No response

Drug use history

4	**How old were you when you first injected drugs?** _____ years
5	**What was the last drug you injected?** 1. Heroin 2. Other opioids (including codeine, opium, morphine, methadone, buprenorphine, suboxone and tramadol) 3. Cocaine or amphetamine-type stimulants (including amphetamine, methamphetamine and MDMA) 4. Benzodiazepines, barbiturates or other pharmaceutical sedative-hypnotics (including diazepam and nitrazepam) 5. Other pharmaceutical anxiolytics or antihistamines 6. Hallucinogens or other psychoactive drugs 7. Other: _____ 88. Don't remember 99. No response

6	**Which drugs have you used within the past month, and which did you inject? (Ask about each drug category and list the different drugs within each category if necessary)**		
		6A **Used in the past month (injected or not injected)**	**6B** **Injected in the past month**
	1. Heroin	1. Yes 2. No 88. Don't know 99. No response	1. Yes 2. No 88. Don't know 99. No response
	2. Other opioids	1. Yes 2. No 88. Don't know 99. No response	1. Yes 2. No 88. Don't know 99. No response
	3. Cocaine or amphetamine-type stimulants	1. Yes 2. No 88. Don't know 99. No response	1. Yes 2. No 88. Don't know 99. No response
	4. Benzodiazepines, barbiturates or other pharmaceutical sedative-hypnotics	1. Yes 2. No 88. Don't know 99. No response	1. Yes 2. No 88. Don't know 99. No response
	5. Other pharmaceutical anxiolytics or antihistamines	1. Yes 2. No 88. Don't know 99. No response	1. Yes 2. No 88. Don't know 99. No response
	6. Hallucinogens or other psychoactive drugs	1. Yes 2. No 88. Don't know 99. No response	1. Yes 2. No 88. Don't know 99. No response
7	**Within the past month, how often did you inject drugs? (Select one answer)** 1. Once 2. Several times 3. Once a week 4. Two to three times a week 5. Four to six times a week 6. Once a day 7. Several times a day 8. Have not injected in the past month 88. Don't know 99. No response *If the respondent did not inject a drug during the past month, or does not remember, or chooses not to answer, thank them for their participation and end the interview.*		

Overdose

8	**Have you experienced overdose in the past year? (Select one answer)** 1. Yes 2. No [go to Q10] 88. Don't know [go to Q10] 99. No response [go to Q10]
9	**What kind of help did you get? (Several answers are acceptable)** 1. Emergency aid 2. Hospital treatment 3. Used naloxone provided through the needle–syringe programme 4. Other (please specify) _____ 88. Don't know 99. No response

Injecting-related HIV exposure and prevention

10	**At the last time you injected drugs, did you use a new sterile needle and syringe? By "new sterile needle and syringe", we mean one that has never been used before by anyone, even you.** 1. Yes 2. No 88. Don't know 99. No response
11	**At the last time you injected drugs, did you share with another person any other injecting equipment, such as the cooker, spoon, rinse water, cotton swab or filter?** 1. Yes 2. No 88. Don't know 99. No response

Access to and coverage of HIV prevention

12	**During the past 3 months, have you received any of the following products or information with no money? (Several answers are acceptable)**				
		Yes	No	Don't know	No response
	1. Brochures/pamphlets/booklets on HIV	1	2	88	99
	2. Information on HIV	1	2	88	99
	3. Condoms	1	2	88	99
	4. Needles and syringes	1	2	88	99
	5. Naloxone	1	2	88	99
	6. PrEP				
	7. Other (please specify) _____	1	2	88	99

13	**Where do you get or buy new needles and syringes? (Several answers are acceptable)**		
		Yes	No
	1. Pharmacy	1	2
	2. Shop	1	2
	3. Hospital	1	2
	4. Family member	1	2
	5. Sex partner	1	2
	6. Friend	1	2
	7. Other person who injects drugs	1	2
	8. Person who sells drugs	1	2
	9. Needle–syringe programme	1	2
	10. Other (please specify) _____	1	2
14	**In the past 3 months, what has stopped you, or made it more difficult to get new, clean needles and syringes when you needed them? (Select all answers that apply)** 1. I did not have any difficulty in getting new, clean needles and syringes in the past 3 months 2. I didn't know where I could get new, clean needles and syringes 3. It was hard to get to the places where they were available 4. I didn't have enough money to pay for new equipment 5. I was worried about being identified and being found out as a person who uses drugs 6. I was afraid I might be caught by or get into trouble with the police 7. I was worried the staff might treat me badly 8. Other (please specify) _____ 88. Don't know 99. No response		
15	**Have you been tested or seen a health-care provider for sexually transmitted infections in the past 3 months?** 1. Yes 2. No 88. Don't know 99. No response		
16	**In the past 3 months, have you received PrEP (pre-exposure prophylaxis)?** 1. Yes 2. No 88. Don't know 99. No response		
17	**In the past 3 months, have you received PEP (post-exposure prophylaxis)?** 1. Yes 2. No 88. Don't know 99. No response		
18	**Have you injected drugs in another country in the past 12 months?** 1. Yes 2. No [go to Q22] 88. Don't know 99. No response		
19	**In which country did you inject drugs?** 1. Republic of Türkiye 2. Russian Federation 3. Ukraine 4. A country in western Europe 5. Other (please specify) _____		

20	**The last time you injected drugs in another country, did you use a new sterile needle and syringe? By "new sterile needle and syringe", we mean one that has never been used before by anyone, even you.** 1. Yes 2. No 88. Don't know 99. No response
21	**The last time you injected drugs in another country, did you share with another person any other injecting equipment, such as the cooker, spoon, rinse water, cotton swab or filter?** 1. Yes 2. No 88. Don't know 99. No response

Drug dependence treatment

22	**Have you applied to a narcology medical facility or specialized centre to get treatment or specialized assistance because you are a person who uses drugs in the past 12 months? (Select one answer)** 1. Yes [go to Q24] 2. No 88. Don't know [go to Q24] 99. No response [go to Q24]		
23	**Why did you not apply to the narcology medical centre? (Select all answers that apply)** 1. Have no desire 2. Very expensive/do not have enough money 3. Due to location/not geographically accessible 4. Could not find a good specialist/doctor 88. Don't know 99. No response		
24	**For the reason of addiction, what kind of medical treatment or specialized assistance have you received over the past 12 months? (Select all answers that apply)**		
		Yes	No
	1. Consultations	1	2
	2. Self-treatment groups	1	2
	3. Detoxification with methadone	1	2
	4. Substitution with methadone	1	2
	5. Detoxification with other medicines	1	2
	6. Detoxification without medicines	1	2
	7. Psychosocial rehabilitation centre	1	2
	8. At home	1	2
	9. Other (please specify) _____	1	2
	88. Don't know	88	
	99. No response	99	
25	**In case of applied, why you did not get treatment or specialized assistance during the past 12 months? (Do not read out the options. Select all answers that apply)** 1. Refused to help me 2. Very expensive/do not have enough money 3. Applied, but there wasn't room for me 4. Applied, but conditions were unsatisfactory 5. Couldn't find good specialist/doctor 6. Other (please specify) _____ 88. Don't know 99. No response		

Sex-related HIV exposure and prevention

27	**Have you had sexual intercourse in the past month?** 1. Yes 2. No [skip to Q30] 88. Don't remember 99. No response
28	**Did you use a condom when you last had sexual intercourse?** 1. Yes 2. No 88. Don't remember 99. No response
29	**Were you taking PrEP when you last had sexual intercourse?** 1. Yes 2. No 88. Don't remember 99. No response
29	**Have you been paid for sex during the past 12 months?** 1. Yes 2. No 88. Don't remember 99. No response

HIV testing history

30	**When were you last tested for HIV? (Select one answer)** 1. In the past 3 months 2. In the past 6 months 3. In the past year 4. In the past 1–2 years 5. More than 2 years ago 6. I have not been tested for HIV 88. Don't know 99. No response
31	**Where were you last tested for HIV? (Select one answer)** 1. Self-tested 2. Testing and counselling centre 3. Health clinic, hospital or similar 4. Outreach or mobile testing 5. Other (please specify) _____ 98. Don't know 99. No response
32	**[Ask only if responded 4, 5 or 6 to Q30]** **Please indicate why you have not been tested for HIV in the past 12 months? (Select one answer)** 1. I was afraid of a positive result 2. I don't think it's necessary 3. I don't know where to go 4. I am worried that someone could get information about my test result 5. They will understand that I use drugs 6. I am afraid the police could get information about my behaviour 7. I did not have money 8. I did not think about it 9. Other (please specify) _____ 99. No response

33	**What was the result of your last HIV test? (Select one answer)** 1. Positive 2. Negative [go to Q36] 3. Indeterminate [go to Q36] 88. Don't know [go to Q36] 99. No response [go to Q36]

HIV treatment history

34	**If your HIV test was positive, have you received antiretroviral therapy in the past 12 months? (Select one answer)** 1. Yes [go to Q36] 2. No 99. No response
35	**Why have you not received antiretroviral therapy in the past 12 months? (Select all answers that apply)** 1. It was not available where I live 2. Commuting is expensive/extra cost 3. I don't have time 4. I didn't think necessary 5. I didn't think of it 6. Afraid of stigma and discrimination 7. Want to stay confidential 8. Other (please specify) _____ 88. No response 99. No response

HCV testing and treatment history

36	**Have you ever been diagnosed with hepatitis C? (Select one answer)** 1. Yes 2. No [end interview] 88. Don't remember 99. No response
37	**Have you been treated for hepatitis C? (Select one answer)** 1. Yes [go to Q39] 2. No 88. Don't remember 99. No response
38	**Why were you not treated? (Select one answer)** 1. It was not accessible where I live 2. Travel/transportation means additional expenses 3. Thought it was not necessary 4. Did not think about it 5. Other (please specify) _____
39	**What was the outcome of your hepatitis C treatment? (Select one answer)** 1. Recovery (sustained viral response) 2. Did not recover 88. I do not know 89. No response

Annex 3 – Budget template: cost estimator

	Units	Number / frequency	Unit cost	Total cost
Staffing costs				
Chief investigator				
Co-investigators				
Study coordinator				
Data collectors (health service/nongovernmental organization staff)				
Database manager				
Statistician				
Administrative support				
Subtotal				
Total staffing costs				

Meeting costs				
Venue hire				
Refreshments				
Subtotal				
Research costs				
Ethics review				
Subtotal				
Database				
Database and survey instrument development				
Server to host database (monthly charge)				
Subtotal				
Recruitment and data collection				
Printing (consent and information forms, coupons)				
Tablets (purchase, lease, existing)				
Participant reimbursement				
Subtotal				
Reporting and publication				
Design				
Printing				
Subtotal				
Support costs				
Office supplies				
Transport				
Subtotal				
Total non-staffing costs				
Total costs				

Annex 4 – Standard operating procedure templates

The following templates are based on standard operating procedures (SOP) developed for the BBS-lite pilot in Uganda. These templates can serve as a guide or starting point to develop similar SOPs for the implementation of the BBS-lite in other settings.

Providing information on the BBS-lite

SOP ID	BBS-Lite 01
Date	
Version	
Purpose	To outline how information describing the BBS-lite is made available to potential study participants
Study sites	
Responsibilities	It is the responsibility of the: ▪ Study staff members (research assistants, peer recruiters, data collectors) to ensure information on the BBS-lite is provided in accordance with this SOP ▪ Study coordinator to oversee the production of information resources and to train study staff members on the provision of information on the BBS-lite
Requirements and tools	Study information flyers
Overview	
Information about the study will be made available through printed materials and verbally, by health service staff and study staff members	
Procedures	
Information flyers ▪ Information flyers will be printed to give to people who may be interested in joining the survey ▪ The flyers should be available to any client interested in the study or in learning more about it ▪ The flyers should include the following information: – **What is the survey about?** The survey is collecting information about HIV, risky behaviours, and people who use HIV services – **Who can take part?** We want to talk to [people from key populations] – **What will I have to do?** You will be asked questions about HIV services, drug use and sexual behaviours. A small amount of blood will be taken to test for HIV. You will be asked to invite your friends to join the study – **Will I be paid?** If you take part in the survey, you will receive a small payment to cover the costs of participating – **Who is conducting this research?** The research is being conducted by [xxxx] – **How will the information collected be used?** The findings from this survey will help us better understand how people are using HIV services, and how these can be improved to better meet the needs of people who they serve – **If I want to participate, what should I do?** If you would like to join the study, speak to [xxxx] ▪ This information should be provided in the local language and written so that it is easily understood by clients of the service	
Verbal information provided by health service staff ▪ All staff at the facility should receive information about the survey so they can answer questions that clients may have about the survey, or to refer clients to speak to a study research assistant or peer worker ▪ Staff can also provide clients with information flyers (see above)	

Assessing eligibility to join the study

SOP ID	BBS-Lite 02
Date	
Version	
Purpose	To outline how to assess the eligibility of people to join the study
Study sites	
Responsibilities	It is the responsibility of the: ▪ Study staff members (research assistants, peer recruiters, data collectors) to ensure eligibility is assessed in accordance with this SOP ▪ Study coordinator to train study staff members on assessing eligibility and to provide day-to-day supervision to ensure eligibility screening is performed correctly
Requirements and tools	Eligibility screening tool

Overview

People who express interest in participating in the BBS-lite must be screened for eligibility before being enrolled into the study

Study research assistants, peer recruiters and data collectors are responsible for assessing the eligibility of all potential participants; in this SOP, they are referred to as "interviewers"

The following eligibility criteria are applied:

- Inclusion criteria: [List criteria]
- Exclusion criteria:[List criteria]

Procedures

- Anybody who expresses an interest in joining the study is referred to an interviewer to be assessed for their eligibility to join the study
- The interviewer administers the eligibility screening tool
- The interviewer assesses whether the person is in a fit mental and physical state to provide informed consent and to complete the survey interview
- The interviewer records on the recruitment log whether the person was eligible or ineligible to join the study
- If the person is not eligible to join the study, the interviewer thanks them for their interest and informs them they are not able to join the study because only people meeting the study criteria are able to join
- If the person is eligible to join the study, the interviewer obtains informed consent following the procedures described in the SOP on obtaining informed consent

Obtaining informed consent

SOP ID	BBS-Lite 03
Date	
Version	
Purpose	To outline procedures to be followed by interviewers when obtaining informed consent from study participants
Study sites	
Responsibilities	It is the responsibility of the: ▪ Study staff members (research assistants, peer recruiters, data collectors) to ensure informed consent is obtained in accordance with this SOP ▪ Study coordinator to train study staff members on obtaining informed consent and to provide day-to-day supervision to ensure informed consent is obtained consistently and correctly
Requirements and tools	Participant information and consent form Recruitment log

Overview

Study research assistants, peer recruiters and data collectors are responsible for obtaining informed consent from all participants; in this SOP, they are referred to as "interviewers"

The interviewer provides all participants with information about the study. The interviewer must be certain that all participants understand this information

Participants must sign a consent form, witnessed by the interviewer

Procedures

- Once it has been confirmed that a person is eligible to participate in the study (see the SOP on assessing eligibility to join the study), informed consent must be obtained
- The interviewer reads out the information on the participant consent form to the participant
- The interviewer asks the participant whether they have any questions about the study and the information provided, and whether they understand this information. The following script can be used:
  - "Do you have any questions about what I have just read, or about the study? Is there anything that I have explained that you are worried about?"
- Once the participant has had an opportunity to have any questions answered and the interviewer is satisfied the participant understands the information, the interviewer asks the participant if they consent to:
  - Survey participation and interview
  - Biological testing
- The interviewer records the participant's response on the participant consent form
- If the participant does not consent to survey participation, the interviewer thanks them for their time and ends the recruitment process and interview. The interviewer records this choice in the recruitment log
- The interviewer asks the participant to sign and date the participant consent form
- The interviewer signs and dates the participant consent form as a witness
- The interviewer provides the participant with a copy of the participant consent form
- The interviewer records that the participant has given informed consent in the recruitment log
- Once informed consent has been obtained, the interviewer follows the procedures outlined in the SOP on administering the survey data collection instrument

Administering the survey data collection instrument

SOP ID	BBS-Lite 04
Date	
Version	
Purpose	To outline how to administer the survey data collection instrument, including how to use the tablet and how to facilitate participant self-completion of the questionnaire using audio computer-assisted self-interviewing (ACASI) on a tablet
Study sites	
Responsibilities	It is the responsibility of the: ▪ Study staff members (research assistants, peer recruiters, data collectors) to ensure the tablets are looked after and used correctly and that participants successfully complete the survey questionnaire in accordance with this SOP ▪ Study coordinator to train study staff members on looking after and using the tablets and facilitating successful completion of the survey questionnaire, and to provide day-to-day supervision of the data collection process
Requirements and tools	Tablets Survey questionnaire (ACASI) loaded on tablets
Overview	
Data are collected using a survey questionnaire on a tablet The questionnaire is self-completed by participants using ACASI Research assistants and peer recruiters are responsible for the tablets and must understand how to use them. They instruct participants on how to complete the survey on the tablet and supervise this data collection process The SOP is divided into the following subsections: ▪ Using the tablet ▪ Collecting data using ACASI on the tablet	

Using the tablet

SOP ID	BBS-lite 4a
Date	
Version	
Purpose	To outline how to perform basic operations and troubleshoot issues on the tablet To outline how to adhere to strict COVID-19 infection prevention control measures when using the tablet to protect staff, colleagues and community members
Study sites	
Responsibilities	It is the responsibility of the: ▪ Study staff members (research assistants, peer recruiters, data collectors) to ensure the tablets are looked after and used correctly and that participants successfully complete the survey questionnaire in accordance with this SOP ▪ Study coordinator to train study staff members on looking after and using the tablets and facilitating the successful completion of the survey questionnaire, and to provide day-to-day supervision of the data collection process
Requirements and tools	Tablets Survey questionnaire (ACASI) loaded on tablets
Procedures	

Tablet security

- Study equipment (including tablets) must be used only for the BBS-lite study
- BBS-lite study data may be stored only on BBS-lite study equipment
- Ensure security and prevent unauthorized use of all BBS-lite study equipment
- Never share user codes or tablet passwords with any non-study staff or any other person
- Maintain all equipment in the best condition possible (e.g. protect tablets from scratches, exposure to liquids and excessive dust, and store in a safe location when not in use)
- Maintain all equipment in the safest possible way to prevent spread of COVID-19 by using cleaning and disinfecting techniques

Password or PIN

- Interviewers are given a password or PIN, which they will need to use the tablet
- The interviewer should memorize the password or PIN
- The password or PIN must never be carried with the tablet
- The interviewer can store the password or PIN as a note or in a text message on their phone, but this note or text message must not include information on what it is referring to
- If the password or PIN is lost or misplaced, the interviewer can ask their supervisor, who will have a copy of it on record

Protection against theft and unauthorized access

- Interviewers are responsible for the security of the tablets
- If a tablet is lost or stolen, the interviewer must report this immediately to their supervisor and the police and record it as an incident
- Log off or turn off the tablet when not in use
- Do not share the password or PIN with any unauthorized staff or other person
- Keep the tablet password or PIN separate from the tablet
- Exercise discretion if using the tablet in public
- Regularly check accessories to ensure nothing is lost, especially when transporting
- Keep the tablet at hand at all times when in use, and store it in a safe place when not in use

Safe handling of the tablet

- Do not expose the tablet to liquid, rain or moisture
- If anything is spilled on the tablet, wipe the spillage off and power off the tablet immediately
- Keep tablet inside its cover
- Never drop the tablet
- Do not leave the tablet in direct sunlight
- Turn off the tablet when transporting

Infection prevention and control

- Disinfect the tablet in the following circumstances:
  - After finishing an interview
  - Before handing it to another user
  - After sneezing, coughing or talking while holding the tablet
  - After the tablet has been in contact with a potentially contaminated surface
  - Before packing the tablet into its bag

Collecting data using ACASI on the tablet

SOP ID	BBS-Lite 04b
Date	
Version	
Purpose	To describe how interviewers will assist participants to complete the questionnaire using a tablet
Study sites	
Responsibilities	It is the responsibility of the: ▪ Study staff members (research assistants, peer recruiters, data collectors) to ensure the tablets are looked after and used correctly and that participants successfully complete the survey questionnaire in accordance with this SOP ▪ Study coordinator to train study staff members on looking after and using the tablets and facilitating the successful completion of the survey questionnaire, and to provide day-to-day supervision of the data collection process
Requirements and tools	Tablet Survey questionnaire (ACASI) loaded on tablet

Procedures

- Once the participant has provided informed consent (see the SOP on obtaining informed consent), the interviewer explains to the participant how to use the tablet to complete the survey questionnaire
- The interviewer should ensure the participant has a quiet and private place to complete the questionnaire
- The interviewer prepares the tablet ready for use
- The interviewer gives the participant instructions on completing the questionnaire. The following script can be used:

"We are using these tablets for this interview. You can complete this interview yourself using this tablet. But I will be nearby to give you any assistance you might need. The interview is simple and short. You can listen to and read the questions. To stop or listen to a question again, you can use the play/stop button on the tablet [show the participant this button].

"To answer, simply touch the answer that fits best. Please answer all questions—there are no 'right' or 'wrong' answers. When you have answered a question, click 'Next' or swipe to the left to go to the next question. If you want to go back to a question, click 'Back' or swipe to the right.

"For some questions, you answer by touching either 'Yes' or 'No'. For some questions, you choose the best of several possible answers. For some questions, you have to type a number—for example, 'What is your age?'

"If you have any problems during the interview, just call me. Do you have any questions? Remember the interview is completely private. Please answer all the questions—there are no 'right' or 'wrong' answers. Always pick the answer that fits best.

"Let me know once you have finished the interview. OK—let's start."

- The interviewer should give the participant privacy while they complete the questionnaire but remain nearby, so the participant can ask for assistance if needed
- Once the participant has completed the questionnaire, the interviewer takes the tablet and saves the survey form
- If it is necessary for any reason to edit a saved form, click on "Edit saved form". Click on the form to be edited. Complete the edit and then resave the form by clicking the "Save" button
- Saved forms are automatically sent to the finalized form folder
- Finalized forms should be sent to the server. To do this, connect the tablet to the internet through wifi

Collecting and testing biological specimens

SOP ID	BBS-Lite 05
Date	
Version	
Purpose	To outline procedures to be followed by interviewers to collect samples for HIV screening
Study sites	
Responsibilities	It is the responsibility of the: ▪ Study staff members (research assistants, peer recruiters, data collectors) to ensure biological specimens are collected in accordance with this SOP ▪ Study coordinator to train study staff members collecting biological specimens, and to provide day-to-day supervision to ensure this is undertaken consistently and correctly
Requirements and tools	HIV testing kits
Overview	
Study research assistants, peer recruiters and data collectors are responsible for collecting biological specimens from participants for HIV testing. In this SOP, these staff are referred to as "interviewers"	
Procedures	
▪ Once the participant has completed the survey questionnaire, a blood sample is collected by [xxxx] using [xxxx] ▪ The sample is tested by [xxxx] using [xxxx]. If it is positive or indeterminant, a second assay is done. If the second test is positive or indeterminant, a third assay is done ▪ All biological specimens are destroyed after testing for HIV. No samples are stored or used for any other purpose ▪ If the test is positive, the participant is offered post-test counselling and referred or linked to antiretroviral therapy and care ▪ If the test is negative, the participant is offered post-test counselling and referred or linked to HIV prevention services ▪ Post-test counselling messages are tailored to the participant's HIV result and risk profile ▪ Post-test counselling includes goals, means and strategies for behavioural risk reduction, maintenance of risk reduction, and explanation of risk reduction methods (e.g. condom use, drug use) ▪ Counselling for participants living with HIV includes assessment of psychosocial needs, discussion of living with HIV, treatment and care, and issues related to discrimination ▪ The risk of HIV transmission to partners is discussed, and strategies for behavioural change addressed	

Providing coupons for snowball recruitment

SOP ID	BBS-Lite 06
Date	
Version	
Purpose	To outline procedures to be followed by interviewers when providing coupons to participants for recruitment peers in their networks
Study sites	
Responsibilities	It is the responsibility of the: ▪ Study staff members (research assistants, peer recruiters, data collectors) to ensure this SOP is followed ▪ Study coordinator to train study staff members, and to provide day-to-day supervision to ensure this SOP is followed consistently and correctly
Requirements and tools	Snowball recruitment coupons Coupon log

Overview

After completing the survey questionnaire and biological sample collection, the interviewer gives the participant coupons to distribute to people in their network inviting them to join the study

Procedures

- Once the participant has completed the questionnaire and the biological specimen has been collected, the interviewer gives the participant five recruitment coupons
- The recruitment coupons are numbered. The interviewer records in the coupon log the participant ID against the coupons provided
- Each recruitment coupon includes the following information:
  - A confidential survey about HIV is being conducted
  - If you would like to participate, please come to [name of facilities in district] between the hours of [xx] and [xx]
- The interviewer gives the participant instructions on how to distribute the recruitment coupons. The following script can be used:

"We will give you five coupons to give to friends, relatives or people you are close to so they can be in the survey too. The coupons will be used to recruit them to be in the survey. You should give the coupons to people you know who are [target population]. Because people can be in the survey only once, do not give the coupons to anyone who has already participated.

"When you give the coupons out, be sure to tell the people you recruit about the survey. For example, tell them that the survey is confidential, and that the information will be used to provide better services for [target population].

"Mention that there is an interview and a test for HIV, and that the whole survey process should take about 15–30 minutes.

"People you give coupons to who complete the survey will be given [xxxx], like you today. We will not admit anyone into the survey who is drunk or high on drugs.

"Do you have any questions? "OK—remember to give the coupons to people you know. Thanks for helping us!"

Providing compensation to participants

SOP ID	BBS-Lite 07
Date	
Version	
Purpose	To outline procedures to be followed by interviewers when providing compensation to participants for participating in the study
Study sites	
Responsibilities	It is the responsibility of the: ▪ Study staff members (research assistants, peer recruiters, data collectors) to ensure this SOP is followed ▪ Study coordinator to train study staff members, and to provide day-to-day supervision to ensure this SOP is followed consistently and correctly
Requirements and tools	Payments (cash [xxxx] per participant) Participant compensation log
Overview	
After completing the survey questionnaire, collecting the biological sample and providing the participant with coupons, the interviewer gives each participant a small payment, in cash, to reimburse them for participation in the study	
Procedures	
▪ Once all the study procedures have been completed (survey questionnaire, biological sample collection and testing, coupon distribution), the interviewer thanks the participant and gives them [xxxx] ▪ Cash for payments is stored in [xxxx]. The interviewer withdraws [xxxx] and signs for it ▪ The interviewer records that payment has been made to the participant, witnessed by [xxxx], in the participant compensation log	

Appendix 1.a. Sample questionnaire for participants who are sex workers

	DM	DEMOGRAPHICS		
1.	SEX Female sex	Are you born female, male or intersex?	Female 1 Male 2 Intersex 3	
2.	GEND Gender identity	Do you identify as female, male, intersex, transgender or other?	Female 1 Male 2 Intersex 3 Transgender 4 Other 5	
3.	AGE Age	How old were you at your last birthday?	## Range: 10-65	
	SW	**SEX WORK HISTORY**		
4.	SWAGE Age of sex work debut	How old were you when you first had sex with someone for money?	## Min: 10; max: tutage (current age)	
5.	SWCOND Condom use last 3 sex acts	Think about the last three times you had sex with a client. How many times did you and the client use a condom?	One time 1 Two times 2 All three times 3 Didn't use a condom at all 4	
	DRI	**INJECTING DRUG USE**		
6.	DRIEV Last injected drugs	Some people inject drugs to get high. When did you last inject drugs for pleasure?	In the last 6 months 1 Longer than 6 months ago 2 Never 3	If response = 3 skip to Q11
7.	DRIFRQ Frequency of injecting drugs	How often do you usually inject drugs?	Less than monthly 1 Monthly 2 Weekly 3 daily or almost daily 4	
8.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	In the last 6 months, which drug is your primary drug of choice?	Heroin 1 Cocaine 2 Methamphetamine 3 A pharmaceutical opioid 4 Other 5	
9.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	The last time you injected drugs, did you use a sterile needle and syringe?	Yes 1 No 2	
10.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	Why do you not always use a new needle and syringe?	Not available 1 Difficult to find 2 Expensive 3 Peer pressure to share needle and syringe 4 I believe the person sharing has the same HIV status 5 I always use a new needle and syringe 6	

	HVT	HIV TESTING HISTORY		
11.	HVTEST Ever HIV tested	Have you ever tested for HIV/AIDS?	Yes 1 No 2	If response = YES skip to Q13
12.	HVNVREAS Reason never tested	Why have you never tested? Please select the best answer.	I don't feel at risk 1 I fear testing positive 2 I fear stigma by health care provider 3 I fear others may learn my result 4	Skip to Q21
13.	HVDT Time of last HIV test	When did you last test for HIV?	In the last 6 months 1 In the last 7-12 months 2 In the last 1-2 years 3 More than two years ago 4	If response = 3 or 4 skip to Q16
14.	HVNO12MO Reason not tested last 12 months	Why have you not tested in the last 12 months? Please select the best answer.	I don't feel at risk 1 I fear testing positive 2 I fear stigma by health care provider 3 I fear others may learn my result 4 I already know i am positive 5	
15.	HVSETT Testing setting	Where did you last test for HIV?	At a testing center 1 At a hospital or health clinic 2 Through outreach or mobile testing 3 Other 4	
16.	HVRES Last HIV test result	What was your last test result?	Negative 1 Positive 2 I don't know 3	If response = 1 or 3 skip to Q18
17.	HVRESP Result of first HIV+	Which month and year did you first test HIV-positive?	Year #### month ##	
18.	HVRESN Result of last HIV-	Which month and year did you last test HIV-negative?	Year #### month ##	
	ART	**ANTIRETROVIRAL THERAPY**		
19.	HVART Currently on ART	Do you take ARVs to treat your HIV infection?	Yes 1 No 2	Skip if response to Q16= 1 or 3 If response = 1 skip to Q21
20.	HVNOART Reason why not on ART	Why do you not take treatment for HIV?	I feel healthy 1 I don't want anyone to know about my HIV 2 I fear health care provider will not respect me 3 I don't have time 4 Other 5	

		HIV PREVENTION		
21.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	Have you been given condoms and lubricant (for example, through an outreach service, drop-in centre or sexual health clinic)?	Yes, in the last 1 month 1 Yes, in the last 3 months 2 Yes, in the last 6 months 3 Yes, longer than 6 months ago 4 No, i have not been given condoms and lubricant 5	
22.	PRTAKE Last took PrEP	Have you used PrEP?	Yes, in the last 7 days 1 Yes, in the last 6 months 2 Yes, longer than 6 months ago 3 No, have never taken prep 4	If response = 1, 2 or 3 skip to Q24
23.	HVNOWHY Reason no PrEP	What is the main reason you don't use PrEP?	Don't know how to get it 1 Afraid of side effects 2 I feel i don't need it 3 too expensive 4 People may think i have HIV 5 Other 6	
24.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	Have you been tested for sexually transmitted infections?	Yes, in the last 1 month 1 Yes, in the last 3 months 2 Yes, in the last 6 months 3 Yes, longer than 6 months ago 4 No, i have not been tested for stis 5	
25.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	Have you received new, clean needles or syringes from a health service, an needle and syringe program, an outreach service or a drop-in centre?	Yes, in the last 1 month 1 Yes, in the last 3 months 2 Yes, in the last 6 months 3 Yes, longer than 6 months ago 4 No, i have not received needles or syringes from these services 5	If response to Q6 = 3 skip to Q29
26.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	In the last 6 months when you injected, where did you get your needles/ syringes from?	Pharmacy/chemist 1 Clinic or hospital, other health agency, Hiv prevention program 2 Market place or street vendor 3 Drug worker or agency / outreach worker or street unit 4 Sex partner, friend, acquaintance, relative 5 Drug dealer or other drug user 6 Other 7	
27.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	Have you been in a drug treatment program?	Yes, in the last 1 month 1 Yes, in the last 3 months 2 Yes, in the last 6 months 3 Yes, longer than 6 months ago 4 No, i have not been in a drug treatment program 5	
28.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	Have you received medication such as methadone or buprenorphine for your drug dependency?	Yes, in the last 1 month 1 Yes, in the last 3 months 2 Yes, in the last 6 months 3 Yes, longer than 6 months ago 4 No, i have not received methadone or buprenorphine 5	
	RH	REPRODUCTIVE HEALTH		
29.	RHFP Current family planning	Do you currently use any family planning method?	Yes 1 No 2	Skip if response to Q1 = male
30.	RHFPMETH Which family planning method	Which method do you use?	Pill 1 Injection 2 Norplant 3 Iud 4 Other 5	Skip if response to Q1 = male

		PHYSICAL VIOLENCE		
31.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	In the last 12 months, how many times has anyone physically hurt you such as hit or choked you, or threatened you with a knife or other weapon?	This has not happened to me in the last 12 months 1 Once 2 2-5 Times 3 6-10 Times 4 More than 10 times 5 Don't know 6 refusesed to answer 7	
32.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	The last time this has happened, what was your relationship to the person who did any of these things to you? If it was more than one person, what was your relationship with the person who started the violence in the most recent time this happened? CHECK ALL THAT APPLY.	Paying sex partnere 1 non-paying sex partnre 2 police/military/authority figure 3 Relative 4 Friend/acquaintance 5 Other 6 Don't know 7 refusesed to answer 8	
33.	VCCOERATT Failed coerced sex	Has anyone ever tried to make you have sex against your will but did not succeed?	Yes 1 No 2	
34.	VCCOERCED Coerced sex	Has anyone ever pressured you to have sex, through harassment, threats or tricks and did succeed?	Yes 1 No 2	
35.	VCRPATT Failed rape attempt	Has anyone ever physically forced you to have sex and did succeed?	Yes 1 No 2	
36.	VCPERP(X) Who coerced or raped	Which of the following people ever pressured or forced to have sex? Check all that apply.	Boyfriend / spouse 1 relative / family member 2 classmate / schoolmate 3 Teacher 4 police / security officer / military 5 Employer 6 Neighbor 7 Religious leader 8 Friend 9 Stranger 10 Client 11	
37.	VCHELP What kind of help sought	After any of these unwanted sexual experiences, which professional help or services did you get? Check all that apply.	I did not try to seek help 1 healthcare professional 2 Police or other security personnel 3 social worker, counselor or ngo 4 Religious leader 5 Other 6	

Appendix 1.b. Sample questionnaire for participants who are people who inject drugs

	DM	DEMOGRAPHICS		
1.	SEX Female sex	Are you born female, male or intersex?	Female 1 Male 2 Intersex 3	
2.	GEND Gender identity	Do you identify as female, male, intersex, transgender or other?	Female 1 Male 2 Intersex 3 Transgender 4 Other 5	
3.	AGE Age	How old were you at your last birthday?	## Range: 10-65	
	DRI	**INJECTING DRUG USE**		
4.	DRIEV Last injected drugs	Some people inject drugs to get high. When did you last inject drugs for pleasure?	In the last 6 months 1 Longer than 6 months ago 2	
5.	DRIFRQ Frequency of injecting drugs	How often do you usually inject drugs?	Less than monthly 1 Monthly 2 Weekly 3 daily or almost daily 4	
6.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	In the last 6 months, which drug is your primary drug of choice?	Heroin 1 Cocaine 2 Methamphetamine 3 A pharmaceutical opioid 4 Other 5	
7.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	The last time you injected drugs, did you use a sterile needle and syringe?	Yes 1 No 2	
8.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	Why do you not always use a new needle and syringe?	Not available 1 Difficult to find 2 Expensive 3 Peer pressure to share needle and syringe 4 I believe the person sharing has the same HIV status 5 I always use a new needle and syringe 6	
	SW	**SEX WORK HISTORY**		
9.		Have you ever had sex with someone for money?	Yes 1 No 2	If response = NO skip to Q12
10.	SWAGE Age of sex work debut	How old were you when you first had sex with someone for money?	## Min: 10; max: tutage (current age)	
11.	SWCOND Condom use last 3 sex acts	Think about the last three times you had sex with a client. How many times did you and the client use a condom?	One time 1 Two times 2 all three times 3 Didn't use a condom at all 4	

	HVT	HIV TESTING HISTORY		
12.	HVTEST Ever HIV tested	Have you ever tested for HIV/AIDS?	Yes 1 No 2	If response = YES skip to Q14
13.	HVNVREAS Reason never tested	Why have you never tested? Please select the best answer.	I don't feel at risk 1 I fear testing positive 2 I fear stigma by health care provider 3 I fear others may learn my result 4	
14.	HVDT Time of last HIV test	When did you last test for HIV?	In the last 6 months 1 In the last 7-12 months 2 In the last 1-2 years 3 More than two years ago 4	If response = 3 or 4 skip to Q16
15.	HVNO12MO Reason not tested last 12 months	Why have you not tested in the last 12 months? Please select the best answer.	I don't feel at risk 1 I fear testing positive 2 I fear stigma by health care provider 3 I fear others may learn my result 4 I already know i am positive 5	
16.	HVSETT Testing setting	Where did you last test for HIV?	At a testing center 1 At a hospital or health clinic 2 Through outreach or mobile testing 3 Other 4	
17.	HVRES Last HIV test result	What was your last test result?	Negative 1 Positive 2 I don't know 3	If response = 1 or 3 skip to Q19
18.	HVRESP Result of first HIV+	Which month and year did you first test HIV-positive?	Year #### month ##	
19.	HVRESN Result of last HIV-	Which month and year did you last test HIV-negative?	Year #### month ##	
	ART	**ANTIRETROVIRAL THERAPY**		
20.	HVART Currently on ART	Do you take ARVs to treat your HIV infection?	Yes 1 No 2	Skip if response to Q17= 1 or 3 If response = 1 skip to Q22
21.	HVNOART Reason why not on ART	Why do you not take treatment for HIV?	I feel healthy 1 I don't want anyone to know about my HIV 2 I fear health care provider will not respect me 3 I don't have time 4 Other 5	

		HIV PREVENTION		
22.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	Have you been given condoms and lubricant (for example, through an outreach service, drop-in centre or sexual health clinic)?	Yes, in the last 1 month 1 Yes, in the last 3 months 2 Yes, in the last 6 months 3 Yes, longer than 6 months ago 4 No, i have not been given condoms and lubricant 5	
23.	PRTAKE Last took PrEP	Have you used PrEP?	Yes, in the last 7 days 1 Yes, in the last 6 months 2 Yes, longer than 6 months ago 3 No, have never taken prep 4	If response = 1, 2 or 3 skip to Q25
24.	HVNOWHY Reason no PrEP	What is the main reason you don't use PrEP?	Don't know how to get it 1 Afraid of side effects 2 I feel i don't need it 3 Too expensive 4 People may think i have HIV 5 Other 6	
25.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	Have you been tested for sexually transmitted infections?	Yes, in the last 1 month 1 Yes, in the last 3 months 2 Yes, in the last 6 months 3 Yes, longer than 6 months ago 4 No, i have not been tested for stis 5	
26.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	Have you received new, clean needles or syringes from a health service, an needle and syringe program, an outreach service or a drop-in centre?	Yes, in the last 1 month 1 Yes, in the last 3 months 2 Yes, in the last 6 months 3 Yes, longer than 6 months ago 4 No, i have not received needles or syringes from these services 5	
27.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	In the last 6 months when you injected, where did you get your needles/ syringes from?	Pharmacy/chemist 1 clinic or hospital, other health agency, HIV prevention program 2 Market place or street vendor 3 Drug worker or agency / outreach worker or street unit 4 sex partner, friend, acquaintance, relative 5 Drug dealer or other drug user 6 Other 7	
28.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	Have you been in a drug treatment program?	Yes, in the last 1 month 1 yes, in the last 3 months 2 yes, in the last 6 months 3 Yes, longer than 6 months ago 4 No, i have not been in a drug treatment program 5	
29.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	Have you received medication such as methadone or buprenorphine for your drug dependency?	Yes, in the last 1 month 1 Yes, in the last 3 months 2 Yes, in the last 6 months 3 Yes, longer than 6 months ago 4 No, i have not received methadone or buprenorphine 5	
	RH	REPRODUCTIVE HEALTH		
30.	RHFP Current family planning	Do you currently use any family planning method?	Yes 1 No 2	Skip if response to Q1 = male
31.	RHFPMETH Which family planning method	Which method do you use?	Pill 1 Injection 2 Norplant 3 Iud 4 Other 5	Skip if response to Q1 = male

		PHYSICAL VIOLENCE		
32.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	In the last 12 months, how many times has anyone physically hurt you such as hit or choked you, or threatened you with a knife or other weapon?	This has not happened to me in the last 12 months 1 Once 2 2-5 Times 3 6-10 Times 4 More than 10 times 5 Don't know 6 refusesed to answer 7	
33.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	The last time this has happened, what was your relationship to the person who did any of these things to you? If it was more than one person, what was your relationship with the person who started the violence in the most recent time this happened? CHECK ALL THAT APPLY.	Paying sex partnere 1 Non-paying sex partnre 2 Police/military/authority figure 3 Relative 4 Friend/acquaintance 5 Other 6 Don't know 7 Refusesed to answer 8	
34.	VCCOERATT Failed coerced sex	Has anyone ever tried to make you have sex against your will but did not succeed?	Yes 1 No 2	
35.	VCCOERCED Coerced sex	Has anyone ever pressured you to have sex, through harassment, threats or tricks and did succeed?	Yes 1 No 2	
36.	VCRPATT Failed rape attempt	Has anyone ever physically forced you to have sex and did succeed?	Yes 1 No 2	
37.	VCPERP(X) Who coerced or raped	Which of the following people ever pressured or forced to have sex? Check all that apply.	Boyfriend / spouse 1 Relative / family member 2 Classmate / schoolmate 3 Teacher 4 Police / security officer / military 5 Employer 6 Neighbor 7 Religious leader 8 Friend 9 Stranger 10 Client 11	
38.	VCHELP What kind of help sought	After any of these unwanted sexual experiences, which professional help or services did you get? Check all that apply.	I did not try to seek help 1 Healthcare professional 2 Police or other security personnel 3 Social worker, counselor or ngo 4 Religious leader 5 Other 6	
		Sexually transmitted infections		
39.	[QUESTION NOT IN CRANE SURVEY – BUT ALIGNED WITH BLUE BOOK]	Have you received medication such as methadone or buprenorphine for your drug dependency?	Yes, in the last 1 month 1 yes, in the last 3 months 2 yes, in the last 6 months 3 Yes, longer than 6 months ago 4 No, i have not received methadone or buprenorphine 5	

Appendix 1.c. Sample questionnaire for participants who are men who have sex with men

Coupon Number:

Questionnaire Number:

City: _____

The respondent belongs to the group: Men who have had sex with men during the last 12 months
Introduction: "My name is _____ The study is conducted by the Equality Movement, a study on behavioral overdose in the MSM population and the size of the same population, funded by UNAIDS.
Have you already participated in this study in the last 2 months, have you had an interview?
Reference to the interviewer: If the beneficiary has already been interviewed by the respondent during the BSS-lite study, do not conduct an interview repeatedly. Explain to the respondent that it is prohibited to poll a person twice in the same survey. Thank you for coming and saying goodbye. And in case the person has not participated in the survey, continue the interview!

Interviewer's name, surname:

Date:

Result:

Results Encoding: Completed - 1; partially completed - 2; Already interviewed - 3; Discontinued - 4; Others - 5. Refusal to participate-6

Q1. Date and time of the interview:
Date: _____ Time: Clock _____ minutes _____
Signature: _____ Date: _____

General reference to interviewers: With the exception of the exceptions where the question indicates the words "do not read", read all possible answers to all questions except when the answers to the question: "Yes", "No", "I don't know" . The sign implies → a transition to another question or section. If you see the symbol, although the word "section" is not specified, this implies moving to the specified question.

Section A: Demographic data:

Remember that only men should be interviewed using this tool.

A1. The research participant was attracted

1. From the service center
2. 2. With a coupon – "on the principle of a snow team"

A2. Have you ever benefited from the services of any community/service provider?

1. Yes, in support
2. Yes, in the Equality Movement
3. Yes, in identity
4. In both of them
5. No

A3. Have you used the services of a community/service provider organization for the past 2 years ?

1. Well yes
2. No

A4. Participant's 15-digit code _____

A5. How old are you? _____

Refuse to answer 99

A6. **Gender assigned at birth (check one answer)**

1. Male
2. Female

A7. Which gender do you consider yourself in? (Mark one reply)

1. Man
2. Women
3. Transgender
4. Non-binary
5. Intersex
6. Other (specify _____)

99. Refusal to answer

A8. Which city do you live in?

Tbilisi 1
Batumi 2
Kutaisi 3
Other 4

A9.Do you have permanent housing? (Require)

Well yes	1
No, I have to rent an apartment	2
No, I live with someone else	3
Refuse to answer	99

A10. What is your education level

No education	0
Primary Education	1
Secondary education (grades 5-11), general or vocational school	2

Incomplete Higher	3
Higher Education (Undergraduate, Masters, PhD)	4
Refuse to answer	99

A11. Are you a citizen of Georgia?

Well yes	1
No	2
Refuse to answer	99

A12. Marital status?

married 1
Divorced/Living Separately 2
Widowed 3
Unmarried 4
Other (explain) _____
Refuse to answer 99

A13. Are you employed? (Do not read the options)

Yes, I have a permanent job	1
Yes, I have a temporary job	2
Student	3
No	4
Other (Clarify) _____	5
Refuse to answer	99

A14. Did you participate in the support study (regular IBSS) which included testing and filling out the questionnaire? *(Interviewer: Focus on the fact that the study included two components: testing and filling out the questionnaire)*

Yes (2017)	1
Yes (2015)	2
Yes (2023)	3
No	4
I can't remember	88
Refuse to answer	99

Section B: History of sexual contacts: Number and types of partners

B1. How old were you when you first had sex with a man?

_____ years old
Refuse to answer 99

B2. **Have you had sex with a man for the past 12 months?**

Well yes	1	
No	2	(Stop and finish the interview).

B3. In general, which sex practices do you prefer?

Passive (receiver penetrrational/penetration)	1
Active (issuer penetrrational/penetration)	2
Universal (both receiver and issuer penetrative/penetration)	3
Refuse to answer	99

B4. Please recall if you were in the last contact with any of the following substances?
(Mark the appropriate option for each answer)
Innervier: If the respondent has tried injection drugs, then ask:
Of the substances used in the last month, which drug niveters have you tried to inject? *(It is possible to highlight a few answers)*
[Ask a question from each section, and list the drugs as needed]

			6.A **Used for the last month (injection or non-injection)**	**6.B** **Injection during the last month**
1. Heroin	• Heroin • Siretz		1. Yes 2. No 88.Don't know 99. Refusal to answer	1. Yes 2. No 88.Don't know 99. Refusal to answer
2. Other opioids	• Codeine • Opium • Poppy • Morphine • Tramadol	• Methadone • Suboxon • Subutex • Desomorphine ("crocodile") • GHB	1. Yes 2. No 88.Don't know 99. Refusal to answer	1. Yes 2. No 88.Don't know 99. Refusal to answer
3. Cocaine or amphetamine type stimulants	• Cocaine • Amphetamine • Ecstasy methamphetamine (Vint), crystal • Metkathinone (Jeff), bath salt		1. Yes 2. No 88.Don't know 99. Refusal to answer	1. Yes 2. No 88.Don't know 99. Refusal to answer
4. Benzodiazepines, barbiturates and other pharmaceutical sedatives and sleepers	• Barbiturates Tranquilizers • Zopiclon • Zaleplon	• Diazepam • Nitrazepam • Reladorm	1. Yes 2. No 88.Don't know 99. Refusal to answer	1. Yes 2. No 88.Don't know 99. Refusal to answer
5. Other pharmaceutical anxiolytic and antihistamines	• Antihistamines • Baclofen • Gabapapentin	• Pregabalin	1. Yes 2. No 88.Don't know 99. Refusal to answer	1. Yes 2. No 88.Don't know 99. Refusal to answer
6. Hallucinogens and other psychoactive drugs	• LSD • Cannabis • Marijuana • Hashish • Anasha	• Bio • Bio-LSD • Cyclodol • Tropicamide • Magitus	1. Yes 2. No 88.Don't know 99. Refusal to answer	1. Yes 2. No 88.Don't know 99. Refusal to answer
7. Alcohol			1. Yes 2. No 88.Don't know 99. Refusal to answer	
8. Poppers			1. Yes 2. No 88.Don't know 99. Refusal to answer	

B5. When the last injection of the drug, or did you use a fresh, sterile needle/syringe?

yes	1
No	2
I can't remember	88
Refuse to answer	99

Now I would like to ask you some questions about your partners in the last 12 months:

B6. How many regular partner men have you had in the last 12 months?
_____ (**Clarify:** A regular partner refers to a sexual partner with whom you interact without financial benefits and the relationship is regular and stable).

B7. How many random partner men have you had in the last 12 months?
_____ (**Clarify:** Random partner refers to a sexual partner with whom you have sex without material compensation, for a short period of time, and this person is not a permanent stable, partner and/or sex worker)

B8. How many commercial sex workers have you had in the last 12 months?
_____ (**Clarify:** A commercial sex worker partner refers to a partner with whom sexual contact is established in exchange for money and other material benefits)

B9. Please remember who your partner was during last sexual contact?

One regular partner	1
One Random Partner	2
Commercial Sex Worker Partner	3
Several partners (group sex)	4
Refuse to answer	99

B10. Did you or your partner use a condom during the last sexual intercourse?

Well yes	1
No	2
I can't remember	88
Refuse to answer	99

B11. How often has a condom been used by you or your partner in the last 12 months?

Every time	1
Frequently	2
Sometimes	3
Never	4
I don't know	88
Refuse to answer	99

B12. Have you had unprotected sex abroad over the past year?

Well yes	1
No	2
I can't remember	88
Refuse to answer	99

B13. Do you get a prep or pep?

Yes, I get a prep	1
Yes, I get Pep	2
NOT	3
I don't want to disclose	88
Refuse to answer	99

B14. Or was your last sexual partner's HIV status known?

HIV-positive	1
HIV-negative	2
I don't know if his HIV status is	3
Refuse to answer	99

B15. Do you resort to the practice of serosorting? *(Selection of partners with their HIV status)*

Yes	1
Ref	2
Don't know/don't remember	88
Refuse to answer	99

B16. The last time you had sex with a man, your partner *(read some answers)*

He (partner) was getting a prep	1
He (partner) was getting Pep	2
Don't know/don't remember	88
Refuse to answer	99

B17. Do you have transactional sex? *(Explain: Transactional sex implies sex in exchange for money and/or other benefits)*

Well yes	1
Ref	2
Refuse to answer	99

B18. Have you had sex with a woman for the past 12 months?

Well yes	1	
No	2	→ **B20**
Refuse to answer	99	

B19. When having sex with a female partner, how often have you used a condom in the last 12 months?

Every time	1
Frequently	2
Sometimes	3
Never	4
I don't know	88
Refuse to answer	99

B20. Have you had group sex in the last 12 months?

Well yes	1	→ Proceed from the following question (B21)
No	2	→ Departments C
I don't know	88	→ Departments C
Refuse to answer	99	→ Departments C

B21. In the last group sex, did you use a condom with all sexual partners?

Well yes	1
No	2
I don't know	88
Refuse to answer	99

Section C: Condoms and Lubricants

C1. Is there any place (space) for you where you can get condoms?

Well yes	1	→ C2
Well yes	2	→ C3
Refuse to answer	99	

C2. Which place or person do you know from whom condoms can be obtained?
(Do not voice the answers, circle all the dictated answers)

Shop	1
Pharmacy	2
Fair	3
Clinic	4
Bar / Hotel/Guest house	5
Equal Enlightenment	6
A friend	7
"Tanadgoma", "Equality Movement" or "Identity"	8
Online (Selftest.ge)	9
Other_____	10
I don't know	88
Refuse to answer	99

C3. In the last 3 months, have you received condoms from a social worker or an equal educator?

Well yes	1
No	2
I don't know	88
Refuse to answer	99

C4. Have you used a lubricant with your male partners in the last 3 months?

Every time 1	
Frequently	2
Sometimes	3
Never	4
I don't know	88
Refuse to answer	99

Section D: Sexually Transmitted Diseases (STDs)

D1. In the last 12 months, have you had genital or discharge?

Well yes	1
No	2
I don't know	88
Refuse to answer	99

D2. Have you been tested for sexually transmitted diseases?

Well yes	On syphilis	1	
Yes to Gonorrhea		2	
Yes on Chlamydia		3	
Yes to all others		4	
No		2	→ **Departments E**
Refuse to answer		3	→ **Departments E**

D3. If so, have you been diagnosed with any STD disease?

Well yes	1	
No	2	→ **Departments E**
I don't know	88	→ **Section E**
Refuse to answer	99	→ **Departments E**

D4. What did you do when you were diagnosed with STD disease?

(Circle one answer to one question)

Questions	Well yes	No	UP*
1. I resorted to self-medication	1	2	99
2. I received consultation and treatment from the representative of the so-called folk medicine.	1	2	99
3. Consult or treat in a clinic or hospital	1	2	99
4. Consult or treat a private practice doctor	1	2	99
5. Consult or receive treatment at the pharmacy	1	2	99
6. Tell my sex partner about my symptoms or sexually transmitted disease	1	2	99
7. Have you stopped sexual intercourse after you have symptoms?	1	2	99
8. Did you consume condoms during the onset of symptoms?	1	2	99
9. I didn't do anything	1	2	99

*UP (Refuse to answer)

Section E: HIV/AIDS testing and treatment

E1. Do you know of any place, an institution where you would be able to get tested for HIV/AIDS if you wished?

Well yes	1
No	2
Refuse to answer	99

E2.. Have you ever been tested for HIV?

Well yes	1	
No	2	→ **Departments F**
Refuse to answer	99	→ **Departments F**

E3. If the answer to the question is no, what is the reason for not conducting testing?

I don't know where to get tested	1
I don't need testing because I'm healthy	2
I never thought about it	3
Afraid of Test Results	4
Testing facilities are not close to my place of residence	5
Don't I want to meet any bakery on a visit to a treatment facility?	6
I don't want anyone to know that I have sex with men (even medical personnel)	7
I have no confidence in doctors	8
Others (explain) _____	
Refuse to answer	99

E4. When was the last time you tested positive for HIV?

In the period from 1 to 2 years	1	
2 years ago	2	
In the past 6 months	3	
In the past 6-12 months	4	
I don't know	88	
Refuse to answer	99	

E5. You can not say, however, what was your HIV status during the last test?

Positive	1	→ **E6**
Negative	2	→ **Section F**
Unknown	3	
Don't know	88	
Refuse to answer	99	

E6. If the E5 answer to the question is positive, have you been diagnosed in a laboratory in the AIDS center?

Well yes	1	
No	2	→ **Departments F**
Refuse to answer	99	→ **Departments F**

E7. If the answer to E6 is yes, have you been involved in the (antiretroviral) treatment?

Well yes	1
No	2
Refuse to answer	99

E8. If the answer to the question is no, what is the reason for not engaging in treatment?

I don't know where the healing takes place	1
I do not need treatment, I know that I am healthy	2
I never thought about it	3
Fear of side effects of treatment	4
The treatment facility is not close to my place of residence	5
I do not want to meet any acquaintance during a visit to a medical facility	6
I don't want anyone to know that I have sex with men (even medical personnel)	7
I have no confidence in doctors	8
Others (explain) _____	
Refuse to answer	99

E9. If the answer to the question is yes, are you involved in the ARV (antiretroviral) treatment at present?

Well yes	1
No	2
Refuse to answer	99

Section F. Viral hepatitis

F1. Have you been tested for hepatitis B and C?

Well yes	Hepatitis B	
Yes	hepatitis C	
Yes	for hepatitis B and C	
Non-section	→	
Refuse to answer	99	→ **Departments HH**

F2. You can not say, however, what was your test result for hepatitis C during the last test?

Positive	1	
Negative	2	→ **F5**
Don't know	88	
Refuse to answer	99	

F3. If the F2 answer to the question is positive, have you been diagnosed in a medical facility?

Yes 1		
No	2	→ **Departments HH**
Refuse to answer	99	→ **Departments HH**

F4. If the answer to the question F3 is yes, have you been involved in direct action antiviral (DAA) treatment?

Well yes	1
No	2
Refuse to answer	99

F5. You can not say, however, what was your test result for hepatitis B during the last test?

Positive	1
Negative	2
Don't know	88
Refuse to answer	99

F6. If the F5 answer to the question is positive, have you been diagnosed in a medical facility?

Well yes	1	
No	2	→ **Departments HH**
Refuse to answer	99	→ **Departments HH**

F7. If the answer to F6 is yes, have you been involved in the antiviral treatment for hepatitis B?

Well yes	1
No	2
Refuse to answer	99

F8. Are you vaccinated for hepatitis B?

Well yes	1
No	2
Don't know	88
Refuse to answer	99

Section G. Preventive Services

G1 Have you received any of the following products and/or information through a community organization within the last 3 months?
(It is possible to highlight a few answers)

	Well yes	No	I don't know	Refuse to answer
1. Brochures/Booklets/Flyers on HIV/AIDS	1	2	88	99
2. Information about HIV, STI and Prep	1	2	88	99
3. Condoms	1	2	88	99
4. Lubricants	1	2	88	99
5. HIV testing	1	2	88	99
6. HIV Self-Testing Kit	1	2	88	99
7. Other (specify) _____	1	2	88	99

G2. Where did you get the service? (*It is possible to highlight a few answers)*

In a community/service provider organization	1
By Outrich Worker, on the Valley	2
Home delivery service	3
Don't know	88
Refuse to answer	99

Section HH: Stigma, Discrimination and Violence

HH1. In the last 12 months, has there been a case in which you have been denied any of the following services on the grounds that you are a man who has sex with a man? (Intruder: Require)	**Well yes**	**No**	**I don't know**	**Refuse to answer**
1. Medical Services	1	2	88	99
2. Employment	1	2	88	99
3. Refusal to rent an apartment / expulsion from the apartment	1	2	88	99
4. Help from the police	1	2	88	99

Now I would like to ask you a few questions about possible cases of violence in the last 12 months. (Interviewer: In the case of multiple incidents, focus on the last incident)	**Well yes**	**No**	**I don't know**	**Refuse to answer**
HH2: Have you been a victim of violence in the last 12 months? **(Interviewer: If the answer to the question is no, go to the section RR**	1	2	88	99

HH3. If the answer is yes, who was the perpetrator?	Unknown	Familiar	Family Member/ Relative	The police	Client	Other (specify)	I don't know	Refuse to answer
1.1. Yes, verbal	1	2	3	4	5	6_____	88	99
1.2. Yes, physical	1	2	3	4	5	6_____	88	99
1.3.Yes, sexual	1	2	3	4	5	6_____	88	99
Yes, economic (extortion of money, money racketeering)	1	2	3	4	5	6_____	88	99

Interviewer: Thank you for participating in the interview, now please take laboratory samples for testing. If you wish to receive a test response please contact us at this number (provide the contact number and research number - the card is probably late for the results of the study, so call in 2-3 weeks, tell them that all samples will be tested after the study is completed)

L. Infection screening L (check one answer)

L1	HIV test result 1. Pros 2. Negative 3. Unknown
L2	HCV test result 1. Pros 2. Negative 3. Unknown
L3	Syphilis testing result 1. Pros 2. Negative 3. Unknown
L4	The sample was sent to HIV conformity testing and the test resulted: 1. Pros 2. Negative 3. Unknown
L5	The sample was sent to HCV confidential testing and the test result 1. Pros 2. Negative 3. Unknown
L6	The beneficiary was redirected to "Health Cabinet" The response to syphilis testing is: 1. Pros 2. Negative 3. Unknown 4. No conformance testing was performed

Section RR: Network size

I will now ask you on your social network, please name how many men live in your city (meaning city of residence) who have sexual contact with a man and how many of them you know in person, do not ask names, answer questions

#	FAQ	Reply
1.	How many men do you think live in this city who have sex with men?	
2.	How many of them do you know in person, so that they also know you personally?	
3.	How many of them are above 18 years old?	
4.	How many of them have had sexual contact with you in the last 12 months?	
5.	How many of them have you seen in the last 1 month?	
6.	How many of them have you seen in the last 3 months?	
7.	How many of them do you think you would invite in this study? (Would you be able to contact them and invite them to the research, regardless of whether they agreed or not)	
8.	Would you invite that person in the study to do so? Who gave you a coupon, with the assumption that he did not deliver the coupon?	1. yes 1 2. No 2
#	FAQ	Reply
9.	Why did you agree to participate in the study? (More than one answer is possible)	1. Cash reward 2. At the request of the person who handed me the coupon 3. Research topic is interesting / useful to me 4. I had a lot of free time 5. Other (celebrate)

Q3. Our questionnaire is complete. You helped me a lot. After completing this research, our organization will plan projects that will be beneficial for all. In case it took me a few months to interview you again, will you agree to take the time?

yes	1
No	2
Don't know (let's see)	88

Thank the respondent for their cooperation and say goodbye.

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