THE **MOMBASA**
KEY POPULATION STUDY
REPORT OF FINDINGS: 2023

Mombasa, Kenya

JAMBO
MOMBASA
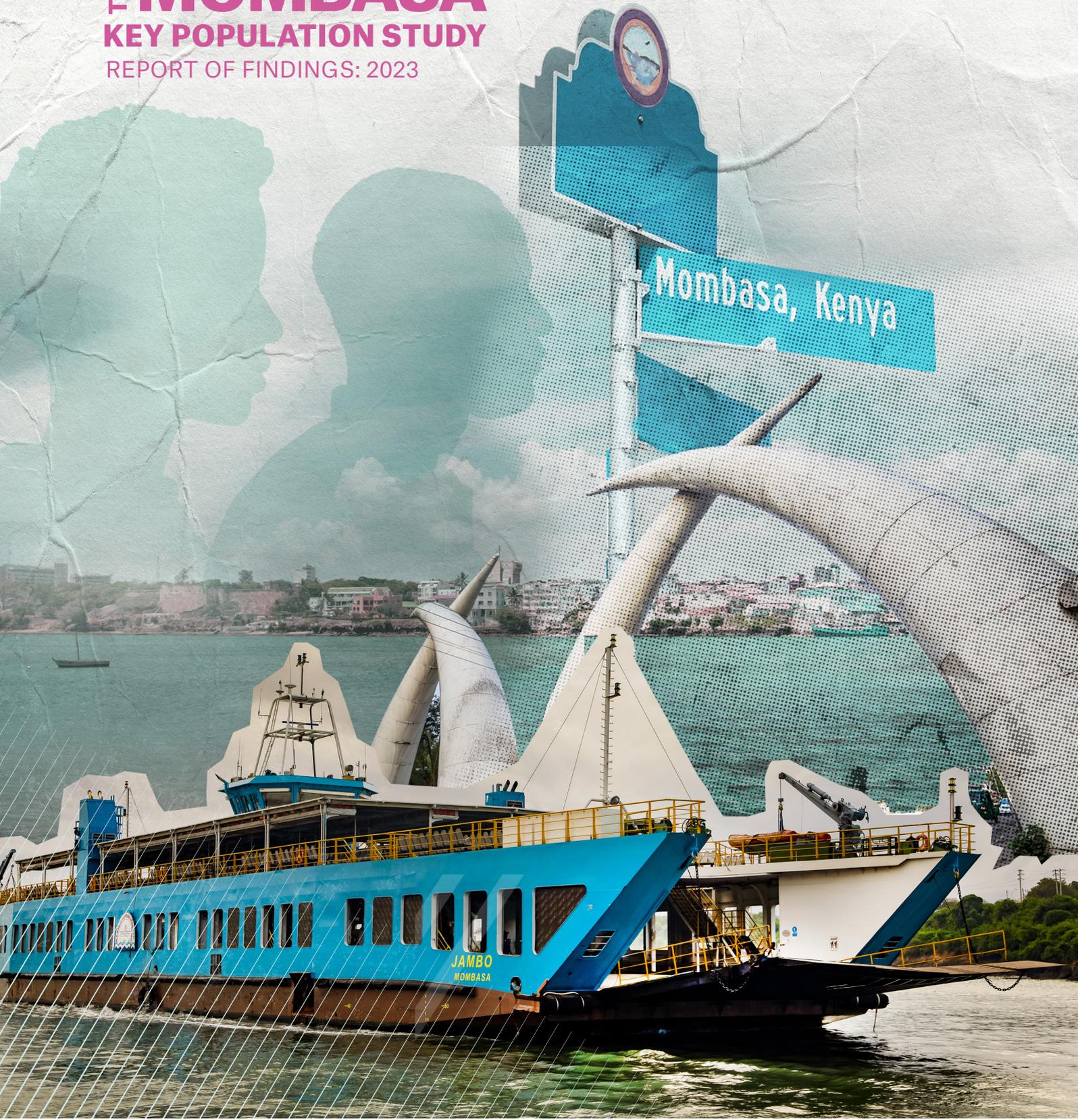
Citation and acknowledgements

Acronyms

CI:	Confidence interval
HIV:	Human Immunodeficiency Virus
IQR:	Interquartile range
WHO:	World Health Organization
OR:	Odds ratio
PrEP:	Pre-exposure prophylaxis
SD:	Standard deviation
STI:	Sexually transmitted infection

Contents

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Study background

'Key populations' refer to a diverse collection of social groups that face unique health disparities, especially in relation to HIV and other sexually transmitted infections (STIs) [1, 2]. While there are many definitions of what constitutes a key population, in this report the expression refers to sex workers, people who use and inject drugs, sexual minorities, and gender minorities. Here, the expression 'sexual minorities' refers to people who are not heterosexual (i.e., gay, lesbian, bisexual, and other same gender attracted people), while 'gender minorities' refers to people who are not cisgender (i.e., transgender, gender non-binary, and other gender diverse people).

Key populations face numerous health disparities, with such disparities driven primarily by social oppression and, by extension, stigma [3]. Stigma is a pervasive social force, which works on multiple levels (internally, interpersonally, structurally) to demean, marginalise, and otherwise exclude key populations [4]. As the National Syndemic Diseases Control Council of Kenya (formerly the National AIDS Control Council) summarises, key populations "experience cultural, social and legal barriers that increase their vulnerability," which is why reducing stigma and discrimination is one of the Council's primary objectives [1, 5].

While for the past three decades, research, programming, and policy for key populations has focused almost exclusively on HIV and STIs, recent years have seen an expansion in focus. In 2022, for example, the Kenyan Ministry of Health released national guidelines for the delivery of mental health programming to key populations [6]. This simple but important move reflects a growing trend internationally to engage holistic and comprehensive health and well-being for these populations [4, 7]. To support further engagement with the holistic health of key populations, local and community-contextualised research is needed.

To that end, the *Mombasa Key Population ('Key Pop')* Study was launched in June 2023 as a prospective, community-led study of population health and well-being. This report provides an overview of baseline data collected by the study, with an aim of providing actionable insights towards the improved health and well-being of Mombasa's diverse key populations.

Study methods

The *Mombasa Key Pop Study* is a prospective mixed methods research study comprising: (i) health surveys of key populations, (ii) a qualitative cohort of key population representatives, and (iii) a repeated survey of stigma among healthcare workers. The study is a parallel design (i.e., data collection between stages takes place simultaneously) with iterative exchange (i.e., inferences from stages inform collection, analysis, and interpretation of others). Oversight for all aspects of this study was provided by the ethics boards of Médecins Sans Frontières, the Kenya Medical Research Institute, and the Mombasa County Department of Health.

As data collection is planned for several years, this report summarises data collected during the study's nine-month baseline period (June 2023 to March 2024). The following sections detail each data component and the overall ideology guiding this work.

Key population survey

For 100 days (15 June to 23 September 2023), participants were recruited to take part in a de-identified digital survey. The survey was self-administered and collected data on topics including healthcare access, general health, social life, mental health, sexual reproductive health, and others. Participants could nominate to take the survey in English or Swahili, with the instrument translated and back translated, while topical areas were reviewed by relevant experts who were also native Swahili speakers to ensure lingo, slang, and jargon was appropriately captured.

Participants were recruited to the survey via active and passive methods. Active recruitment activities included events hosted with local community-based organisations and other partners, empowering 'peer mobilisers' to identify prospective participants, and setting up recruitment stands at local key population friendly spaces and events. Passive recruitment activities included distributing study advertisements through existing online and offline networks and posting them in key population clinics and other 'hotspots'. Prospective participants were directed to a dedicated website to learn about the study, assess eligibility, and access the survey instrument.

The final sample consisted of 545 participants identified as key populations who were living, working, or going to school in Mombasa County. The average time to complete the survey was 37.0 minutes (standard deviation [SD]: 28.9) with 48.7% completing the survey in 30 minutes or less. At the survey's close, participants were asked to rate their experience of the study with 75.0% rating is as average or above. Following completion of the survey, participants could enter a raffle to win a range of prizes ranging from shopping vouchers, movie passes, and smart watches.

The survey instrument included fixed and open-ended questions. Wherever possible, the survey used well-established measures with a focus on those validated for use in a Kenyan context and with key populations. Routing logics were used to ensure a responsive survey experience. Fixed responses were analysed descriptively, reporting frequency and proportion outcomes. All variables are presented by the overall of key populations and also, as appropriate, stratified by population (i.e., sex workers, people who use drugs, sexual minorities, gender minorities) and binary gender (i.e., women, men). Data from non-binary participants are included in the overall sample and presented in many ways throughout the report but given the small number (n=12) are not reported in the primary gender stratum.

In some cases, associations between variables were investigated using bivariable logistic regression with odds ratios (OR) and 95% confidence intervals (CI) reported. For the open-ended items, content analyses were used to organise responses into descriptive thematic categories and then apply frequency and proportion analyses with relevant strata [8].

One important point regarding stratification by key population is that key population categories were not mutually exclusive. Participants could and frequently were represented in multiple populations. As explored later in this report, 43.1% of the sample appears in two or more population categories. Thus, wherever data are stratified by population, such individuals were counted in all categories relevant to their experience. This was deemed most appropriate given the report's focus on describing each individual population. Wherever summary data are presented, each participant is counted only once.

Qualitative cohort of key populations

To complement the quantitative component, a cohort of those representing each key population was established (n=10). Participants were recruited to the cohort using a seed, screening, and selection process. First, local key population organisations were asked to propose potential participants who were then consented and took part in an in-depth life history interview. Potential participants were asked to nominate further 'seed' participants, who were also contacted and invited to take part in a life history interview. This process was repeated until 11 interviews were complete. The interviews and sociodemographic characteristics were then reviewed and used to purposively sample participants via maximum variation along the lines of population, age, gender, area of residence, and socioeconomic status.

Data collection comprised a series of individual and group interviews, with group interviews for the full cohort conducted at least once every three months. Interviews were semi-structured and guided by a highly flexible interview schedule, following the funnel-and-probe technique whereby broad questions are followed with specific probes to allow for a conversation-like experience [9]. The topics of discussion were informed by insights from the other stages, inferences from individual interviews, current events, and specific health topics (e.g., mental health). All interviews were audio recorded, transcribed, and translated from Swahili into English. Transcripts were cleaned of any identifying details.

During the baseline period, a total of 10 individual interviews and two full cohort interviews were carried out. For this report, analyses of these data were predominantly descriptive using the techniques of inductive and deductive thematic analysis to synthesise and define key components [10]. Coding and thematic development were carried out by two qualitative researchers with discrepancies explored through ongoing discussion and revision of coding frameworks.

Figure 1: A recruitment message shared on social media to advertise the key population survey

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Healthcare worker survey

The study's third stage comprised a repeated survey of healthcare workers in Mombasa. Drawing upon a sample of clinical and non-clinical staff, the survey is administered every three months to six clinical sites located in Mombasa County. Three sites were chosen as the locations for a health intervention to create 'key population friendly' services (a partnership between Médecins Sans Frontières and the Mombasa County Department of Health) and three others were chosen as matched sites given their similarity within the Kenyan public health system.

The survey is de-identified, which healthcare workers completed via dedicated tablets computers. It could be completed in English or Swahili and assessed a range of knowledge, attitudes, and practices. Participants were provided with breakfast or lunch and a small amount of phone credit (250 KES). The survey instrument used established measures to measures stigma towards sensitive health and social issues (e.g., mental health, sexual violence) and key populations; see Table 1 for more detail.

After a pilot of data collection in July-August 2023, the survey processes and instrument were revised. The baseline wave of data collection took place over a two-week period from 28 November to 6 December 2023. While a total of 239 participants started the second wave survey, 13 were excluded because they failed the attention and comprehension check, three did not work at one of the six study sites, and a further three did not complete the final survey item. The final sample of healthcare workers described in this report is 222. The average time to complete the survey was 14.0 minutes (SD:7.6) with the majority (86.9%) completing it in 20 minutes or less.

A note on measuring stigma towards key populations

- To quantify key population stigma, this study used a shortened version of the Bogardus Social Distance Scale [12]. Participants were asked how comfortable they would be with people at different degrees of social closeness. The three degrees assessed were: (i) personal friend (low distance), (ii) co-worker (medium distance), and (iii) citizen of country (high distance). These questions were asked separately for each key population. For example: "I would be willing to accept a sex worker as a close personal friend".

- Someone unwilling to accept another person who is socially distant has high stigma, while someone who is willing to accept another person who is socially close has low stigma. Combinations of responses created a summary scale score [13], which for this report has been organised into simple categories of low, medium, or high stigma.

- Sociologists have long used this approach to measure stigma because it activates stereotypes. Participants were not asked if they could accept a specific person, but instead asked to think broadly about a group people. This means willingness to accept is based on existing ideas (i.e., stereotypes) about that group, especially any negative or positive assumptions.

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Participatory collaboration

To avoid reinforcing systems of oppression, participatory methods are vital for research with intersecting marginalised communities [11]. To that end, the *Mombasa Key Pop Study* represents ongoing collaboration with the diverse key population organisations and communities of Mombasa. Working with representatives of such organisations, the study design and aims resulted from several brainstorming workshops held over six months in 2022. As study materials were created (e.g., survey instruments), all community collaborators were invited to review and provide critical feedback. During implementation, recruitment of study participants to all stages was conducted primarily through key population community organisations.

Once data collection was complete, preliminary results were shared through a series of meetings with individual key population organisations. At these meetings, representative feedback was used to refine and revise all analyses. Next, results were presented at a workshop with representatives from Mombasa's key population organisations, during which participants discussed results and proposed resulting recommendations. The exact wording of those recommendations was further reviewed by leaders from key population communities. Overall, the results and recommendations presented in this report represent a collaborative effort of many generous stakeholders.

Table 1: Summary of measures used in the health survey of key populations and the healthcare worker survey

Instrument name	Domain(s) assessed	Example item	# items used	Cronbach's α	Reference
World Health Organization – Five Well-being Index (WHO-5)	General well-being	I woke up feeling fresh and rested.	5	0.89	[14]
Patient Health Questionnaire (PHQ-9)	Indications of depression	In the past two weeks did you have trouble falling asleep?	9	0.86	[15]
Quality of Life Instrument	Familial satisfaction	I feel my family cares about me.	2	0.87	[16]
	Social satisfaction	I am happy with the friends I have.	4	0.73	
CAGE Substance use Assessment Instrument	Indications of substance abuse	Have people annoyed you by criticising your drinking or drug use?	4	0.67	[17]
Bogardus Social Distance Scale	Stigma towards people who use drugs	I would be willing to accept an illicit drug user as a co-worker.	5	0.74	[13]
	Stigma towards sex workers	I would be willing to accept a sex worker as a close personal friend.	5	0.79	
	Stigma towards sexual minorities	I would be willing to accept an LGBQ person as a citizen in my country.	5	0.78	
	Stigma towards gender minorities	I would be willing to accept a transgender person as a co-worker.	5	0.86	
Illinois Rape Myth Scale	Sexual violence stigma	If an individual doesn't physically fight back, you can't really say it was rape.	5	0.81 (Population survey); 0.74 (healthcare worker survey)	[18]

Participant demographics

APPENDIX A

Key population health survey

The final survey sample (n=545) consisted of 315 women (275 cisgender and 40 gender minority), 217 men (182 cisgender and 35 gender minority), 12 non-binary people, and one intersex person. Participants ranged in age from 15-48 years with a mean age of 25.1 (standard deviation [SD]: 5.4) and a median of 24 years (interquartile range [IQR]: 22-27).

Recruitment efforts primarily focused on three of Mombasa's most populous sub-counties, with participants from Kisauni (43.9%), Nyali (22.9%), and Mvita (19.8%). This geographical focus reflected that the study's lead partners – Médecins Sans Frontières and the Mombasa County Department of Health – were implementing a key population-focused intervention in these areas. A further 4.5% of participants lived in Changamwe, 1.1% in Jomvu, and 7.7% in Likoni.

Of the 545 health survey participants, 234 were sex workers (42.9%), 294 were people who use drugs (53.9%), 244 were sexual minorities (44.8%), and 87 were gender minorities (16.0%). For sex workers and people who use drugs, only those reporting some relevant activity in the six months prior to participation were included. As a reminder, these categories are non-exclusive and 43.1% of participants are represented in two or more populations.

Qualitative cohort of key populations

The qualitative cohort comprised 10 participants ranging in age from 18-38 years with a median of 23.5 years (IQR: 23-28). There were five women (including one gender minority woman), four men (including two gender minority men), and one non-binary participant. Six participants had completed or were enrolled in tertiary education. Four were living in Nyali, three living in Kisauni, two in Mvita, and one in Likoni. Six were sexual minorities, and six were active sex workers. A further three had previous experience with sex work. Drug use was reported by all participants including three who used injecting drugs. Most participants were unemployed but three reported some form of self-employment.

Healthcare worker survey

For the sample of healthcare workers (n=222), 183 (83.8%) were involved with direct patient care (i.e., clinical) and the remaining 36 (16.2%) did non-clinical work (e.g., receptionist, askari). By gender, 166 participants were women (74.8%), 55 were men (24.8%), and one non-binary (0.5%). Participating healthcare workers ranged in age from 19-59 years with a mean of 35.4 (SD:9.7) and a median of 33 (IQR:28-43). The majority had some kind of tertiary education (85.6%). While 23.9% had been in their current position for less than one year, nearly half (49.6%) had three or more years' experience. In total, 37 healthcare workers (16.7%) self-identified as a key population. To minimise participant concerns about confidentiality and disclosure, the specific key population type was not asked.

Full details of participants demographics from each research component can be found in Appendix A.

🏃‍♂️ Physical health

Overall, 62.7% of key populations participating in the health survey (n=545) rated their physical health as 'good' or 'excellent' [19]. By population, good-excellent health was reported by 52.6% of sex workers, 59.9% of people who use drugs, 61.4% of sexual minorities, and 74.4% of gender minorities. Across populations, women generally had poorer physical health than men. For example, while 61.1% of male sex workers had good health this was the case for only 48.5% of female sex workers, and while 80.0% of trans men had good health this was the case for 72.5% of trans women. Only a small proportion of key populations overall (3.5%) rated their health as 'poor' or 'terrible'.

Regarding physical activity, nearly half of key populations (43.9%) reported at least three days per week of moderate-intense physical activity; 7.9% reported six to seven days per week [20]. A large proportion (30.2%) reported no physical activity, which was most common among sexual minorities (34.0%) and least common among gender minorities (24.4%). While the WHO recommends at least 150 minutes of physical activity for adults each week, only a small proportion of key populations met this target [21]. Importantly, key populations undertaking at least three days of physical activity per week were 2.4 times more likely to report good physical health (OR=2.36, 95%CI: 1.86-3.00) and 1.4 times more likely to report positive well-being (OR=1.44, 95%CI:1.17-1.79).

More details on physical health can be found in Appendix B.

Figure 2: Self-rated physical health among key populations in Mombasa, by population and gender[a] (n=545)
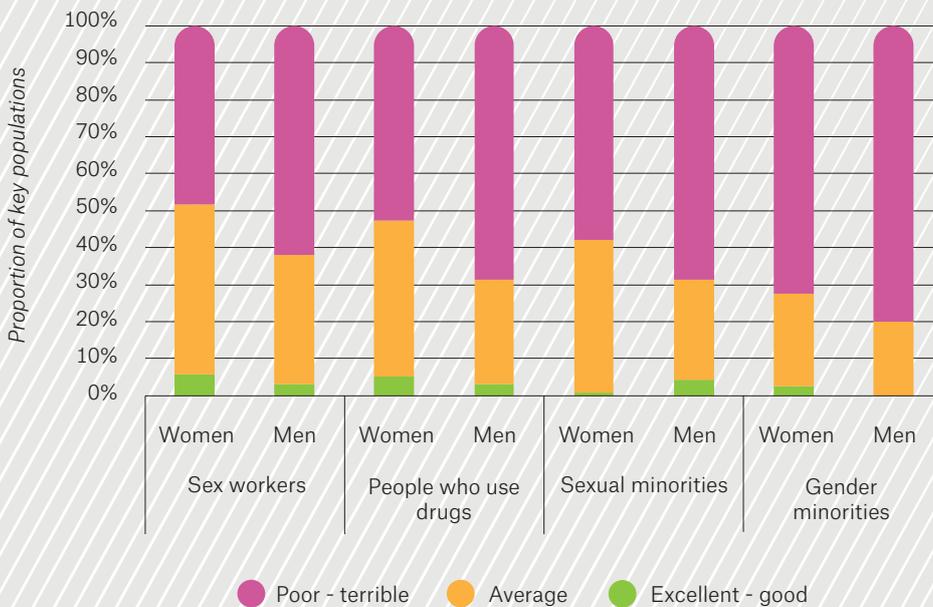
8%
of key populations are getting enough exercise

77%
of key populations brush their teeth every day

75%
of key populations are vaccinated against COVID-19

a. Among non-binary participants (n=12), physical health was reported as: 58.3% (n=7) excellent-good, 33.3% (n=4) average, and 8.3% (n=1) poor-terrible

Healthcare

While 38.6% of key populations in Mombasa reported good access to healthcare, the remaining majority described their access as average (23.6%) or poor (37.8%). In the six months prior to participation, 61.1% of key populations had tried but failed to receive a necessary health service. By a wide margin, the most commonly reported barrier to care was cost (indicated by 70.6%). Among key populations 18-years and older, only 29.1% reported some form of health insurance; this proportion is slightly higher than what has been reported previously for the general population in Kenya [22]. For those who did have access to healthcare, three quarters (75.0%) rated it as 'good' or 'excellent' quality.

After cost, stigma was the most common barrier to healthcare reported by key populations (indicated by 15.0%). Overall, **50.3% of key populations in the health survey said they 'sometimes' or 'often' experience stigma in healthcare settings**, including 60.8% of sex workers, 47.9% of people who use drugs, 45.8% of sexual minorities, and 76.0% of gender minorities. Stigma was associated with access to care. Compared to those reporting no experiences of stigma, those who 'sometimes' experienced stigma were 1.9 times more likely to report poor access (OR=1.89, 95%CI: 1.04-3.34) and those who often experienced it were 3.6 times more likely (OR=3.61, 95%CI: 1.68-7.78).

Among healthcare workers in Mombasa, stigma differed between key populations. In the healthcare worker survey, 9.6% expressed high stigma towards sex workers, 23.4% towards people who use drugs, and 19.0% towards sexual and gender minorities. (Stigma towards sexual and gender minorities was assessed using a single construct as focus testing suggested healthcare workers were generally unsure about the distinction between these populations.) Among clinicians, 3.8% said they would refuse care to sex workers, 7.5% would refuse people who use drugs, and 9.7% would refuse sexual and gender minorities.

Key populations participating in the qualitative cohort were asked to describe their experiences of stigma in healthcare. Using thematic analysis, these experiences were defined along a spectrum from explicit, to mixed, and mild. Explicit expressions of stigma in healthcare settings were often very severe and abrupt, such as an outright refusal of care. Mixed expressions of stigma were less overtly aggressive but still very noticeable, such as being asked inappropriate questions, receiving rude comments, or perceiving hostile looks. And on the mildest end of the spectrum were subtle experiences of key population stigma. These were described by participants not as specific actions but more like absences, such as a lack of training for workers on the needs of key populations, non-existent visibility of key populations in health promotion materials, and similar.

When accessing healthcare, participants in the qualitative cohort described mixed and mild stigma experiences as the most common. Indeed, they highlighted that severe expressions of stigma in healthcare were relatively much rarer but still the most memorable. This framework of stigma was evident also in results from the healthcare worker survey. Regarding key population stigma overall, far more healthcare workers expressed low levels of stigma (68.6%) compared to medium (14.5%) and high levels (16.9%). And, as noted, only a minority endorsed the most explicit expression of stigma, with 12.4% of healthcare workers in Mombasa saying they would refuse care to someone from a key population.

More details on experiences of healthcare can be found in Appendix B.

Key populations often experiencing stigma in healthcare:

- **61%** of sex workers
- **48%** of people who use drugs
- **46%** of sexual minorities
- **76%** of gender minorities

Figure 3: Reasons for not being able to access required health services among key populations in Mombasa, by population (n=214)

Legend: ● Gender minorities ● Sexual minorities ● People who use drugs ● Sex workers

Categories (y-axis): Poor services / structural issues, No time, Stigma, Distance (too far), Cost

x-axis: 0 10 20 30 40 50 60 70 80 90 100

Proportion of key populations
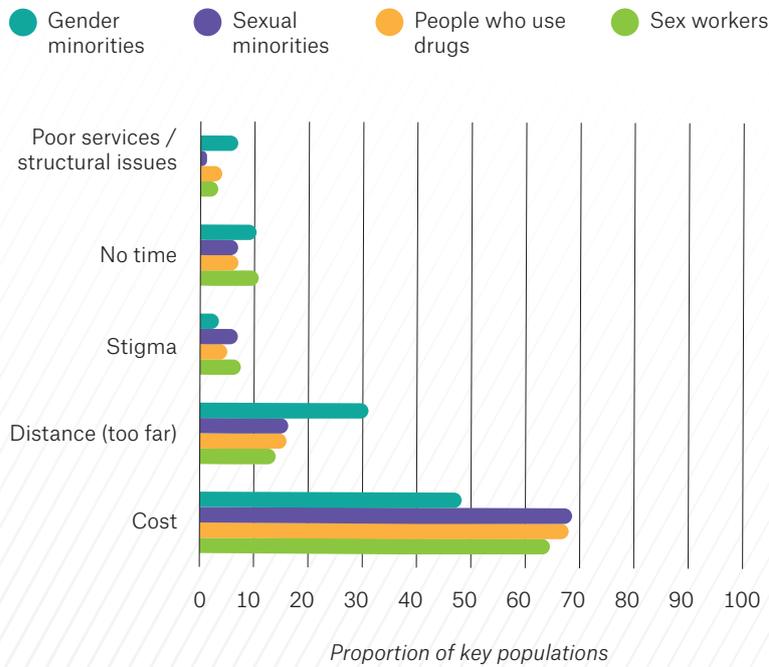
Figure 4: Proportion of healthcare workers reporting high stigma towards key populations in Mombasa, by work type (n=222)

y-axis: *Proportion of healthcare workers with 'high stigma'*
0 5 10 15 20 25 30

x-axis: Sex workers, People who use drugs, Sexual and gender minorities, Overall

Legend: ● Clinicians ● Non-clinicians
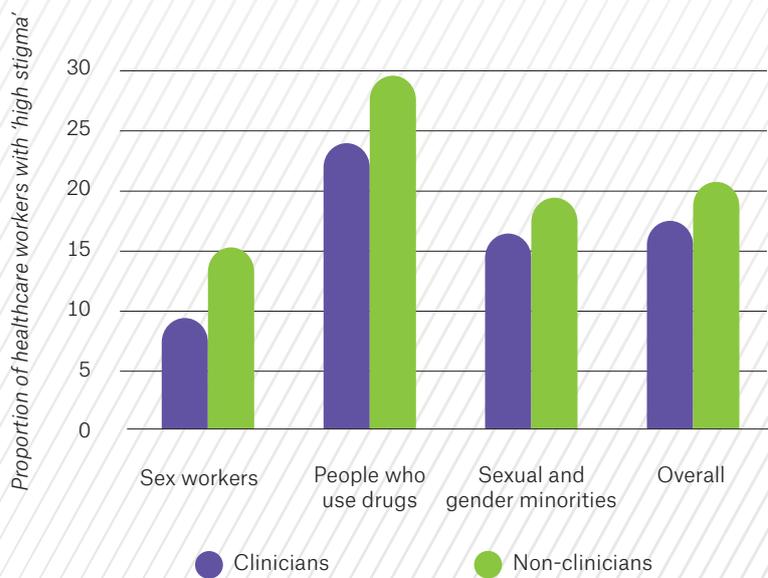
12%

of clinicians would refuse care to key populations

Spectrum of stigma in healthcare

Explicit

"I was given medication but after the doctor learned I was a key population, they told me that I was killing myself with that lifestyle. He said I should not choose that hospital again."

– Cisgender woman, 24-years-old, sex worker

Mixed

"Shortly after I heard a nurse saying that I belonged to the key population community, people started talking and stigmatising me with their eyes pointing at me."

- Gender minority woman, 18-years-old

Mild

"They should diversify the health sector such that if I go to a health facility, I can easily get someone who will understand me. Someone who is like us, who can understand us."

– Gender minority man, 24-years-old

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Mental health & well-being

Among key populations in the health survey, general well-being was assessed via the WHO Well-Being Index (WHO-5) [23]. Positive well-being was reported by only one quarter (26.2%) of participants, which was generally similar across populations: 20.9% of sex workers, 26.2% of people who use drugs, 27.1% of sexual minorities, and 25.6% of gender minorities reported positive well-being.

Per the Patient Health Questionnaire (PHQ-9) [15], indications of depression (moderate or severe) were identified in 28.4% of key populations including 33.3% of sex workers, 29.9% of people who use drugs 29.2% of sexual minorities, and 27.9% of gender minorities. **Overall, 9.7% of key populations had indications of severe depression, while 23.5% had indications of suicidality.** These estimates are similar to those reported by other studies of key populations in Kenya [24-29].

In terms of mental health support, more than half of key populations (52.3%) reported some previous formal or informal support. Of those who received support, 84.7% said it was helpful. Data from the qualitative cohort reveals that many key populations view 'informal' support from friends and family as similar to support from 'formal' counsellor or psychologists, but around three quarters (72.7%) did say they knew where to access formal mental health support if required. As with physical healthcare, cost was the most commonly reported barrier to mental health care (indicated by 49.0%) followed by stigma (25.5%), and perceptions of care unsuited to the specific needs of key populations (15.7%).

Among health survey participants with moderate or more severe indications of depression, 41.3% said they had never received any kind of mental health support in the past. This gap between need and support was particularly prominent among sex workers (44.9%), followed by people who use drugs (43.2%), sexual minorities (31.0%), and gender minorities (29.2%). Interestingly, across populations this gap was greater among women than men (44.8% vs 34.8%). Further highlighting this gap, among participants with indications of depression only one third (34.1%) reported any formal diagnosis.

More details on experiences of mental health can be found in Appendix C.

> **First and foremost, there is something I want to put out across: it takes a negative toll on my mental health when someone misgenders me."**
>
> **– Gender minority woman, 29-years-old**

Figure 5: Mental health and well-being among key populations in Mombasa, by population and gender (n=545) [a]
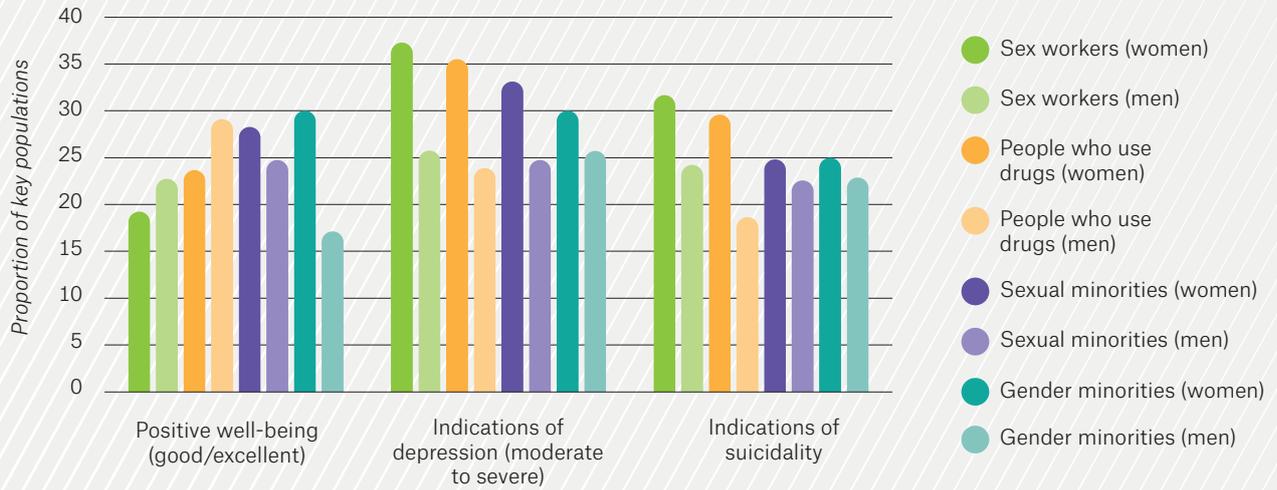
a. Among gender non-binary participants (n=12), 33.3% (n=4) had positive well being, 25.0% (n=3) had indications of depression, and 25.0% (n=3) had indications of suiciadability

Figure 6: Cascade of mental health indications, support, and diagnosis among key populations in Mombasa, by population (n=545) [a]

a. Cascade steps calculated as a proportion of the previous step

👪 Social health and well-being

Social relationships – including within families – can significantly affect diverse aspects of health and well-being [30-33]. The 'social health' of key populations is, therefore, a vital consideration.

In the health survey, the majority of key populations reported at least one close friend (88.8%). One in ten (11.2%), however, reported no friendships, which was highest among women overall, including female sex workers (16.8%), women who use drugs (15.8%), sexual minority women (16.3%), and gender minority women (15.0%). By comparison, the respective proportions of men from the same populations reporting no friendships were 7.6%, 9.0%, 6.2%, and 14.2%.

Around one third of key populations (31.2%) said they did not have access to a safe and affirming social space, which was similar between populations and genders. Participants predominantly spent their social time in commercial spaces including clubs/bars (22.9%) and shopping malls (25.9%). A further 11.6% said religious organisations were their primary social space, while 63.9% said religion was an important part of their life These results highlight a great diversity of spaces in which key populations socialise, calling-to-question previous key population mapping exercises in Mombasa and across Kenya that focused almost exclusively on partner-seeking and nightlife [34].

The satisfaction of key populations with their social lives was assessed using the Youth Quality of Life Instrument [16]. While 28.4% of survey participants reported high social satisfaction, a third (31.6%) had no social life or low social satisfaction. Overall, low social satisfaction was more common among women than men regardless of the population. For example, while 35.4% of sexual minority women reported low social satisfaction, this was the case for 23.7% of men. Similarly, low satisfaction was reported by 41.6% of female sex workers and 34.9% of male sex workers, a trend evident in all populations.

Familial satisfaction was higher than social satisfaction among key populations in Mombasa (39.5% vs 27.5%) and a similar proportion (36.0%) reported no family life or low satisfaction. There were major differences in familial satisfaction by population: gender minorities were, by far, the most likely to report no contact or low familial satisfaction (71.4%), followed by people who use drugs (53.1%), sex workers (46.6%), and sexual minorities (42.9%).

There were a couple factors that could explain differences in family satisfaction between populations. Key among them was estrangement, as some groups had much lower contact with their families than others. For example, while 33.7% of gender minorities were estranged from their families, this was the case for only 12.7% of sexual minorities. Stigma was also a major factor in family satisfaction. Overall, 54.5% of key populations reported high levels of stigma from their own families; those with high family stigma were 4 times more likely to report low familial satisfaction (OR=3.98, 95%CI: 2.70-5.85).

Importantly, both social and familial satisfaction were associated with well-being among key populations. Indications of depression were 1.5 times more likely among those with low social satisfaction (OR=1.45, 95%CI: 1.05-2.14) and 2.2 times higher among those with low familial satisfaction (OR=2.23, 95%CI:1.44-3.46).

Key populations were also asked about their romantic and married lives. Half of participants were in a romantic relationship at the time of participation (50.2%) but only a minority (7.0%) were married. A further 38.9% said they had previously been in a romantic relationship, while 10.3% were divorced. The prevalence of divorce was highest among female sex workers (15.5%). Overall, 35.6% of key populations expressed high satisfaction with their romantic life with satisfaction highest among gender minority men (57.1% high satisfaction) and lowest among female sex workers (24.2% high satisfaction).

More details on the social health of participants can be found in Appendix D.

Figure 7: Primary areas for social life among key populations in Mombasa, by population

Legend: ● Gender minorities ● Sexual minorities ● People who use drugs ● Sex workers

X-axis: Proportion of key populations (0 to 35)

Categories (top to bottom): Other, Friend's home, Religious org, Nature, Sports area, Shopping mall, Dance club
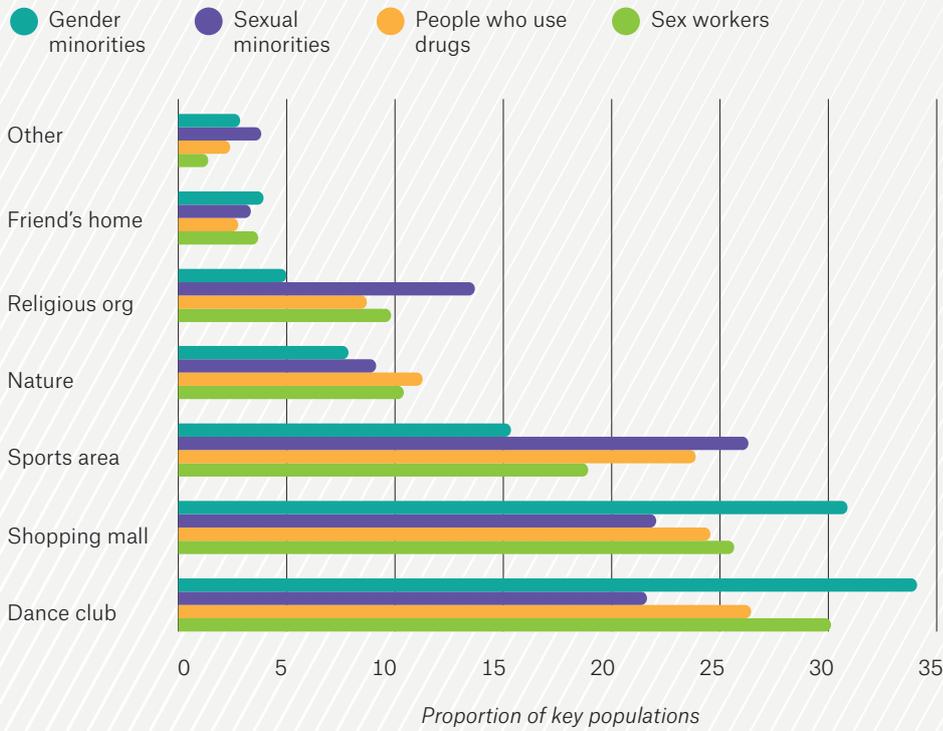
28%

of key populations are satisfied with their social life

40%

of key populations are satisfied with their family life

36%

of key populations are satisfied with their romantic life

Figure 8: Forms of social satisfaction among key populations in Mombasa, by population [a]

Legend: ● Sex workers ● People who use drugs ● Sexual minorities ● Gender minorities

Y-axis: Proportion of key populations (0 to 45)

X-axis categories: High social satisfaction, High familial satisfaction, High romantic satisfaction

a.   Among non-binary participants (n=12): 33.3% (n=4) reported high social satifaction, 41.7% (n=5) high familial satisfaction, and none (n=0) reported high romantic satisfaction

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Economic health

Socioeconomic status is widely recognised as one of the strongest social determinants of health and well-being [35, 36]. Thus, understanding 'economic health' is vital for understanding the general health profile of key populations in Mombasa.

The Kenya National Bureau of Statistics defines poverty in urban settings as earning less than 7,193 KES per month [37]. By this standard, over 61.9% of key populations in Mombasa were living in poverty including over one third with no monthly income (36.3%). Poverty was most common among people who use drugs (67.9%) followed by sex workers (64.4%), sexual minorities (56.5%), and gender minorities (47.5%). Compared to others, key populations living in poverty were 4.3 times more likely to have poor access to healthcare (OR=4.34, 95%CI: 2.71-6.94) and 3.1 times more likely to have indications of depression (OR=3.13, 95%CI: 1.93-5.10).

Food, water, and housing insecurity were prevalent among key populations in Mombasa. Six out of every 10 health survey participants (60.7%) had gone without food two or more days in the week prior to participation, which was highest among sex workers (70.9%) followed by gender minorities (61.6%), sexual minorities (59.8%), and people who use drugs (55.4%). Troublingly, 29.5% of key populations faced housing insecurity. Among those with access to stable housing, 61.5% were satisfied with the conditions.

As would be expected, food, water, and housing insecurities were strongly linked to physical and mental health. For example, key populations facing food insecurity were 2.5 times more likely to report poor physical health (OR=2.58, 95%CI: 1.77-3.78) and 3 times more likely to have indications of depression (OR=2.95, 95%CI: 1.90-4.45). Per Table 2, similar effects were observed for other forms insecurity arising from poor economic health among key populations.

More details on economic health can be found in Appendix E.

Key populations and economic health:

62% are living in poverty

61% face food insecurity

57% face water insecurity

30% face housing insecurity

Figure 9: Concerns with housing among key populations in Mombasa

Proportion of key populations
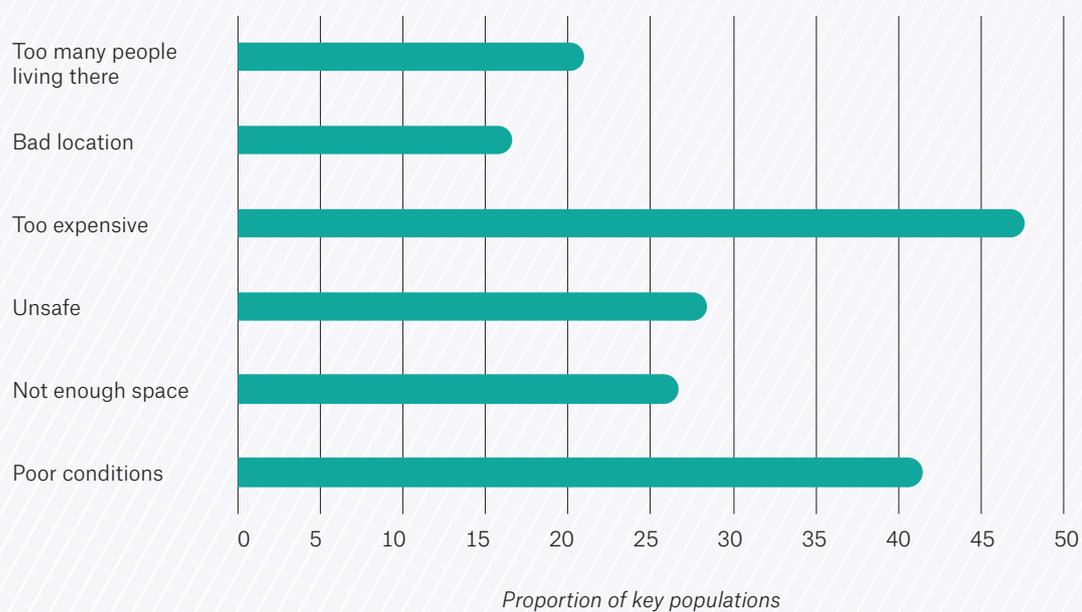
Table 2: Associations[a] between insecurities (food, water, housing) and health outcomes among key populations in Mombasa

	Type of insecurity		
	Food	**Water**	**Housing**
Poor physical health	OR=2.58 95%CI: 1.77-3.78	OR=3.86 95%CI: 2.62-5.70	OR=2.20 95%CI: 1.51-3.21
Poor mental well-being	OR= 2.55 95%CI: 1.67-3.88	OR=2.67 95%CI: 1.77-4.04	OR=1.67 95%CI: 1.12-2.48
Indications of depression	OR=2.95 95%CI: 1.90-4.45	OR=2.56 95%CI: 1.70-3.84	OR=1.74 95%CI: 1.17-2.58

a.   Associations calculated using bivariable logistic regression; OR=odds ratio; CI=confidence interval

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⬤ 🦟 Sexual & reproductive health

The idea of 'key populations' arises from the disproportionate burden of HIV and other STIs shared by sex workers, people who use (and especially inject) drugs, sexual minorities, and gender minorities [1, 2]. While sexual and reproductive health were not the primary focus of the *Mombasa Key Pop Study*, they are, nevertheless, important components of overall health for these populations.

Nearly all key populations in the health survey were sexually active (95.2%), with two thirds reporting they were satisfied with their sexual life (67.3%). The highest sexual life satisfaction was reported by gender minority men (91.4%) followed by sexual minority men (72.2%), while female sex workers were the least satisfied (53.4%). In terms of sexual debut, one in two key populations (52.3%) became sexually active before the age of 18 years. When asked about the sexual health education they received in schools, 46.1% of key populations said they received none at all or what they did receive was poor. Overall, **only one in five key populations (20.6%) said they received good sexual health education in school.**

Overall, key populations in the health survey reported high uptake of HIV testing: 85.7% had a previous diagnostic test including 62.9% in the six months prior to participation. The proportion ever tested for HIV was similar across populations, although slightly higher among women than men (86.4% vs 83.9%). Of those who chose to disclose their HIV testing history, 13.6% were living with HIV including 22.4% of sex workers, 15.6% of people who use drugs, 14.8% of sexual minorities, and 14.8% of gender minorities. A further 14.5% were of unknown HIV status. Although this study was not designed to estimate prevalence, HIV among this sample is comparable to those reported for key populations nationally [38].

Regarding HIV treatment, the majority of key populations living with HIV were accessing antiretroviral treatment at the time of completing the survey (77.9%), while a further 13.2% had been on treatment but discontinued and 8.8% were treatment naïve. That one in five key populations with HIV were not accessing treatment is concerning, especially as it is provided free-of-cost in Kenya. Unfortunately,

no data were collected on motivations around HIV treatment. For those of negative or unknown status, around two thirds had ever heard of pre-exposure prophylaxis (PrEP; 63.5%) while one in five (21.6%) were using it as a form of prevention.

Regarding use of condoms, key populations in the health survey reported low levels of use. During anal or vaginal sex, 30.6% of key populations reported never using condoms, 51.2% used them occasionally, and 18.2% used them always. Importantly, 26.8% said they had recently struggled to access condoms, likely reflecting a shortage in publicly funded condoms reported throughout 2023 [39]. Other factors may have contributed to condom use patterns. Notably, those using PrEP were nearly three times more likely to report not using condoms (OR=2.90, 95%CI: 1.48-5.65).

For reproductive health among cisgender women, the prevalence of previous pregnancy was 53.2% among sex workers, 52.0% among people who use drugs, and 60.8% among sexual minorities. (Unfortunately, an error in the survey routing inappropriately excluded gender minority men from questions about reproductive health.) A large proportion of cisgender women described their first pregnancy as unplanned, including 81.3% of sex workers, 87.8% of people who use drugs, and 72.7% of sexual minorities. A large proportion also reported some previous induced termination of pregnancy, which was highest among sex workers (51.3%) followed by people who use drugs (40.0%) and sexual minorities (38.5%). Among those with a previous termination, 51.2% said they experienced complications or serious negative effects.

More details on sexual and reproductive health can be found in Appendix F.

46%

of key populations received no or poor sexual health education in school

HIV gaps

15%
of key populations do not know their HIV status

82%
of key populations do not use condoms consistently

22%
of key populations with HIV are not on treatment

37%
of key populations without HIV do not know about PrEP
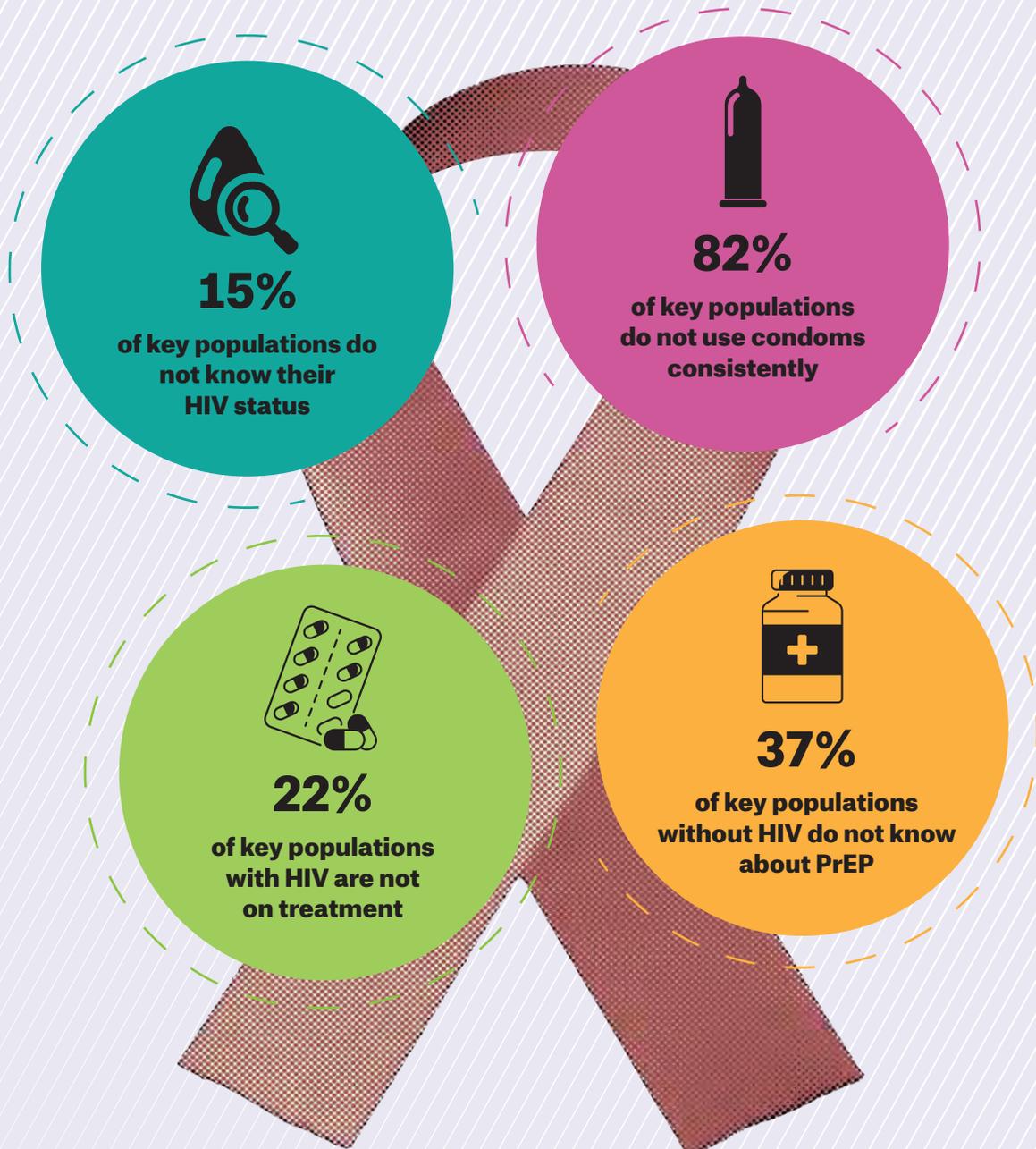
Violence

Sexual and other forms of violence were highly prevalent among key populations in Mombasa, confirming findings from many previous studies [40-43]. Nearly half of survey participants had experienced sexual violence (46.4%), which was highest among gender minority women (60.0%) and male sex workers (59.5%). Of those who experienced sexual violence, less than half (46.9%) told someone or sought help.

Stigmatising attitudes towards sexual violence was assessed using the Illinois Rape Myth Scale [18]. Overall, 44.8% of key populations in the health survey had medium or high stigma towards survivors of sexual violence. Across populations, sexual violence stigma was higher among men than women (13.8% vs 10.8% with high stigma). Among those who had personally experienced sexual violence, one third (34.3%) expressed medium-high levels of internalised stigma.

Other forms of violence were also common. Physical assault had been experienced by 49.2% of key populations (26.8% in the six months prior to participation) and was, by far, most common among gender minority women (77.5%) followed by male sex workers (65.2%). Verbal assault had been experienced by 60.4% of key populations (37.8% recently) and was most common among gender minority men (85.7%) and gender minority women (77.5%). Nearly one in four participants had experienced intimate partner violence (38.8%), which was the most common among sex workers regardless of gender (63.1%). Across populations, intimate partner violence was more common among women than men (46.5% vs 27.2%).

When the issue of seeking support for violence was discussed among the qualitative cohort, the feedback from key populations can be summarised as 'what is the point?' Indeed, many participants described how engaging with authorities, especially police, only increased their risk of violence. This contention was supported by data from the health survey, in which 51.9% of key populations reported experiencing negative treatment from police officers.

More details on experiences of violence can be found in Appendix G.

God and religion were clearly very important.

Figure 10: Experiences of violence among key populations in Mombasa, by population and gender [a] (n=545)

- ● Sex workers (women)
- ● Sex workers (men)
- ● People who use drugs (women)
- ● People who use drugs (men)
- ● Sexual minorities (women)
- ● Sexual minorities (men)
- ● Gender minorities (women)
- ● Gender minorities (men)
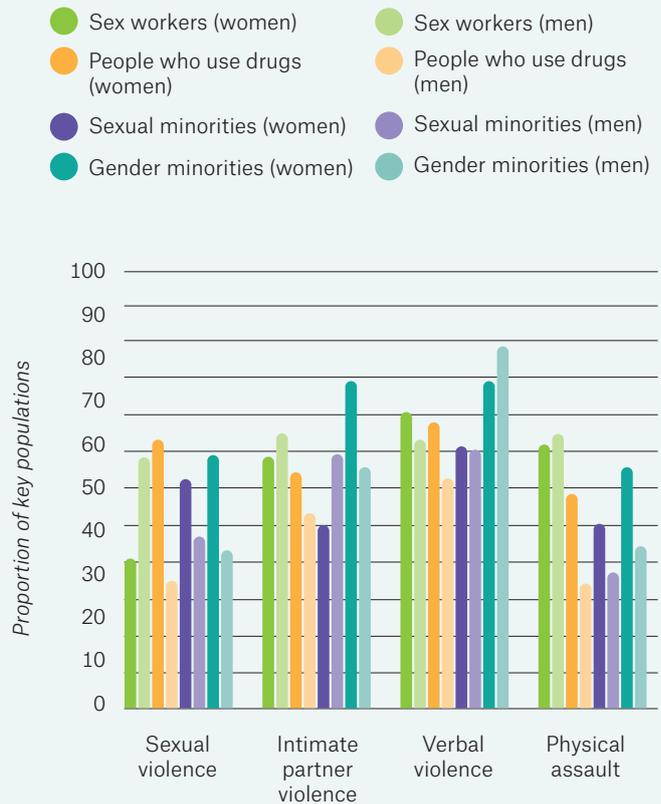
a. Among non-binary participants (n=12), 25.0% (n=3) reported sexual violence and 8.3% (n=1) intimate partner violence noting 58.3% (n=7) chose to skip these items; 58.3% (n=7) had experienced physical violence and 83.3% (n=10) verbal violence

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Key populations and violence

1 in 2

key populations experience physical assault

1 in 2

key populations experience stigma from police officers, limiting options to find help for violence

1 in 4

of key populations experience intimate partner violence

1 in 2

Only half of key populations experiencing sexual violence told someone or sought help

21

Digital lives, digital health

There is little question the internet is a significant factor of life in Kenya with exciting implications for health promotion. Despite this reality, little is known about the digital lives of key populations. Gathering such information is vital to supporting 'digital health'.

In the health survey, the vast majority of participants – 93.0% – reported active use of social media, which was consistent across populations. Over half of key populations were high users, meaning they spent more than three hours a day on social media. High social media use was observed among people who use drugs (56.8%) followed by sexual minorities (54.5%), gender minorities (53.5%), and sex workers (47.4%). Key populations in Mombasa reported predominantly using the internationally popular platforms, including WhatsApp (73.6%), Facebook (61.1%), and TikTok (58.9%).

Experiences of social media were discussed by key populations during the study's qualitative component. Many positive aspects of social media were discussed, including connecting with community, being entertained, and exchanging security information. The latter was particularly relevant in 2023, as Mombasa experienced a series of protests against sexual and gender minorities [44]. Several participants discussed the value of social media for keeping them informed and safe during such protests. As one 18-year-old gender minority woman shared: "I like spending time on social media because maybe you can get something new, like for example if you hear there is *maandamano* [protests] nearby".

On the other side, key populations were cognisant of some risks from social media. Key examples of such risks included cyberbullying, stalking, blackmail, and unwanted sexual content. Exposure to negativity and hate speech was identified as especially prominent and perceived as harmful to mental health. As on 29-year-old gender minority woman shared: "I used to love TikTok but could not stand the comments. All the negativity, it made me afraid."

Beyond standard social media, six out of ten key populations (60.6%) had used websites and mobile apps for seeking sexual or romantic partners (e.g., Tinder, Grindr), including one third (34.5%) who were active users. The active use of partner-seeking apps was most common among gender minority women (67.5%), male sex workers (59.1%), and sexual minority men (45.4%). Although active use of partner-seeking apps was associated with greater sexual satisfaction among key populations (OR=1.60, 95%CI: 1.10-2.37), there was no association with romantic satisfaction (OR=1.19, 95%CI: 0.82-1.72).

Specific to health, the majority of key populations (73.9%) thought the internet was a good source of health information, although 16.3% were unsure. When asked their primary source of health information, the internet was the second highest choice accounting for 29.5% of responses. By comparison, the most common – doctor or nurse – account for 39.5% of responses.

More details on digital health can be found in Appendix F.

Exposure to negativity and hate speech was identified as especially prominent and perceived as harmful to mental health

93%

of key populations use social media

> **For me, online dating is very good because you can get many different flavours. If you want big, tall, handsome, petite. It's also great because everyone online is searching. You know if you meet me on the road you cannot tell if I am single or dating but everybody there is looking for a partner."**
>
> **– Man, 23-years-old, sexual minority**

6 out of 10

key populations have looked for sexual or romantic partners online

Figure 11: Social media platforms used by key populations in Mombasa, by population

- **Gender minorities**
- **Sexual minorities**
- **People who use drugs**
- **Sex workers**

Proportion of key populations
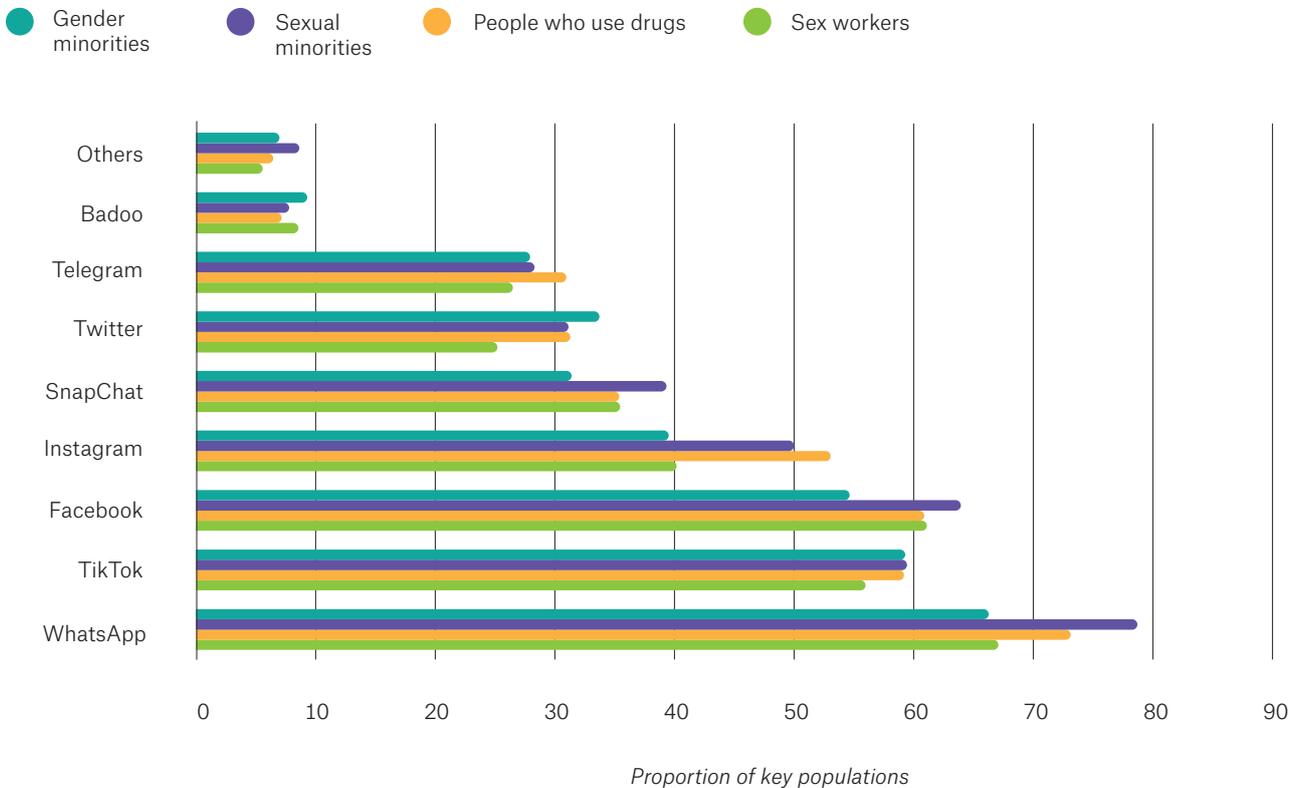
Population spotlight: Sex workers

In the key population health survey, 234 (79.6%) participants were identified as active sex workers, while a further 60 had sold sex previously. For active workers, the survey was completed by a total of 161 female sex workers (including 28 gender minority women), 66 male sex workers (including nine gender minority men), and six non-binary sex workers.

For the majority of sex workers (62.8%), sex work was their primary source of income with no distinctions by gender. Compared to other key populations, sex workers were half as likely to be satisfied with their job (OR=0.57, 95%CI: 0.67-0.87). Most sex workers first sold sex when they were adults (70.1%), although 20.4% were 16-18 years at their first encounter and a further 8.96% were 15 years or younger. Women were more likely than men to begin sex work before the age of 18 years (32.3% vs 25.9%).

Beyond in-person services, 41.9% of sex workers had sold sexual services online. Online services included activities like webcamming, sending picture or videos, or distributing content through webservices like OnlyFans. Online sex work was more common among men than women (53.0% vs 38.5%). There was no difference in income between sex workers who worked online vs offline, but those who worked online were more likely to report high employment satisfaction (21.4% vs 12.5%).

Although online sex work may have improved job satisfaction for some, it did introduce new risks to health and safety. During the qualitative discussions, some sex workers shared about their experiences distributing sexual content (e.g., photos and videos). In one such instance, a 28-year-old female sex worker shared how the experience turned to blackmail: "I was sending videos and pictures of me…he told me that if I didn't go to see him then he was going to post them on social media. And I was afraid for my family to see them. This experience affected me in a negative way and now I don't send nudes to anyone". Such risks to privacy and threats of blackmail have been reported in other international studies of online sex work [45, 46].

Relative to other key populations, healthcare workers maintained the lowest levels of stigma towards sex workers. While 10.6% had medium stigma towards sex workers, 9.6% had high stigma; only 3.8% of clinicians said they would refuse care to a sex worker,

although 38.3% endorsed the myth that "sex workers are dangerous and deceitful". One in four sex workers (24.8%) had indications of internalised stigma, which was similar by gender. The greatest source of stigma for sex workers was the police, which was experienced by 60.3% of women and 77.3% of men.

Sex workers were asked to name their single greatest health need. For both male and female sex workers, mental health was the most indicated (36.4% and 48.2%, respectively). The second greatest needs related to sexual and reproductive health (12.1% of women and 7.5% of men). Indeed, one third of female sex workers (33.3%) reported difficulty accessing their chosen menstrual products. Reflecting her reproductive health needs, one female sex worker simply wrote her greatest health need was, "lack of adequate pads.

More details on sex work can be found in Appendix I.

63% of sex workers rely on sex work as their primary income

42% of sex workers sell online sexual services

29% of sex workers began working as minors

20% healthcare workers have stigma towards sex workers

25% of sex workers have internalised stigma

Population spotlight: People who use drugs

In the health survey, three quarters of participants reported ever consuming alcohol (76.5%), including 58.0% who had done so in the six months prior to participation. Cigarette consumption was popular among key populations, with 48.4% reporting lifetime consumption and one quarter (24.6%) recent consumption. Per week, participants reported consuming a median of 14 cigarettes (IQR: 3-30).

Regarding other drugs, 66.5% of key populations reported ever consuming illicit substances and 53.9% had done so recently. A further 9.2% of participants had ever injected drugs, including 6.6% recently. After alcohol and cigarettes, the most commonly consumed drugs were marijuana (38.5%) and muguka/jabba/khat (37.3%). Use of prescription drugs for something other than their intended purpose was low, reported by only 10 participants (1.8%).

Using the CAGE Substance Abuse Screening Tool [17], half of key population participants (50.6%) had some indication of drug or alcohol abuse. Further, one in five key populations (20.7%) had very severe indications of substance abuse. Of those of indications of abuse, 23.2% reported receiving some previous support, while 22.1% had not received support but were interested. Among those who had received support for substance abuse, two thirds (68.8%) said it was helpful.

The subsample of 'people who use drugs' was defined as those participants reporting the use of drugs other than alcohol in the six months prior to the survey (n=294). Focusing on this population 81.3% of men and 70.4% of women had indications of substance abuse, with only 16.8% and 29.4%, respectively, indicating some previous support.

While 42.4% of people who use drugs reported consuming only a single substance, 38.5% reported two drugs of choice, and 19.10% reported three or more. Further, three quarters of people who use drugs also reported regular consumption of alcohol (77.6%). Importantly, the number of drugs used was associated with a greater likelihood of substance abuse indication. Compared to those consuming a single substance, those reporting two substances

were 2 times more likely to indicate substance abuse (OR=1.97, 95%CI: 1.08-3.60), and those with three or more substances were 3.3 times more likely (OR=3.34, 95%CI: 1.39-8.05).

Among people who use drugs, indications of substance abuse were strongly associated with physical and mental health outcomes. Those indicating substance abuse were 2.3 times more likely to report poor physical health (OR=2.28, 95%CI: 1.59-3.26) and 2 times more likely to have indications of depression (OR=2.05, 95%CI: 1.40-3.00) or suicidality (OR=2.05, 95%CI 1.36-3.08).

Among people who use drugs, 12.2% (n=36) reported injecting, which was slightly more common among men than women (13.4% vs 11.8%). Those who did report injecting drugs were 6.9 times more likely to have indications of substance abuse than other drug users (OR=6.68, 95%CI: 2.56-17.46). Importantly, two thirds (n=24) of participants who used injecting drugs said they had shared equipment in the six months prior to participation.

Among healthcare workers, 7.5% said they would refuse care to someone who uses drugs, and 45.3% maintained medium-high levels of stigma towards this population. Four out of ten healthcare workers (42.3%) endorsed the myth that "people who use drugs are morally weak". Taken together, stigma towards people who use drugs was highest relative to other key populations among healthcare workers. Further, more than half of people who use drugs (58.2%) had indications of internalised stigma, which is to say they held negative views about other people who use drugs.

People who use drugs were asked to name their most pressing health need. Mental health was the most prominent indicated by 50.0%. For women who use drugs, sexual and reproductive health needs were second (10.9%), while socioeconomic support was the second choice for men (13.3%). As one man wrote: "It is difficult to cope with the daily activities due to high cost of living."

More details on use of alcohol and other drugs can be found in Appendix J.

78%
of people who use drugs also consume alcohol

42%
of healthcare workers have stigma towards people who use drugs

58%
of people use two or more substances

58%
of people who use drugs have internalised stigma

67%
of people who inject drugs report sharing equipment
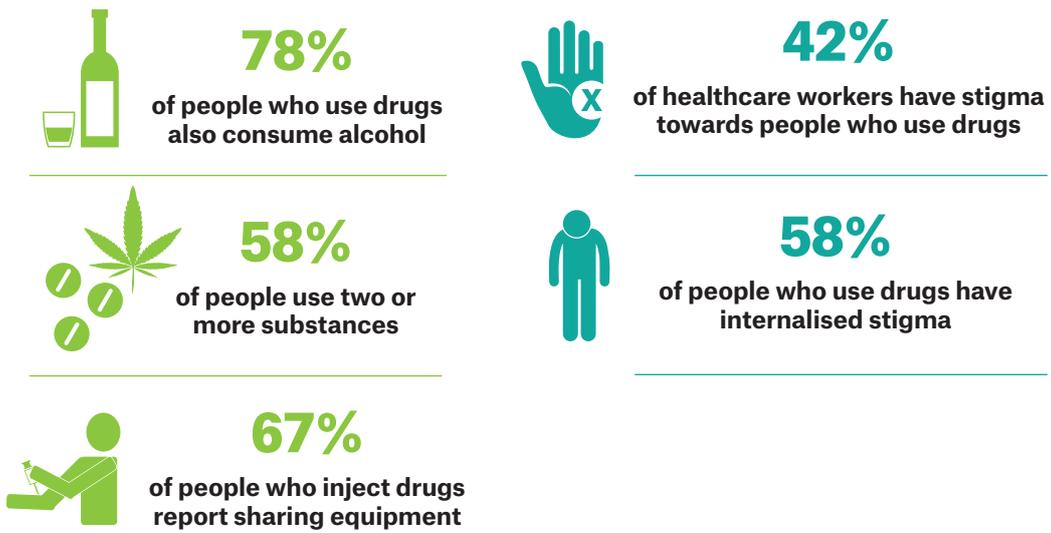
Figure 12: Drugs used (ever) by key populations in Mombasa, by population (n=357)

Legend:
- Gender minorities
- Sexual minorities
- People who use drugs
- Sex workers

Y-axis categories: Alcohol, Cigarettes, Marijuana, muguka/jabba/khat, Tumbaku, Cocaine, Kuber, Glue, Diazepam, Methaqualone

X-axis: 0 10 20 30 40 50 60 70 80 90 100

Proportion of key populations
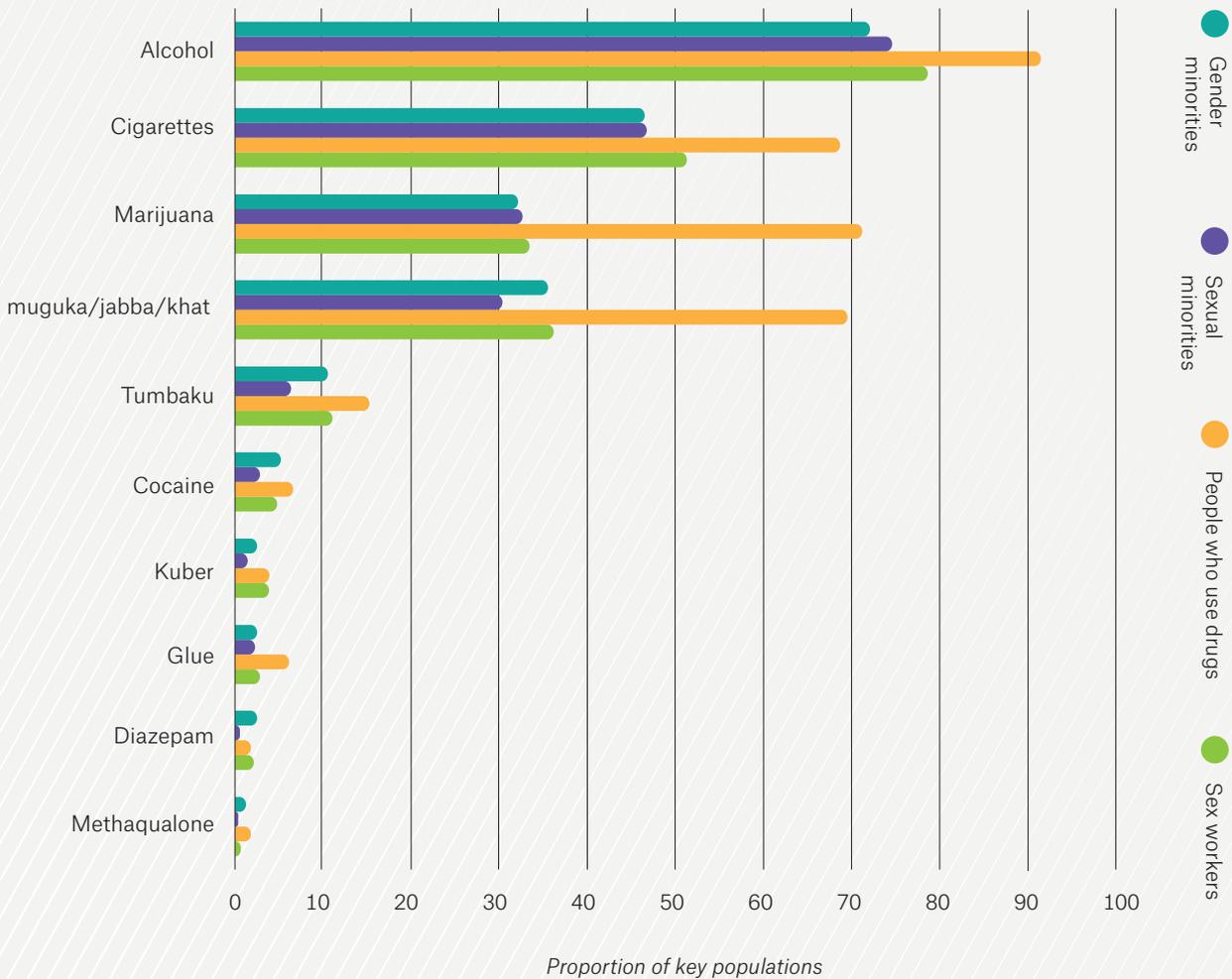
Population spotlight: Sexual minorities

APPENDIX K

The health survey collected data from 244 sexual minority participants, 60.3% of whom were women and 39.8% men. In total, 2.5% of sexual minority participants were also gender minorities.

Among sexual minorities, mental health support was the most commonly expressed need (49.1% of women and 51.1% of men). For men, the second ranked health need was socioeconomic support (13.3%), and was sexual and reproductive health for women (10.9%). Such needs were especially focused on access to menstrual and safer sex products. As one sexual minority woman wrote: "As a lesbian living with HIV, it isn't easy to access to finger condoms and dental dams." Elsewhere in the survey, 24.2% of sexual minority women expressed difficulty accessing condoms.

Among healthcare workers, stigma towards sexual and gender minorities was assessed as a single measure. Medium to high stigma towards sexual and gender minorities was observed in 30.1% of healthcare workers, with 32.9% endorsing the myth that "lesbian, gay and bisexual people are trying to recruit Kenyan children to a deviant lifestyle". Reflecting on their own experiences, nearly half of sexual minorities (45.9%) reported experiencing stigma in healthcare settings. This proportion was higher among men than women (54.6% vs 40.1%).

Among sexual minority men, stigma was most prominent from police officers (28.9% reported experiencing high stigma in this context), while for women it was most prominent in the general community (17.7%). Overall, 34.0% of sexual minority women and 29.9% of men had indications of internalised stigma, reflecting observations from some previous research [47]. In total, 25.5% of sexual minority women and 41.9% of men said they had been exposed to programs designed to change their sexual orientation.

Stigma towards sexual minorities

45.9%
experience stigma in health settings

51.2%
experience stigma from police

32.4%
carry internalised stigma

28.5%
have been exposed to 'conversion' programming

Population spotlight: Gender minorities

Eighty-seven gender minority participants completed the health survey, which included 40 women (46.51%), 35 men (40.70%), and 12 non-binary people (12.79%). The majority realised they were a gender minority in adolescence before they were 18 years old (52.1%).

At the time of participants, 68.6% of gender minority participants were known by a name different from the one assigned to them at birth (often referred to as a 'chosen name'). Having a chosen name was most common among gender minority men (77.1%) followed by women (65.0%) and non-binary people (54.6%). Only one quarter (25.4%) had their chosen name recorded on legal documents, with an additional 30.5% interested in updating their name legally.

It is well-established in the scientific literature that hormone therapy and other forms of medical gender affirmation can have significant benefits for mental and physical health [48-55]. In the health survey, 11.6% of gender minority participants reported being on hormone therapy, including 20.0% of women and 7.5% of men. A further 16.3% had previously accessed hormone therapy but discontinued. No non-binary participants had experience with hormone therapy. Among those not on hormone therapy, 66.3% wanted to start. Although small absolute numbers in this subsample impede statistical comparisons, it is notable that positive well-being was reported by 35.7% of those on hormone therapy compared to only 23.6% of those who were not.

Among healthcare workers, stigma towards sexual and gender minorities was assessed as a single measure. Medium to high stigma towards sexual and gender minorities was observed in 30.1% of healthcare workers, with 51.4% endorsing the population-specific myth that "transgender people are just confused and should live as their sex assigned at birth". Among gender minority participants, 17.3% had indications of internalised stigma with no differences by gender.

One quarter of gender minority participants (25.6%) had been exposed to some kind of conversion programming to change their gender. Mental health was the number one health need highlighted by gender minority participants, indicated by 46.5%. There was no clear second place health need, although several participants did request gender affirming care and socioeconomic support.

More details on the experiences of gender minorities can be found in Appendix K.

Gender affirmation

SOCIAL

69%
use a 'chosen name'

LEGAL

30%
want their name legally changed

MEDICAL

67%
want hormone therapy

PERSONAL

47%
want mental health support
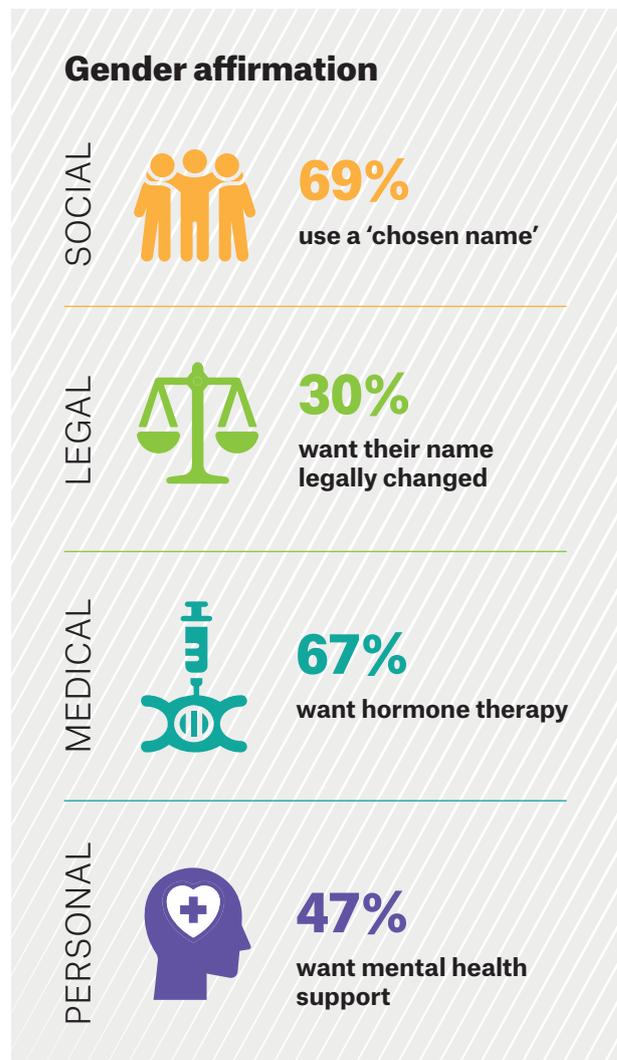
Intersectionality

As highlighted earlier, key populations are non-exclusive and often overlapping categories. Coined by legal scholar Kimberlé Crenshaw, the concept of intersectionality draws attention to the ways in which multiple key population identities can 'intersect' to create unique experiences of oppression [56, 57]. As an example from this study, intersectionality suggests that a person who is a sex worker would have a different experience of oppression than a sex worker who uses drugs, and that experience would be unique and more than just the combination of two distinct forms of oppression.

In the health survey, four out of ten participants (43.1%) were represented in two or more key population categories. Overall, 56.7% of participants represented one population while 30.3% represented two. Because of the small number of gender minorities who were also sexual minorities (n=6), for the purposes of this analysis these two population categories were collapsed. Thus, a further 13.0% of the sample represented all three population categories (i.e., sexual and gender minority sex workers who use drugs). As shown in Figure 14, there are many combinations between these three categories, not to mention other intersectional considerations (e.g., HIV status, disability status) not presented here.

While quantifying intersectionality is methodologically complex [58, 59], the health survey data suggest intersectional experiences contribute to poorer outcomes. For example, 33.0% of participants representing one key population reported poor physical health, which was the case for 37.0% of those of two populations, and 54.9% for those of three. Statistically, each additional population was associated with 1.5 times increase to the likelihood of poor physical health (OR=1.47, 95%CI: 1.15-1.87). A similar relationship was observed with negative well-being, indications of depression, experiences of sexual violence, and experiences of stigma in healthcare. For example, compared to those of a single population, each additional identity was associated with 2.5 times greater likelihood of sexual violence (OR=2.45, 95%CI: 1.72-3.49) and 1.6 times greater likelihood of stigma (OR=1.64, 95%CI: 1.28-2.09).

Despite the realities of intersectionality, tensions within key populations can be significant. Speaking about her relationship with the sex working communities, one 29-year-old gender minority woman participating in the qualitative cohort shared: "Sex workers never make space for their transgender sisters. There is competition, so first chance they will out us to scare away clients". Relatedly, during consultations for this study a partner specialising in substance abuse programming shared their perceptive: "The challenge is with multiple typologies. Where do MSM [men who have sex with men] who are drug users go? They may not fit into our services, so we send them to MSM organisations, but those do not have drug programming".

Figure 13: Intersecting experiences of identity among key populations in Mombasa (n=545)

Figure 14: Relationship between intersecting identities and outcomes among key populations in Mombasa (n=545)
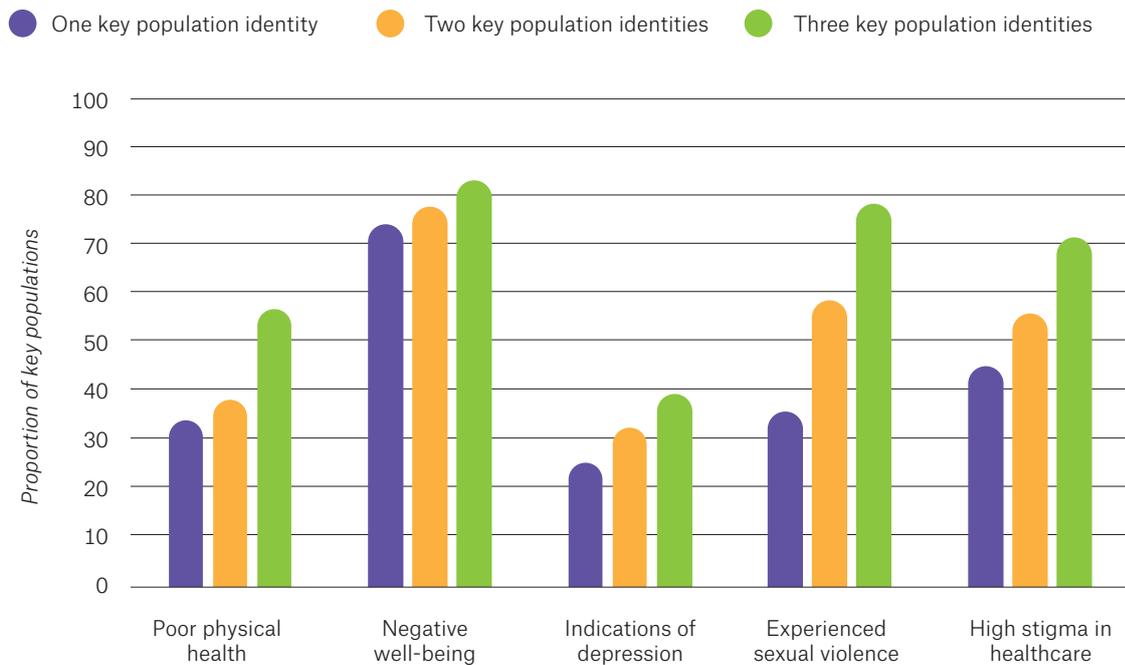
Conclusions and recommendations

Key populations in Mombasa lead multifaceted lives and have diverse experiences of health, healthcare, and well-being. This study's findings make clear that stigma is a powerful factor that gives shape to virtually all aspects of the key population experience, with significant implications for health and well-being. It remains clear, therefore, that effective efforts to improve public health must seek to reduce key population stigma in all of its forms and contexts. To guide recommendations arising from study results, workshops were held with study investigators and key stakeholders from community-based key population organisations.

Overarching recommendations

The following recommendations are made relevant to all key populations in Mombasa:

1. **Mental health support is the greatest health need for key populations, requiring expanded and targeted programming.**

Key populations in Mombasa face very low levels of positive well-being alongside high indications of depression and suicidality. Numerous studies have established that exposure to stigma is detrimental to mental health [24-29], and it is unsurprising that key populations affirmed mental health care as their greatest unmet health need. Although the *National Guidance on Integrating Mental Health into Key and Vulnerable Populations Programming in Kenya* advocates for increasing access to mental health care for key populations [6], these results make clear that considerable work remains.

Ongoing technical and financial investment are needed to expand mental health programming for key populations. On the technical side, mental health programming must incorporate evidence-based best practice that recognises the unique needs of each population. On the financial side, many key population community and health organisations in Mombasa already undertake effective mental health programs; investing in proven and established programs should be a primary focus for reaching a greater number and diversity of beneficiaries. For example, existing programs that situate professional and lay counsellors within facilities should be expanded with more staff and a greater number of sites.

In thinking about expanding mental health support, community members should be empowered through training and resource provision to establish and lead key population support groups. The advantage of such an approach is that it engages the lived expertise of key populations and can help strengthen social and community bonds. As mental health programs expand, opportunities must prioritise key populations themselves, which the WHO and others highlight as vital for community empowerment [3]. Ultimately, the recommendations discussed here aim to address the symptom rather than the cause. To compliment such work, and as discussed in more detail below, ongoing efforts to reduce social stigma are essential.

2. **Anti-stigma programming within and beyond healthcare must be prioritised.**

Healthcare workers in Mombasa enact stigma against key populations, and this negatively impacts uptake of care. These results confirm decades of research with key populations in Kenya [4] and the highlight the need for expanded anti-stigma programming. Healthcare workers must be sensitised on the social issues and reminded of their legal obligations not only to provide care, but to provide it at the "highest attainable standard" [60]. Such sensitisation must also include non-clinical staff, as results show they play a role in the overall healthcare experience. Interventions like 'value clarification and attitude transformation' may be useful here, but research must evaluate the effectiveness of any anti-stigma efforts.

High stigma towards key populations in healthcare is especially concerning given recent moves towards integrated models of care [61]. Typically, care for key populations in Mombasa has focused on specialised and stand-alone facilities (e.g., drop-in centres), but current strategic directions are focused on providing care within the 'general' health system. Unfortunately, the feasibility of an integrated approach to care is seriously undermined by pervasive stigma among healthcare workers in Mombasa. These results highlight the considerable work yet required to reduce stigma and make general health settings welcoming to key populations, which are essential precursors to integrating care.

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3. Initiatives to improve the social health and well-being of key populations are needed.

Social satisfaction including with families is low among key populations in Mombasa, and this is negatively associated with mental health and well-being. Further, many key populations do not have access to safe and affirming social spaces, and there is clear evidence of tensions within and between populations. Taken together, these results strongly support the need for interventions to improve the social health of key populations.

To increase social satisfaction and reduce within-group stigma, programs that foster community connection are warranted. Sporting and other physical activities could be effective here, as they can increase social cohesion and improve mental health [62] including among key populations [63, 64]. Further, given that only one in ten key populations engage in sufficient physical exercise, such interventions would likely benefit physical health as well. Other social interventions could include unstructured social gatherings, creative activities, and similar. Realising such programs, however, will require investment in a greater number and diversity of safe spaces. Such investment is especially important when considering that key populations predominantly spend their social time in commercial spaces.

Social interventions should also consider ways of re-establishing and strengthening family ties. Programs that target families directly – including sensitisation, healing, and bonding exercises – could help increase familial satisfaction and reduce stigma enacted by families. Interventions should also consider how religious leaders can be accessed as sources of social, familial, and community connection.

4. Individual and structural interventions must be implemented to improve the socioeconomic conditions of key populations.

Key populations face incredibly high rates of food, water, and housing insecurity, seriously undermining their health and well-being. Further, two thirds of key populations in Mombasa live in poverty, which directly impacts mental health outcomes and healthcare access. As participants repeatedly made clear: cost is the primary barrier to care and socioeconomic programming is among their greatest need. Thus, improving the socioeconomic conditions of key populations is one of the single most important steps towards improving their overall health and well-being.

Some community-based organisations in Mombasa already undertake socioeconomic programming for key populations, including skill building workshops, talent identification seminars, food distribution programs, and others. Expansion of these through financial investment is an important albeit temporary solution. In the longer term, advocacy for legal reform around employment and housing discrimination is vital. Although the Kenyan constitution enshrines the right to certain basic economic protections for all citizens [60], these results and the results of other studies show that the reality – especially regarding employment and housing – is often very different [65, 66]. Thus, key populations – especially those who are more visible – face difficulties securing work and shelter [67, 68]. Given the risks such insecurity poses to health and well-being, it is essential to advance individual interventions alongside structural solutions.

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5. Digital health interventions present exciting opportunities to support key populations.

Social media and online partner-seeking are incredibly popular activities among key populations in Mombasa with nearly half using social media for three or more hours each day. This popularity situates social media as an important space for key populations with great potential for health promotion and intervention. Given the stigma and violence that key populations face in the general community, access to healthcare (e.g., telemedicine) and health information from the safety of home has particular appeal.

The idea for digital intervention targeting key populations is certainly not a new one. Currently in Mombasa, for example, some sex workers use a specially designed mobile app to receive updates on clinical outreach activities, while some organisations maintain profiles on sex and dating apps encouraging users to ask questions about PrEP and other forms of HIV prevention. While these and other efforts are promising, in reality, current approaches to digital health intervention in Mombasa only grasp a sliver of the true potential.

All key population interventions should include an explicitly digital component of their work, collaborating with community and technology experts (including social media influencers) to maximise reach, utility, and accessibility. This recommendation does not necessarily mean developing new software or app. In fact, there is growing awareness of 'app overload' among patients [69] and retention with health-focused apps tends to be poor [70]. Instead, it is far more efficient to consider using the technologies and digital spaces that key populations are already accessing for hours a day and design ways of integrating health interventions. Any digital intervention targeting key populations, however, must balance the benefits and the risks [71]; engaging key populations in design and implementation is vital for finding this balance.

6. All key population interventions should embrace an intersectional approach.

Key populations in Mombasa are unique and diverse groups. Within and between populations, they have considerable differences in health outcomes, while many – over 40% – of key populations are part of multiple, intersecting typologies. As highlighted, intersectionality for key populations translates into poorer health outcomes in terms of physical health, mental health, violence, and stigma. These results offer strong evidence of intersectionality as a significant factor in lives of key populations in Mombasa [56, 57].

Despite evidence underlining the important of intersectionality, many existing initiatives and interventions fail to engage intersectional key populations. Renewed action to address these gaps is needed to help prevent intersectional key populations from 'falling through the cracks'. Specifically, all currently operating or planned key population programs, services, policies, and interventions should be reviewed and revised to encompass intersecting populations. For example, instead of designing a mental health support group just for sex workers, it may be appropriate to also design one for gender minority sex workers. Relatedly, agencies and organisations that work with key populations must review their mechanisms – especially related to funding – to ensure sufficiently flexibility for intersectional programming to be realised [72-74].

Population-specific recommendations

In addition to the overarching recommendations applicable to all key populations, there are several more specific considerations towards improving population and public health. These include:

7. Decriminalising sex work could help reduce violence and improve public health.

More than one third of sex workers in Mombasa experience sexual violence, half experience physical assault, and two thirds experience intimate partner violence. Sadly, less than half of sex workers who experience sexual violence tell anyone or seek help. This low level of help-seeking makes sense when considering that police and healthcare workers are prominent sources of stigma for sex workers in Mombasa. As violence is incredibly detrimental to mental health and a key driver of HIV and STIs among sex workers [75-78], strategies to reduce violence and increase help-seeking are sorely needed.

There is a wealth of robust research showing that the best way to reduce violence towards sex workers is to decriminalise sex work [75-78]. In 2023 following an extensive investigation, experts from the United Nations concluded that decriminalisation offered the "greatest promise to address systemic discrimination and violence" against sex workers [79]. Importantly, beyond reducing violence the decriminalisation of sex work can also help improve health- and help-seeking behaviours, reduce risky sexual practices, and improve reporting of child exploitation and human trafficking [75-78]. This kind of structural reform can also help reshape public attitudes towards sex work, in turn reducing the high levels of stigma to which this population is exposed.

Sex work decriminalisation can realise many health and social benefits, and is explicitly endorsed by the WHO [3]. To reduce violence and improve public health, it may be time to seriously consider decriminalising sex work in Mombasa. While decriminalisation may be a national issue, as a large and powerful county Mombasa has considerable advocacy potential. Further, the county can take numerous steps regarding its laws and their implementation to affect a quasi-decriminalised in Mombasa at least until national legal reform efforts can be achieved. Such efforts can draw upon the robust network of advocacy and health organisations that currently support sex workers in Mombasa, ensuring that sex workers themselves are empowered to lead efforts at legal reform.

8. Substance abuse programs especially for 'light' drugs should be expanded.

People who use drugs in Mombasa most commonly use substances like marijuana and muguka. While relative to other drugs, such substances may be seen as 'light', one third of people who use these drugs experience substance abuse challenges. Unfortunately, only one quarter of those with symptoms of substance abuse have ever received support, while a similar proportion are interested in such support. Taken together, this evidence highlights the need to expand current substance abuse programs in Mombasa.

Expansion of substance use programs could focus on two paths. The first path is to diversifying existing programs. Part of this diversity relates to the substance use and relative severity of abuse. Program should seek to engage people before their patterns of use develop into a full substance abuse disorder or expand to include additional substances. Diversity also refers to the target populations; many sex workers, sexual minorities, and gender minorities use drugs and have indications of abuse, so current and future programs should engage them in respectful and relevant ways.

The second path for expansion is simply to increase the number of programs and supporting staff. While Mombasa is home to some impactful substance use programs, these are running over-capacity and exist in only a few areas of the county. With at least one quarter of people who use drugs is interested in support to manage or reduce use, diversifying programs and increasing capacity are two essential components of ensuring no one is left behind.

9. Destigmatising and decriminalising sexual and gender diversity would have public health and social benefits.

Although all key populations face stigma, in Mombasa sexual and gender minorities are particularly vulnerable. This vulnerability is evident in the study results – healthcare workers were the most likely to say they would refuse care to sexual and gender minorities – and reflects the larger sociopolitical climate in Kenya. Indeed, the *Mombasa Key Pop Study* was carried out during a time of frequent public protests against sexual and gender minorities in Mombasa and nationally [44]. With this context in mind, it is unsurprising that sexual and gender minorities in Mombasa face such high levels of depression and suicidality.

As highlighted earlier, anti-stigma initiatives are needed to increase sensitivity, awareness, and compassion in health and other settings. Part of these initiatives should be to spread awareness on the dangers of trying to change someone's sexual orientation or gender. So-called 'conversion programming' or 'conversion therapy' has been shown in international studies not only to be ineffective, but to actually damage mental health and increase risk of suicide [80-82]. Anti-stigma and other strategies are needed to combat the popularity of this programming in Mombasa, which is experienced by nearly half of sexual and gender minorities.

Individual and interpersonal approaches to destigmatising sexual and gender diversity are important, but they should be accompanied by advocacy efforts to address structural forms of stigma. In particular, advocacy is needed to support the decriminalisation of homosexuality in Kenya. There is considerable evidence that criminalisation endangers public health, particularly in terms of HIV and mental health [83, 84]. Criminalisation also reduces access to health and other essential services for sexual and gender minorities. For all of these reasons, advocacy to decriminalise homosexuality is part of creating what Kenya's National Syndemic Diseases Control Council calls a "supportive legal and policy environment" [5] and a vital step towards improving public health in Mombasa County.

Beyond improving public health, destigmatising sexual and gender diversity can have other significant benefits. Notably, research suggests that decriminalising homosexuality would increase social cohesion and improve public safety generally [85], while another study found that destigmatising sexual and gender diversity could add over 130 billion KES to the Kenyan economy each year [86]. Altogether, this evidence presents a compelling case for structural efforts to tackle stigma. Any efforts towards such anti-stigma advocacy, however, must embrace the unique social and cultural fabric of Mombasa, and work with its diverse and dynamic communities.

10. Facilitating access to social and medical gender affirmation is vital for improving the health and well-being of gender minorities.

Gender minority people in Mombasa have a high interest in but low access to social and medical gender affirmation. Notably, just one quarter of gender minorities have their chosen name properly represented in legal documents, despite a landmark court ruling enshrining this right [87]. Further, while six in ten are interested in medical gender affirmation only one in ten report any kind of access. This limited access is problematic given strong evidence that gender affirmation can significantly improve mental health of and reduce risks for suicide, HIV, and other conditions [48-55].

The WHO defines gender affirmation as "social, psychological, behavioural or medical (including hormonal treatment or surgery) interventions designed to support and affirm an individual's gender identity" [88]. They join the World Professional Association for Transgender Health in defining gender affirmation as 'medically necessary' for improving public health and saving lives [52]. Thus, given the potential benefits to public and individual health, interventions are needed to support social and medical gender affirmation for gender minorities in Mombasa. Specifically, social work and other forms of support are needed to help them navigate complex legal and medical systems. Relatedly, advocacy efforts are needed to support the design and implementation of gender minority health guidelines in Kenya, moving beyond HIV to include gender affirmation as a vital component of health and well-being.

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References

To download the full reference library, please visit www.mombasakeypopstudy.com/report/references.

1. National AIDS and STI Control Programme. *National Guidelines for HIV/STI Programming with Key Populations*. 2014, Kenya Ministry of Health: Nairobi, Kenya.

2. National AIDS and STI Control Programme. *Key population mapping and size estimation in selected counties in Kenya: Phase 1 key findings*. 2019, Kenya Ministry of Health: Nairobi, Kenya.

3. World Health Organization. *Consolidated guidelines on HIV, viral hepatitis and STI prevention, diagnosis, treatment and care for key populations*. 2022, WHO: Geneva, Switzerland.

4. Musyoki, H., et al., A decade and beyond: learnings from HIV programming with underserved and marginalized key populations in Kenya. *Journal of the International AIDS Society*, 2021; 24: e25729.

5. National Sydnemic Disease Control Council. *National Multisectoral HIV Prevention Acceleration Plan 2023-2030*. 2023, Kenya Ministry of Health: Nairobi, Kenya.

6. National AIDS and STI Control Programme. *National Guidance on Integrating Mental Health into Key and Vulnerable Populations Programming in Kenya*. 2022, Ministry of Health: Nairobi, Kenya.

7. National AIDS and STI Control Programme. *Risk & Vulnerabilities to HIV of Young Key Populations: Findings from a National Survey in Kenya*. 2018, Kenya Ministry of Health: Nairobi, Kenya.

8. Krippendorff, K. *Content Analysis: An Introduction to Its Methodology*. 2012: SAGE Publications.

9. Minichiello, V., Aroni, R., & Hays, T.N. *In-Depth Interviewing: Principles, Techniques, Analysis*. 2008: Pearson Education.

10. Braun, V. & Clarke, V. Using thematic analysis in psychology. *Qualitative Research in Psychology*, 2006; 3(2): 77-101.

11. Vaughn, L.M. & Jacquez, F. Participatory research methods–choice points in the research process. *Journal of Participatory Research Methods*, 2020; 1.

12. Bogardus, E.S. Measurement of personal-group relations. *Sociometry*, 1947; 10(4): 306-311.

13. Mather, D.M., Jones, S.W., & Moats, S. Improving upon Bogardus: Creating a more sensitive and dynamic social distance scale. *Survey Practice*, 2017; 10(4): 1-9.

14. Chongwo, E., et al. Validation of a Swahili version of the World Health Organization 5-item well-being index among adults living with HIV and epilepsy in rural coastal Kenya. *Global Health Research and Policy*, 2018; 3(1): 26.

15. Tele, A.K., et al. Validation of the English and swahili adaptation of the patient health questionnaire–9 for use among adolescents in Kenya. *Journal of Adolescent Health*, 2023; 72(1): S61-S70.

16. Patrick, D.L., Edwards, T.C., & Topolski, T.D. Adolescent quality of life, part II: initial validation of a new instrument. *Journal of Adolescence*, 2002; 25(3): 287-300.

17. Seekles, M.L., et al. Measuring alcohol use among adolescents in Africa: A systematic scoping review of consumption, screening and assessment tools. *Drug and Alcohol Review*, 2023; 42(6): 1375-1394.

18. Thelan, A.R. & Meadows, E.A. The Illinois Rape Myth Acceptance Scale—Subtle Version: Using an adapted measure to understand the declining rates of rape myth acceptance. *Journal of Interpersonal Violence*, 2022; 37(19-20): NP17807-NP17833.

19. Eriksson, I., Undén, A.L, & Elofsson, S. Self-rated health. Comparisons between three different measures. Results from a population study. *International Journal of epidemiology*, 2001; 30(2): 326-333.

20. Milton, K., Bull, F., & Bauman, A. Reliability and validity testing of a single-item physical activity measure. *British Journal of Sports Medicine*, 2011; 45(3): 203-208.

21. World Health Organization. *Guidelines on Physical Activity and Sedentary Behaviour*. 2020, WHO: Geneva, Switzerland.

22. Barasa, E., et al. Kenya National Hospital Insurance Fund reforms: Implications and lessons for universal health coverage. *Health Systems & Reform*, 2018; 4(4): 346-361

23. Topp, C.W., et al. The WHO-5 Well-Being Index: A systematic review of the literature. *Psychotherapy and Psychosomatics*, 2015; 84(3): 167-176.

24. Secor, A.M., et al. Depression, substance abuse and stigma among men who have sex with men in coastal Kenya. *AIDS*, 2015; 29: S251-S259.

25. Kunzweiler, C.P., et al. Depressive symptoms, alcohol and drug use, and physical and sexual abuse among men who have sex with men in Kisumu, Kenya: The Anza Mapema Study. *AIDS and Behavior*, 2018; 22(5): 1517-1529.

26. Korhonen, C., et al. Depressive symptoms and problematic alcohol and other substance use in 1476 gay, bisexual, and other MSM at three research sites in Kenya. *AIDS*, 2018; 32(11): 1507-1515.

27. Stockton, M.A., et al. Associations among experienced and internalized stigma, social support, and depression among male and female sex workers in Kenya. *International Journal of Public Health*, 2020; 65(6): 791-799.

28. Beksinska, A., et al. Prevalence and correlates of common mental health problems and recent suicidal thoughts and behaviours among female sex workers in Nairobi, Kenya. *BMC Psychiatry*, 2021; 21(1): 503.

29. Muller, A., Daskilewicz, K, & the Southern and East Africa Research Collective. *Are we doing alright? Realities of violence, mental health and access to healthcare related to sexual orientation and gender identity and expression in Kenya*. 2019, COC Netherlands: Amsterdam, Netherlands.

30. Holt-Lunstad, J., Smith, T.B., & Layton, J.B. Social relationships and mortality risk: A meta-analytic review. *PLoS Medicine*, 2010; 7(7): e1000316.

31. Holt-Lunstad, J., Social connection as a public health issue: the evidence and a systemic framework for prioritizing the "social" in social determinants of health. *Annual Review of Public Health*, 2022; 43: 193-213.

32. Umberson, D., Crosnoe, R., & Reczek, C. Social Relationships and Health Behavior Across Life Course. *Annu Rev Sociol*, 2010; 36: 139-157.

33. Umberson, D. & Karas Montez, J. Social relationships and health: A flashpoint for health policy. *Journal of Health and Social Behavior*, 2010. 51(S1): S54-S66.

34. Musimbi, J., et al. Programmatic mapping and estimating the population size of female sex workers, men who have sex with men, people who inject drugs and transgender populations in Kenya. *Gates Open Research*, 2023; 6(112): 112.

35. Braveman, P. & Gottlieb, L. *The social determinants of health: it's time to consider the causes of the causes. Public Health Rep*, 2014; 129(S2): 19-31.

36. Lancet Editorial Board. Housing: an overlooked social determinant of health. *The Lancet*, 2024; 403(10438): 1723.

37. Kenya National Bureau of Statistics. *The Kenya Poverty Report 2021*. 2023, Kenya National Bureau of Statistics: Nairobi, Kenya.

38. National AIDS and STI Control Programme. *Kenya World AIDS Day: Progress Report 2013-2021*. 2021, Ministry of Health: Nairobi, Kenya.

39. Asoha, F. How condom shortage is affecting fight against new HIV infections. *The Star,* 2023; The Star Newspaper: Nairobi, Kenya. Accessed 22 May 2024 via https://www.the-star.co.ke/news/realtime/2023-10-23/how-condom-shortage-is-affecting-fight-against-new-hiv-infections/

40. Parcesepe, A.M., et al. Early sex work initiation and violence against female sex workers in Mombasa, Kenya. *Journal of Urban Health*, 2016. 93: 1010-1026.

41. Pema Kenya. *The Issue is Violence: Attacks on LGBT People on Kenya's Coast*. 2015, Pema Kenya: Mombasa, Kenya. Accessed 22 May 2024 via https://www.hrw.org/report/2015/09/28/issue-violence/attacks-lgbt-people-kenyas-coast

42. Pack, A.P., et al. Intimate partner violence against female sex workers in Mombasa, Kenya. *Culture, Health & Sexuality*, 2014; 16(3): 217-230.

43. Valente, P.K., et al. Violence and victimization in interactions between male sex workers and male clients in Mombasa, Kenya. *Journal of Interpersonal Violence*, 2022; 37(3-4): NP1784-NP1810.

44. African Digital Democracy Observatory. *Anti-LGBTQIA+ hate increases in Kenya after court ruling*. 2023, Medium: New York, NY. Accessed 22 May 2024 via https://disinfo.africa/anti-lgbtqia-hate-increases-in-kenya-after-court-ruling-68991ee50891

45. Callander, D., et al. "What will we do if we get infected?": an interview-based study of the COVID-19 pandemic and its effects on the health and safety of sex workers in the United States. *SSM Qualitative Research in Health*, 2022; 2: 100027.

46. Jones, A. *Camming: Money, power, and pleasure in the sex work industry*. 2020: NYU Press.

47. Haase, S., Zweigenthal, V., & Müller, A. "You can't thrive when you are being suffocated": Quantitative and qualitative findings on minority stress in Kenyan queer womxn and trans men. *Sexuality, Gender & Policy*, 2023; 6(2): 58-80.

48. Hughto, J.M.W. & Reisner, S. A Systematic Review of the Effects of Hormone Therapy on Psychological Functioning and Quality of Life in Transgender Individuals. *Transgender Health*, 2016; 1(1): 21-31.

49. Allen, L.R., et al. Well-being and suicidality among transgender youth after gender-affirming hormones. *Clinical Practice in Pediatric Psychology*, 2019; 7: 302-311.

50. Baker, K.E., et al. Hormone therapy, mental health, and quality of life among transgender people: A systematic review. *Journal of the Endocrine Society*, 2021; 5(4).

51. Chen, D., et al. Psychosocial Functioning in Transgender Youth after 2 Years of Hormones. *New England Journal of Medicine*, 2023; 388(3): 240-250.

52. Coleman, E., et al. Standards of care for the health of transgender and gender diverse people, version 8. *International Journal of Transgender Health*, 2022; 23(sup1): S1-S259.

53. Fontanari, A.M.V., et al. Gender affirmation is associated with transgender and gender nonbinary youth mental health improvement. *LGBT Health*, 2020; 7(5): 237-247.

54. Glynn, T.R., et al. The role of gender affirmation in psychological well-being among transgender women. *Psychology of Sexual Orientation and Gender Diversity*, 2016; 3(3): 336.

55. Nguyen, H.B., et al. Gender-affirming hormone use in transgender individuals: Impact on behavioral health and cognition. *Current Psychiatry Reports*, 2018; 20(12): 110.

56. Crenshaw, K. Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, 1991: 1241-1299.

57. Crenshaw, K.W. *On Intersectionality: Essential Writings*. 2017, New York, NY: The New Press.

58. Guan, A., et al., An investigation of quantitative methods for assessing intersectionality in health research: A systematic review. *SSM Population Health*, 2021; 16: 100977.

59. Bowleg, L. & Bauer, G. *Invited reflection: Quantifying intersectionality. Psychology of Women Quarterly*, 2016; 40(3): 337-341.

60. Government of the Republic of Kenya. *Constitution of Kenya: 43. Economic and social rights*. 2010, Republic of Kenya: Nairobi, Kenya.

61. National AIDS and STI Control Programme. *Mombasa County HIV & AIDS Strategic Plan: 2016-2020*. 2016, Kenya Ministry of Health: Mombasa, Kenya.

62. Zuckerman, S.L., et al. The behavioral, psychological, and social impacts of team sports: A systematic review and meta-analysis. *Physician and Sports Medicine*, 2021; 49(3): 246-261.

63. Mock, S.E., Misener, K, & Havitz, M.E. A league of their own? A longitudinal study of ego involvement and participation behaviors in LGBT-focused community sport. *Leisure Sciences*, 2022; 44(6): 750-767.

64. Ceatha, N., et al. The power of recognition: A qualitative study of social connectedness and wellbeing through LGBT sporting, creative and social groups in ireland. *International Journal of Environmental Research and Public Health*, 2019; 16(19): 3636.

65. galck+, The Gay and Lesbian Coalition of Kenya. *The Impact of Outdated Laws on Sexual Orientation and Gender Identity in Kenya Today*. 2023, galck+: Nairobi, Kenya.

66. Muindi, A.K., *Sexual Orientation and Employment Discrimination in Kenya A critical analysis of Article 27 of the constitution and section 5 of the Employment Act*. Masters Thesis, 2020: Strathmore University.

67. The Advocates for Human Rights, The Eagles for Life Kenya & Oasis Research. *Alternative Report Relating to the Rights of LGBTI Persons*. 2021, 69th Ordinary Session of the African Commission on Human and Peoples' Rights: Minneapolis, USA.

68. Vestlie, A.W. A qualitative study of lived experiences of lesbian, gay, bisexual, transgender, queer, and intersex community in Nairobi with regards to finding and maintaining jobs. Masters Thesis, 2021: Norwegian University of Life Sciences.

69. van Velsen, L., Beaujean, D.J., & van Gemert-Pijnen, J.E. Why mobile health app overload drives us crazy, and how to restore the sanity. *BMC Medical Informatics and Decision Making*, 2013; 13(1): 23.

70. Vaghefi, I. & Tulu, B. The continued use of mobile health apps: Insights from a longitudinal study. *JMIR Mhealth*, 2019; 7(8): e12983.

71. Garcia-Iglesias, J., et al. Dating apps as health allies? Examining the opportunities and challenges of dating apps as partners in public health. *Medical Humanities*, 2024: medhum-2024-012901.

72. Baines, D. Gender mainstreaming in a development project: Intersectionality in a post-colonial un-doing? *Gender, Work & Organization*, 2010; 17(2): 119-149.

73. Grünenfelder, J. & Schurr, C. Intersectionality – A challenge for development research and practice? Development *in Practice*, 2015; 25(6): 771-784.

74. Heard, E., et al. Applying intersectionality theory in health promotion research and practice. *Health Promotion International*, 2019; 35(4): 866-876.

75. Lyons, C.E., et al. The role of sex work laws and stigmas in increasing HIV risks among sex workers. *Nature Communications*, 2020; 11(1): 773.

76. Beyrer, C., et al. An action agenda for HIV and sex workers. *The Lancet*, 2015; 385(9964): 287-301.

77. Shannon, K., et al. Global epidemiology of HIV among female sex workers: influence of structural determinants. *The Lancet*, 2015; 385(9962): 55-71.

78. Shannon, K., et al. The global response and unmet actions for HIV and sex workers. *The Lancet*, 2018; 392(10148): 698-710.

79. United Nations Special Rapporteur on Human Rights. *Mandate of the Working Group on discrimination against women and girls: Eliminating discrimination against sex workers and securing their human rights*. 2023, United Nations: Geneva, Switzerland.

80. Campbell, T. & Rodgers, Y. Conversion therapy, suicidality, and running away: An analysis of transgender youth in the U.S. *Journal of Health Economics*, 2023; 89: 102750.

81. Andrade, G. & Campo Redondo, M. Is conversion therapy ethical? A renewed discussion in the context of legal efforts to ban it. *Ethics, Medicine and Public Health*, 2022; 20: 100732.

82. Przeworski, A., Peterson, E., & Piedra, A. A systematic review of the efficacy, harmful effects, and ethical issues related to sexual orientation change efforts. *Clinical Psychology: Science and Practice*, 2021; 28(1): 81-100.

83. Barnett-Vanes, A. Criminalising homosexuality threatens the fight against HIV/AIDS. *The Lancet*, 2014; 383(9919): 783-784.

84. HIV Policy Lab. *Progress and the Peril: HIV and the Global De/criminalization of Same-Sex Sex*. 2023, UNDP, GNP+, O'Neill Institute for National and Global Health Law.

85. Igonya, E. Mung'ala, L. Kenya should decriminalise homosexuality: Four compelling reasons why. *The Conversation,* 2023; The Conversation Edu: New York, NY. Accessed 22 May 2024 via https://theconversation.com/kenya-should-decriminalise-homosexuality-4-compelling-reasons-why-203767

86. Miller, J. & Parker, L. *The Economic Case for LGBT+ Inclusion in Kenya*. 2021, Open for Business: New York, NY.

87. Mwanza, E. Audrey Mbugua Wins Big at Kenyan Court. *Kenyans.Co.Ke*, 2019; Kenyans: Nairobi, Kenya. Accessed 22 May 2024 via https://www.kenyans.co.ke/news/41998-audrey-mbugua-wins-big-kenyan-court

88. World Health Organization. *Gender incongruence and transgender health in the ICD*. 2024, WHO: Geneva, Switzerland. Accessed 22 May 2024 via https://www.who.int/standards/classifications/frequently-asked-questions/gender-incongruence-and-transgender-health-in-the-icd

Appendices

Appendix A: Participant sociodemographic characteristics

Table A.1 Sociodemographic characteristics of participants in the key population health survey, by population and gender [a] (n=545)

			Sex workers				People who use drugs				Sexual minorities				Gender minorities			
	Total		Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Gender																		
Woman	315	57.80	161	70.93			152	53.15			147	60.25			40	53.33		
Man	217	39.82			66	29.07			134	46.85			97	39.75			35	46.67
Non-binary [b]	12	2.20																
Other [b]	1	0.18																
Gender minority [b]																		
No	459	84.04	133	82.61	57	86.36	131	86.18	118	88.06	145	98.64	93	95.88	0	0	0	0
Yes	87	15.96	28	17.39	9	13.64	21	13.82	16	11.94	2	1.36	4	4.12	40	100	35	100
Age at time of participation																		
15-17 yrs old	50	9.17	11	6.83	3	4.55	18	11.84	13	9.70	10	6.80	2	2.06	4	10.00	3	8.57
18-24 yrs old	275	50.46	73	45.34	32	48.48	68	44.74	81	60.45	63	42.86	54	55.67	12	30.00	15	42.86
≥25 yrs old	220	40.37	77	47.83	31	46.97	66	43.42	40	29.85	74	50.34	41	42.27	24	60.00	17	48.57
Sub-county of residence [c]																		
Changamwe	25	4.59	8	4.97	5	7.58	5	3.29	9	6.72	9	6.12	7	7.22	0	0	1	2.86
Jomvu	6	1.10	3	1.86	1	1.52	2	1.32	1	0.75	2	1.36	1	1.03	1	2.50	0	0
Kisauni	239	43.85	69	42.86	19	28.79	74	48.68	51	38.06	62	42.18	38	39.18	20	50.00	19	54.29
Likoni	42	7.71	8	4.97	14	21.21	9	5.92	13	9.70	6	4.08	13	13.40	5	12.50	1	2.86
Mvita	108	19.82	45	27.95	11	16.67	29	19.08	23	17.16	35	23.81	12	12.37	5	12.50	3	8.57
Nyali	125	22.94	28	17.39	16	24.24	33	21.71	37	27.61	33	22.45	26	26.80	9	22.50	11	31.43
Country of birth																		
Kenya	540	99.08	160	99.38	66	100	149	98.03	134	100	144	97.96	97	100	40	100	35	100
Other [d]	5	0.92	1	0.62	0	0	3	1.97	0	0	3	2.04	0	0	0	0	0	0
Enrolled in education (any level)																		
No	337	61.83	116	72.05	33	50.00	116	76.32	68	50.75	114	77.55	52	53.61	21	52.50	22	62.86
Yes	208	38.17	45	27.95	33	50.00	36	23.68	66	49.25	33	22.45	45	46.39	19	47.50	13	37.14

	Total		Sex workers				People who use drugs				Sexual minorities				Gender minorities			
			Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Highest education (enrolled or completed)																		
None	18	3.30	4	2.52	2	3.03	4	2.63	4	2.99	5	3.42	2	2.06	0	0	0	0
Primary	98	17.98	39	24.53	9	13.64	37	24.34	16	11.94	27	18.49	12	12.37	10	25.00	8	22.86
High	212	38.90	75	47.17	23	34.85	70	46.05	45	33.58	65	44.52	29	29.90	25	62.50	19	54.29
College	163	29.91	35	22.01	24	36.36	31	20.39	49	36.57	38	26.03	43	44.33	3	7.50	7	20.00
University (under/ postgraduate)	54	9.91	6	3.77	8	12.12	10	6.58	20	14.93	11	7.53	11	11.34	2	5.00	1	2.86

a. Unless otherwise indicated, gender minority and cisgender participants are reported together

b. Given the small number of non-binary and participants of 'other' gender (e.g., intersex), unless otherwise indicated they are not reported in stratification by gender

c. Although residents from all sub-counties were eligible to participate, recruitment activities focused primarily on Mvita, Nyali, and Kisauni

d. Other countries of birth included Tanzania (n=2) and Uganda (n=3)

Table A.2 Sociodemographic characteristics of participants in the qualitative cohort of key populations (n=10)

		Gender	Age	Highest education	Sub-county	Employment status	Gender minority	Sexual orientation	Sex work experience	Drug use experience
Participant #	1	Woman	29	High school	Kisauni	Unemployed	Yes	Gay	Active	Yes
	2	Woman	38	Primary school	Likoni	Unemployed	No	Straight	Active	Yes (including injecting)
	3	Woman	28	College	Nyali	Self-Employed	No	Straight	Active	Yes (including injecting)
	4	Woman	23	University	Mvita	Unemployed	No	Lesbian	Past	Yes
	5	Man	24	University	Nyali	Self-Employed	Yes	Queer/bisexual	Past	Yes
	6	Non-binary	20	University	Mvita	Unemployed	Yes	Gay	Active	Yes
	7	Man	26	Primary school	Kisauni	Unemployed	Yes	Straight	Past	Yes (including injecting)
	8	Woman	18	Primary school	Kisauni	Unemployed	No	Gay	Active	Yes
	9	Man	23	College	Nyali	Unemployed	No	Gay	None	Yes
	10	Man	23	University	Nyali	Self-Employed	No	Gay	Active	Yes

Table A.3 Sociodemographic characteristics of participants in the healthcare workers survey, by work type (n=222)

	Total		Clinicians		Non-clinicians	
	n	%	n	%	n	%
Type of work						
Non-clinical care	36	16.22				
Clinical care	183	83.78				
Gender						
Man	55	24.77	42	22.58	13	36.11
Woman	166	74.77	144	77.42	22	61.11
Non-binary	1	0.45	0	0	1	2.78
Age						
18-24 years old	28	12.61	27	14.52	1	2.78
25-29 years old	46	20.72	35	18.82	11	30.56
30-39 years old	78	35.14	63	33.87	15	41.67
≥40 years old	70	31.53	61	32.80	9	25.00
Highest level of education						
Primary	12	5.41	10	5.38	2	5.56
High	20	9.01	16	8.60	4	11.11
College	120	54.05	106	56.99	14	38.89
University (under/postgraduate)	70	31.53	54	29.03	16	44.44
Length of time in current position						
<1 year	53	23.87	44	23.66	9	25.00
1-3 years	59	26.58	46	24.73	13	36.11
3-5 years	28	12.61	26	13.98	2	5.56
>5 years	82	36.94	70	37.63	12	33.33
Self-identifies as one or more key population						
No	180	81.08	148	79.57	32	88.89
Yes	37	16.67	34	18.28	3	8.33
Unsure	5	2.25	4	2.15	1	2.78

Appendix B: Physical health & healthcare

Table B.1 Physical health and hygiene among key populations in Mombasa, by population and gender (n=545)

	Total		Sex workers				People who use drugs				Sexual minorities				Gender minorities			
			Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Self-reported physical health																		
Poor-terrible	19	3.49	9	5.59	2	3.03	8	5.26	4	2.99	1	0.68	4	4.12	1	2.50	0	0.00
Average	183	33.58	74	45.96	23	34.85	64	42.11	38	28.36	60	40.82	26	26.80	10	25.00	7	20.00
Excellent-good	343	62.94	78	48.45	41	62.12	80	52.63	92	68.66	86	58.50	67	69.07	29	72.50	28	80.00
Hygiene																		
Wash hands after bathroom																		
Rarely	70	12.84	20	12.42	13	19.70	26	17.11	24	17.91	13	8.84	13	13.40	5	12.50	2	5.71
Sometimes	152	27.89	56	34.78	13	19.70	50	32.89	40	29.85	36	24.49	25	25.77	8	20.00	5	14.29
Always	323	59.27	85	52.80	40	60.61	76	50.00	70	52.24	98	66.67	59	60.82	27	67.50	28	80.00
Brush/clean teeth																		
Rarely	24	4.40	8	4.97	5	7.58	8	5.26	8	5.97	4	2.72	3	3.09	1	2.50	0	0
Sometimes	103	18.90	33	20.50	16	24.24	36	23.68	30	22.39	20	13.61	23	23.71	12	30.00	2	5.71
Always	418	76.70	120	74.53	45	68.18	108	71.05	96	71.64	123	83.67	71	73.20	27	67.50	33	94.29
Physical activity (days per week)																		
None	163	29.91	62	38.51	15	22.73	70	46.05	27	20.15	54	36.73	27	27.84	13	32.50	5	14.29
1-2	142	26.06	45	27.95	18	27.27	41	26.97	37	27.61	41	27.89	23	23.71	8	20.00	11	31.43
3-5	197	36.15	47	29.19	24	36.36	34	22.37	56	41.79	51	34.69	35	36.08	12	30.00	17	48.57
6-7	43	7.89	7	4.35	9	13.64	7	4.61	14	10.45	1	0.68	12	12.37	7	17.50	2	5.71
Vaccinated for SARS CoV-2																		
No	131	24.04	32	19.88	11	16.67	44	28.95	42	31.34	31	21.09	19	19.59	10	25.00	11	31.43
Yes	408	74.86	128	79.50	54	81.82	106	69.74	89	66.42	115	78.23	77	79.38	30	75.00	24	68.57
Unsure	6	1.10	1	0.62	1	1.52	2	1.32	3	2.24	1	0.68	1	1.03	0	0	0	0

Table B.2 Access to physical health care among key populations in Mombasa, by population and gender (n=545)

| | | | Sex workers | | | | People who use drugs | | | | Sexual minorities | | | | Gender minorities | | | |
| | Total | | Women | | Men | | Women | | Men | | Women | | Men | | Women | | Men | |
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
General access to healthcare																		
Poor-terrible	205	37.61	76	47.20	24	36.36	66	43.42	53	39.55	63	42.86	33	34.02	10	25.00	11	31.43
Average	129	23.67	38	23.60	12	18.18	38	25.00	30	22.39	36	24.49	26	26.80	11	27.50	7	20.00
Excellent-good	211	38.72	47	29.19	30	45.45	48	31.58	51	38.06	48	32.65	38	39.18	19	47.50	17	48.57
Quality of available healthcare [a]																		
Poor-terrible	11	3.24	4	4.71	0	0	3	3.49	3	3.70	1	1.19	3	4.69	1	3.33	1	4.17
Average	74	21.76	23	27.06	9	21.43	25	29.07	14	17.28	29	34.52	13	20.31	4	13.33	6	25.00
Excellent-good	255	75.00	58	68.24	33	78.57	58	67.44	64	79.01	54	64.29	48	75.00	25	83.33	17	70.83
Health insurance [b]																		
No	372	68.26	120	76.43	38	58.46	114	77.55	79	60.77	101	69.18	57	59.38	31	83.78	19	54.29
Yes	158	28.99	34	21.66	24	36.92	29	19.73	48	36.92	42	28.77	35	36.46	6	16.22	16	45.71
Unsure	15	2.75	3	1.91	3	4.62	4	2.72	3	2.31	3	2.05	4	4.17	0	0	0	0
Recently unable to access necessary healthcare																		
No	212	38.90	43	26.71	16	24.24	60	39.47	57	42.54	68	46.26	34	35.05	13	32.50	10	28.57
Yes	333	61.10	118	73.29	50	75.76	92	60.53	77	57.46	79	53.74	63	64.95	27	67.50	25	71.43
Reason for not receiving healthcare [c]																		
Cost	127	71.35	50	71.43	10	50.00	40	72.73	28	68.29	42	79.25	17	56.67	6	50.00	6	50.00
Distance (too far)	8	4.49	5	7.14	2	10.00	4	7.27	1	2.44	4	7.55	2	6.67	1	8.33	0	0
Stigma	25	14.04	6	8.57	6	30.00	6	10.91	8	19.51	3	5.66	8	26.67	4	33.33	4	33.33
No time	13	7.30	3	4.29	0	0.00	2	3.64	2	4.88	0	0	1	3.33	0	0	1	8.33
Poor services / structural issues	5	2.81	6	8.57	2	10.00	3	5.45	2	4.88	4	7.55	2	6.67	1	8.33	1	8.33
Ever attended youth friendly clinic [d]																		
No	78	24.00	19	22.62	9	25.71	24	27.91	26	27.66	22	30.14	12	21.43	4	33.33	6	33.33
Yes	236	72.62	62	73.81	25	71.43	56	65.12	65	69.15	48	65.75	42	75.00	12	75.00	12	66.67
Unsure	11	3.38	3	3.57	1	2.86	6	6.98	3	3.19	3	4.11	2	3.57	0	0	0	0
Experience stigma from healthcare workers																		
Never/rarely	272	49.91	64	39.75	25	27.88	78	51.32	71	52.99	88	59.86	44	45.36	8	20.00	10	28.57
Sometimes	174	31.93	59	36.65	21	31.82	50	32.89	40	29.85	41	27.89	35	36.08	18	45.00	14	40.00
Often	99	18.17	38	23.60	20	30.30	24	15.79	23	17.16	18	12.24	18	18.56	14	35.00	11	31.43

a. Only asked of participants with average or better healthcare access
b. Only asked of participants aged 18 years and older
c. This item was optional and completed by 214 participants who reported recently being unable to access healthcare
d. Only asked of 'youth' participants aged 15-24 years old

Table B.3 Negative myths and refusal of care to key populations among healthcare workers in Mombasa, by type of work (n=222)

	Total		Clinicians		Non-clinicians	
	n	%	n	%	n	%
"Sex workers are dangerous and deceitful"						
Disagree	74	33.33	65	34.95	9	25.00
Neutral	63	28.38	51	27.42	12	33.33
Agree	85	38.29	70	37.63	15	41.67
"People who use drugs are morally weak"						
Disagree	87	39.19	73	39.25	14	38.89
Neutral	41	18.47	37	19.89	4	11.11
Agree	94	42.34	76	40.86	18	50.00
"Lesbian, gay, and bisexual people are trying to recruit Kenyan children to a deviant lifestyle"						
Disagree	91	40.99	75	40.32	16	44.44
Neutral	58	26.13	51	27.42	7	19.44
Agree	73	32.88	60	32.26	13	36.11
"Transgender people are just confused and should live as their sex assigned at birth"						
Disagree	61	27.48	55	29.57	6	16.67
Neutral	47	21.17	40	21.51	7	19.44
Agree	114	51.35	91	48.92	23	63.89
Would refuse to provide healthcare to... [a]						
Sex workers			7	3.76		
People who use drugs			14	7.53		
Sexual and gender minorities			18	9.68		
One or more key populations			23	12.37		

a.   Only asked of those directly involved in patient care (n=186)

Table B.4 Stigma towards key populations [a] among healthcare workers in Mombasa, by type of work (n=222)

	Total		Clinicians		Non-clinicians	
	n	%	n	%	n	%
Stigma towards sex workers						
Low stigma	174	79.82	147	80.33	27	77.14
Medium stigma	23	10.55	20	10.93	3	8.57
High stigma	21	9.63	16	8.74	5	14.29
Stigma towards people who use drugs						
Low stigma	117	54.67	98	55.06	19	52.78
Medium stigma	47	21.96	40	22.47	7	19.44
High stigma	50	23.36	40	22.47	10	27.78
Stigma towards sexual and gender minorities [b]						
Low stigma	131	63.90	111	64.53	20	60.61
Medium stigma	35	17.07	29	16.86	6	18.18
High stigma	39	13.02	32	18.60	7	21.21
Overall towards against key populations [c]						
Low stigma	142	68.60	119	69.59	23	63.89
Medium stigma	30	14.49	24	14.04	6	16.67
High stigma	35	16.91	28	16.37	7	19.44

a. As measured using the Bogardus Social Distance Scale

b. Community consultation revealed that healthcare workers may not have been able to differentiate between sexual and gender minorities. As such, stigma towards these groups was assessed using a single measure

c. Composite measure created by combining stigma towards individual populations

Appendix C: Mental health and well-being

Table C.1 Indications of well-being and mental health among key populations in Mombasa, by population and gender (n=545)

| | | | Sex workers | | | | People who use drugs | | | | Sexual minorities | | | | Gender minorities | | | |
| | Total | | Women | | Men | | Women | | Men | | Women | | Men | | Women | | Men | |
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Overall well-being [a]																		
Poor-terrible	152	27.89	57	35.40	16	24.24	58	38.16	29	21.64	44	29.93	19	19.59	11	27.50	9	25.71
Average	250	45.87	73	45.34	35	53.03	58	38.16	66	44.25	61	41.50	54	55.67	17	42.50	20	57.14
Good-excellent	143	26.24	31	19.25	15	22.73	36	23.68	39	29.10	42	28.57	24	24.74	12	30.00	6	17.14
Indications of depression [b]																		
None	377	69.17	98	60.87	46	69.70	95	62.50	100	74.63	99	67.35	69	71.13	27	67.50	25	71.43
Mild	13	2.39	3	1.86	3	4.55	3	1.97	2	1.49	0	0	5	5.15	1	2.50	1	2.86
Moderate	45	8.26	14	8.70	2	3.03	13	8.55	10	7.46	14	9.52	6	6.19	3	7.50	3	8.57
Moderate-severe	57	10.46	25	15.53	6	9.09	22	14.47	15	11.19	20	13.61	8	8.25	6	15.00	3	8.57
Severe	53	9.72	21	13.04	9	13.64	19	12.50	7	5.22	14	9.52	9	9.28	3	7.50	3	8.57
Indications of suicidality																		
No	417	76.51	110	68.32	50	75.76	107	70.39	109	81.34	111	75.51	76	78.35	30	75.00	27	77.14
Yes	128	23.49	51	31.68	16	24.24	45	29.61	25	18.66	36	24.49	21	21.65	10	25.00	8	22.86
Previous mental health diagnosis																		
No	375	73.24	107	72.30	37	63.79	101	71.13	97	76.38	112	77.78	53	59.55	21	61.76	28	80.00
Yes [c]	75	14.65	23	15.54	13	22.41	22	15.49	14	11.02	13	9.03	21	23.60	8	23.53	2	5.71
Unsure	62	12.11	18	12.16	8	13.79	19	13.38	16	12.60	19	13.19	15	16.85	5	14.71	5	14.29

a. As measured by the five-item World Health Organization Well-Being Index (WHO-5)

b. As measured by the nine-item Patient Health Questionnaire (PHQ-9)

c. Some participants chose not to describe their mental health diagnosis (n=33) but among those who did (n=42) they reported: depression (n=18), anxiety (n=5), stress (n=5), rejection by family (n=4), bipolarism (n=3), ADHD (n=2), sexual violence (n=2), substance use disorders (n=2), and grief (n=1)

Table C.2 Mental health support among key populations in Mombasa, by population and gender (n=545)

	Total		Sex workers Women		Sex workers Men		People who use drugs Women		People who use drugs Men		Sexual minorities Women		Sexual minorities Men		Gender minorities Women		Gender minorities Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Ever received mental health support [a]																		
No	260	47.71	74	45.96	23	34.85	69	45.39	77	57.46	61	41.50	34	35.05	17	42.50	23	65.71
Yes	285	52.29	87	54.04	43	65.15	83	54.61	57	42.54	86	58.50	63	64.95	23	57.50	12	34.29
Received mental health support recently [b]																		
No	105	36.84	26	29.89	16	37.21	31	37.95	19	33.33	38	44.19	25	39.68	7	30.43	4	33.33
Yes	180	63.16	61	70.11	27	62.79	52	62.65	38	66.67	48	55.81	38	60.32	16	69.57	8	66.67
Perceptions of mental health support [c]																		
Unhelpful	8	2.81	4	4.60	2	4.65	1	1.20	2	3.51	2	2.33	3	4.76	1	4.35	0	0
Mixed	36	12.63	13	14.94	9	20.39	16	19.28	9	15.79	10	11.63	10	15.87	4	17.39	2	16.67
Helpful	241	84.56	70	80.46	32	74.42	66	79.52	46	80.70	74	86.05	50	79.37	18	78.26	10	83.33
Knows where to get mental health support																		
No	149	27.34	51	31.68	14	21.21	45	29.61	36	26.87	37	25.17	19	19.59	11	27.50	12	34.29
Yes	396	72.66	110	68.32	52	78.79	107	70.39	98	73.13	110	74.83	78	80.41	29	72.50	23	65.71
Reasons for not receiving mental health support [d]																		
Cost	25	49.02	5	38.46	4	40.00	9	52.94	7	53.85	7	58.33	6	42.86	0	0	0	0
Distance (too far)	3	5.88	0	0	1	10.00	1	5.88	1	7.69	0	0	2	14.29	0	0	0	0
Stigma	13	25.49	4	30.77	4	40.00	4	23.53	2	23.08	1	8.33	6	42.86	2	66.67	2	100
No time	2	3.92	2	15.38	0	0	1	5.88	0	0	1	8.33	0	0	0	0	0	0
Poor services / structural issues	8	15.69	2	15.38	1	10.00	2	11.75	2	15.38	3	25.00	0	0	1	33.33	0	0

a. 'Support' in this context could refer to formal care (e.g., from a psychologist) or informal support (e.g., talking with friends or family)

b. Recently defined as within the six months prior to participation

c. Only asked of participants who reported some recent mental health support

d. This item was optional and completed by 51 participants who reported recently being unable to access mental health care

Appendix D: Social health and well-being

Table D.1 Social relationships among key populations in Mombasa, by population and gender (n=545)

| | Total | | Sex workers | | | | People who use drugs | | | | Sexual minorities | | | | Gender minorities | | | |
| | | | Women | | Men | | Women | | Men | | Women | | Men | | Women | | Men | |
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Friendships																		
None	61	11.19	27	16.77	5	7.58	24	15.79	12	8.96	24	16.33	6	6.19	6	15.00	5	14.29
One	281	51.56	86	53.42	31	46.97	87	57.24	59	44.03	85	57.82	53	54.64	17	42.50	16	45.71
or more	203	37.25	48	29.81	30	45.45	41	26.97	63	47.01	38	25.85	38	39.18	17	42.50	14	40.00
Primary location for socialising																		
Sports field, club, gym	127	23.30	17	10.56	18	27.27	17	11.18	49	36.57	28	19.05	31	31.96	2	5.00	9	25.71
Religious organisation	63	11.56	17	10.56	6	9.09	14	9.21	11	8.21	21	14.29	12	12.37	4	10.00	0	0
Friend's home	22	4.04	7	4.35	2	3.03	5	3.29	3	2.24	5	3.40	3	3.09	2	5.00	1	2.86
Dance club, bar	125	22.94	58	36.02	16	24.24	52	34.21	25	18.66	32	21.77	23	23.71	17	42.50	9	25.71
Shopping mall	141	25.87	46	28.57	15	22.73	44	28.95	27	20.15	39	26.53	18	18.56	11	27.50	12	34.29
Nature	53	9.72	14	8.70	8	12.12	15	9.87	17	12.69	14	9.52	8	8.25	4	10.00	2	5.71
Somewhere else	14	2.57	2	1.24	1	1.52	5	3.29	2	1.49	8	5.44	2	2.06	0	0	2	5.71
Access to safe and affirming social spaces																		
No	170	31.19	53	32.92	20	30.30	49	32.24	39	29.10	48	32.65	31	31.96	9	22.50	11	31.43
Yes	375	68.81	108	67.08	46	69.70	103	67.76	95	70.90	99	67.35	66	68.04	31	77.50	24	68.57
Importance of religion in daily life																		
Unimportant	14	2.57	5	3.11	0	0	4	2.63	4	2.99	6	4.08	2	2.06	0	0	1	2.86
Mixed	183	33.58	51	31.68	30	45.45	54	35.53	51	38.06	47	31.97	42	43.30	13	32.50	15	42.86
Important	348	63.85	105	65.22	36	54.55	94	61.84	79	58.96	94	63.95	53	54.64	27	67.50	19	54.29

Table D.2 Satisfaction with social relationships [a] among key populations in Mombasa, by population and gender (n=545)

	Total		Sex workers				People who use drugs				Sexual minorities				Gender minorities			
			Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
"I can tell my friends how I feel"																		
Disagree	201	41.53	59	44.03	29	47.54	59	46.09	44	36.07	42	34.15	38	41.76	12	35.29	11	36.67
Mixed	118	24.38	34	25.37	9	14.75	32	25.00	29	23.77	41	33.33	13	14.29	11	32.35	7	23.33
Agree	165	34.09	41	30.60	23	37.70	37	28.91	49	40.16	40	32.52	40	43.96	11	32.35	12	40.00
"I am happy with the friends I have"																		
Disagree	143	29.55	52	38.81	18	29.51	42	32.81	30	24.59	39	31.71	22	24.18	13	38.24	8	26.67
Mixed	125	25.83	37	27.61	19	31.15	34	26.56	26	21.31	35	28.46	23	25.27	10	29.41	7	23.33
Agree	216	44.63	45	33.58	24	39.34	52	40.63	66	54.10	49	39.84	46	50.55	11	32.35	15	50.00
"People treat me with respect"																		
Disagree	118	24.38	47	35.07	19	31.15	39	30.47	24	19.67	29	23.59	21	23.08	16	47.06	6	20.00
Mixed	143	29.55	39	29.10	10	16.39	44	34.38	32	26.23	38	30.89	22	24.18	9	26.47	9	30.00
Agree	223	46.07	48	35.82	32	52.46	45	35.16	66	54.10	56	45.53	48	52.75	9	26.47	15	50.00
Overall satisfaction with social life																		
No friendships	61	11.19	27	16.77	5	7.58	24	15.79	12	8.96	24	16.33	6	6.19	6	15.00	5	14.29
Low satisfaction	111	20.37	40	24.84	18	27.27	32	21.05	19	14.18	28	19.05	17	17.53	13	32.50	6	17.14
Medium satisfaction	218	40.00	64	39.75	23	34.85	65	42.76	56	41.79	56	38.10	38	39.18	12	30.00	14	40.00
High satisfaction	155	28.44	30	18.63	20	30.30	31	20.39	47	35.07	39	26.53	36	37.11	9	22.50	10	28.57

a. As measured using the Youth Quality of Life Instrument

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Table D.3 Romantic and familial relationships among key populations in Mombasa, by population and gender (n=545)

| | Total | | Sex workers | | | | People who use drugs | | | | Sexual minorities | | | | Gender minorities | | | |
| | | | Women | | Men | | Women | | Men | | Women | | Men | | Women | | Men | |
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Romantic relationship																		
Never	59	10.83	26	16.15	6	9.09	21	13.82	13	9.70	18	12.24	5	5.15	10	25.00	3	8.57
Currently	274	50.23	78	48.45	34	51.52	69	45.39	70	52.24	67	45.58	49	50.52	21	52.50	22	62.86
In the past	212	38.90	57	35.40	26	39.39	62	40.79	51	38.06	62	42.18	43	44.33	9	22.50	10	28.57
Marriage																		
Never	451	82.75	131	81.37	52	78.79	128	84.21	109	81.34	124	84.35	78	80.41	36	90.00	31	88.57
Currently	38	6.97	5	3.11	10	15.15	8	5.26	15	11.19	8	5.44	8	8.25	2	5.00	3	8.57
In the past	56	10.28	25	15.53	4	6.06	16	10.53	10	7.46	15	10.20	11	11.34	2	5.00	1	2.86
Currently in contact with family																		
No	86	15.78	37	22.98	13	19.70	35	23.03	19	14.18	20	13.61	11	11.34	21	52.50	6	17.14
Yes	459	84.22	124	77.02	53	80.30	117	76.97	115	85.82	127	86.39	86	88.66	19	47.50	29	82.86

Table D.4 Romantic and familial relationships among key populations in Mombasa, by population and gender (n=545)

	Total		Sex workers Women		Sex workers Men		People who use drugs Women		People who use drugs Men		Sexual minorities Women		Sexual minorities Men		Gender minorities Women		Gender minorities Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
"I feel my family cares about me" [a]																		
Disagree	146	31.81	60	48.39	17	32.08	40	34.19	26	22.61	39	30.71	28	32.56	13	68.42	9	31.03
Mixed	90	19.61	22	17.74	14	26.42	27	23.08	20	17.39	32	25.20	16	18.60	3	15.79	6	20.69
Agree	223	48.58	42	33.87	22	41.51	50	42.74	69	60.00	56	44.09	42	48.84	3	15.79	14	48.28
"I feel I am getting along with my family" [a]																		
Disagree	147	32.03	56	45.16	18	33.96	37	31.62	29	25.22	33	25.98	33	38.37	16	84.21	7	24.14
Mixed	94	20.48	20	16.13	16	30.19	28	23.93	20	17.39	39	30.71	18	20.93	0	0	8	27.59
Agree	218	47.49	48	38.71	19	35.85	52	44.44	66	57.39	55	43.31	35	40.70	3	15.79	14	48.28
Overall satisfaction with familial life [b]																		
No contact with family	86	15.78	37	22.98	13	19.70	35	23.03	19	14.18	20	13.61	11	11.34	21	52.50	6	17.14
Low satisfaction	110	20.18	45	27.95	13	19.70	30	19.74	21	15.67	27	18.37	22	22.68	12	30.00	7	20.00
Medium satisfaction	134	24.59	36	22.36	20	30.30	34	22.37	28	20.90	43	29.25	29	29.90	5	12.50	7	20.00
High satisfaction	215	39.45	43	26.71	20	30.30	53	34.87	66	49.25	57	38.78	35	36.08	2	5.00	15	42.86
Level of stigma from family																		
Low stigma	248	45.50	61	37.89	18	27.27	66	43.42	63	47.01	79	53.74	34	35.05	9	22.50	6	17.14
Medium stigma	166	30.46	52	32.30	21	31.82	41	26.97	42	31.34	47	31.97	38	39.18	11	27.50	13	37.14
High stigma	131	24.04	48	29.81	27	40.91	45	29.61	29	21.64	21	14.29	25	25.77	20	50.00	16	45.71
Overall satisfaction with romantic life																		
Low satisfaction	99	18.17	41	25.47	12	18.18	33	21.71	20	14.93	28	19.05	17	17.53	10	25.00	2	5.71
Medium satisfaction	252	46.24	81	50.31	35	53.03	70	46.05	67	50.00	62	42.18	48	49.48	17	42.50	13	37.14
High satisfaction	194	35.60	39	24.22	19	28.79	49	32.24	47	35.07	57	38.78	32	32.99	13	32.50	20	57.14

a.   Only asked of participants reporting some contact with family

b.   As measured using the Youth Quality of Life Instrument

Appendix E: Economic well-being

Table E.1 Employment status among key populations in Mombasa, by population and gender (n=545)

	Total		Sex workers				People who use drugs				Sexual minorities				Gender minorities			
			Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Sources of income																		
None, enrolled in school	103	18.90	22	13.66	12	18.18	15	9.87	35	26.12	17	11.56	18	18.56	8	20.00	5	14.29
None, not enrolled in school	146	26.79	49	30.43	16	24.24	51	33.55	36	26.87	41	27.89	20	20.62	4	10.00	7	20.00
Full-time work	143	26.24	47	29.19	18	27.27	34	22.37	33	24.63	44	29.93	28	28.87	17	42.50	13	37.14
Part-time work	55	10.09	15	9.32	7	10.61	15	9.87	8	5.97	14	9.52	12	12.37	7	17.50	4	11.43
Other (e.g., gifts)	98	17.98	28	17.39	13	19.70	37	24.34	22	16.42	31	21.09	19	19.59	4	10.00	6	17.14
Monthly income [a]																		
None	146	33.03	49	35.25	16	29.63	51	37.23	36	36.36	41	31.54	20	25.32	4	12.50	7	23.33
1-4,999 KES	125	28.28	43	30.94	18	33.33	40	29.20	29	29.29	39	30.00	19	24.05	12	37.50	6	20.00
5,000-19,999 KES	132	29.86	40	28.78	14	25.93	38	27.74	26	26.26	40	30.77	28	35.44	13	40.63	15	50.00
>20,000 KES	39	8.82	7	5.04	6	11.11	8	5.84	8	8.08	10	7.69	12	15.19	3	9.38	2	6.67
Satisfaction with employment situation [b]																		
Low satisfaction	331	60.73	91	69.47	26	57.78	80	64.52	49	60.49	76	62.30	35	52.24	13	41.94	14	51.85
Medium satisfaction	97	17.80	25	19.08	7	15.56	27	21.77	18	22.22	23	18.85	12	17.91	9	29.03	6	22.22
High satisfaction	117	21.47	15	11.45	12	26.67	17	13.71	14	17.28	23	18.85	20	29.85	9	29.03	7	25.93

a. Only asked of participants not only enrolled in school

b. Only asked of participants aged 18 years and older not enrolled in school

Table E.2 Food security, water security, and living conditions among key populations in Mombasa, by population and gender (n=545)

	Total		Sex workers				People who use drugs				Sexual minorities				Gender minorities			
			Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Food insecurity [a]																		
No	214	39.27	43	26.71	22	33.33	65	42.76	63	47.01	65	44.22	33	34.02	13	32.50	15	42.86
Yes	331	60.73	118	73.29	44	66.67	87	57.24	71	52.99	82	55.78	64	65.98	27	67.50	20	57.14
Access to clean water																		
Poor	116	21.28	53	32.92	16	24.24	41	26.97	27	20.15	34	23.13	19	19.59	5	12.50	2	5.71
Average	197	36.15	56	34.78	24	36.36	52	34.21	50	37.13	50	34.01	39	40.21	14	35.00	11	31.43
Good	232	42.57	52	32.30	26	39.39	59	38.82	57	42.54	63	42.86	39	40.21	21	52.50	22	62.86
Housing instability																		
No	161	29.54	50	31.06	23	34.85	43	28.29	48	35.82	36	24.49	30	30.93	19	47.50	13	37.14
Yes	384	70.46	111	68.94	43	65.15	109	71.71	86	64.18	111	75.51	67	69.07	21	52.50	22	62.86
Satisfied with housing [b]																		
No	148	38.54	33	29.73	13	30.23	36	33.03	38	44.19	44	39.64	28	41.79	8	38.10	7	31.86
Yes	236	61.46	78	70.27	30	69.77	73	66.97	48	55.81	67	60.36	39	58.21	13	61.90	15	68.18
Concerns with housing [c,d]																		
Poor conditions	95	41.48	31	40.79	13	43.33	33	47.14	20	41.67	30	44.78	19	50.00	4	33.33	5	33.33
Not enough space	61	26.64	26	34.21	9	30.00	19	27.14	7	14.58	21	31.34	6	15.79	4	33.33	5	33.33
Unsafe	65	28.38	24	31.58	13	43.33	18	25.71	13	27.08	19	28.36	15	39.47	9	75.00	5	33.33
Too expensive	109	47.60	40	52.63	10	33.33	33	47.14	27	56.25	28	41.79	15	39.47	5	41.67	4	26.67
Bad location	38	16.59	19	25.00	2	6.67	13	18.57	5	10.42	14	20.90	4	10.53	5	41.67	3	20.00
Too many people living there	48	20.96	21	27.63	1	3.33	16	22.86	9	18.75	16	23.88	6	15.79	3	25.00	5	33.33

a. Defined as two or more days going hungry in the week prior to participation

b. Only asked of participants aged 18 years and older with a stable place to live

c. Only asked of participants who reported being unsatisfied with housing

d. Participants could select multiple options (i.e., non-exclusive categories)

Appendix F: Sexual & reproductive health

Table F.1 Sexual experiences among key populations in Mombasa, by population and gender (n=545)

			Sex workers				People who use drugs				Sexual minorities				Gender minorities			
	Total		Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Sexually active																		
No	26	4.77	0	0	0	0	6	3.95	11	8.21	3	2.04	3	3.09	4	10.00	1	2.86
Yes	519	95.23	161	100	66	100	146	96.05	123	91.79	144	97.96	94	96.91	36	90.00	34	97.14
Age of sexual debut [a,b]																		
<16 yrs old	81	21.09	25	20.83	14	28.57	23	19.33	24	26.37	22	19.82	19	28.79	8	28.57	6	23.08
16-17 yrs old	120	31.25	44	36.67	13	26.53	45	37.82	27	29.67	30	27.03	17	25.76	8	28.7	6	23.08
18-19 yrs old	109	28.39	28	23.33	11	22.45	36	30.25	26	28.57	36	32.43	16	24.24	6	21.43	8	30.77
≥20 yrs old	74	19.27	23	19.17	11	22.45	15	12.61	14	15.35	23	20.72	14	21.21	6	21.43	6	23.08
Satisfaction with sexual life [a]																		
Dissatisfied	63	12.14	29	18.01	7	10.61	22	15.07	14	11.38	19	13.19	9	9.57	2	5.56	1	2.94
Mixed	103	19.85	46	28.57	15	22.73	35	23.97	24	19.51	27	18.75	15	15.96	9	25.00	2	5.88
Satisfied	353	68.02	86	53.42	44	66.67	89	60.96	85	69.11	98	68.06	70	74.47	25	69.44	31	91.18
Perception of sexual health education received while in school																		
Poor	32	5.87	12	7.64	4	6.15	15	9.87	5	3.73	14	9.52	6	6.19	0	0	1	2.86
Mixed	182	33.39	53	33.76	18	27.69	49	32.24	49	36.57	46	31.29	28	28.87	8	20.00	11	31.43
Good	112	20.55	28	17.83	14	21.54	23	15.13	33	24.63	29	19.73	19	19.59	8	20.00	8	22.86
Did not receive	219	40.18	68	42.24	30	45.45	65	42.76	47	35.07	58	39.46	44	45.36	24	60.00	15	42.86
Recent condom use [a,c]																		
Never	139	30.55	33	23.24	14	24.14	39	28.47	31	29.25	47	37.90	19	22.35	9	27.27	21	67.74
Sometimes	233	51.21	84	59.15	31	53.45	78	56.93	54	50.94	64	51.61	45	52.94	18	54.55	5	16.13
Always	83	18.24	25	17.61	13	22.41	20	14.60	21	19.81	13	10.48	21	24.71	6	18.18	5	16.13
Recent difficulty accessing condoms [a]																		
No	262	57.58	79	55.63	39	67.24	79	57.66	65	61.32	59	47.58	57	67.06	26	78.79	10	32.26
Yes	122	26.81	48	33.80	16	27.59	35	25.55	31	29.25	30	24.19	24	28.24	5	15.15	7	22.58
Did not try	71	15.60	15	10.56	3	5.17	23	16.79	10	9.43	35	28.23	4	4.71	2	6.06	14	45.16

a. Only asked of sexually active participants

b. Data missing for 161 participants

c. Recent defined as the six months prior to participation

d. Data missing for 64 participants

Table F.2 Testing for, treatment of, and risk of HIV and hepatitis C among key populations in Mombasa, by population and gender (n=545)

| | | | Sex workers | | | | People who use drugs | | | | Sexual minorities | | | | Gender minorities | | | |
| | Total | | Women | | Men | | Women | | Men | | Women | | Men | | Women | | Men | |
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Ever tested for HIV																		
No, never	68	12.48	19	11.80	3	4.55	21	13.82	22	16.42	16	10.88	7	7.22	4	10.00	2	5.71
Yes, within past 6 months	343	62.94	104	64.60	52	78.79	99	65.13	74	55.22	88	59.86	65	67.01	32	80.00	26	74.29
Yes, longer than 6 months ago	124	22.75	35	21.74	9	13.64	30	19.74	35	26.12	41	27.89	21	21.65	4	10.00	7	20.00
Unsure / prefer not to say	10	1.83	3	1.86	2	3.04	2	1.32	3	2.24	2	1.36	4	4.12	0	0	0	0
HIV status [a]																		
Negative	361	71.91	95	68.35	34	57.63	93	69.92	83	64.84	99	77.34	62	69.66	25	67.57	25	75.76
Positive	68	13.55	22	15.83	22	37.29	18	13.53	22	17.19	12	9.38	20	22.47	5	13.51	6	18.18
Unknown	73	14.54	22	15.83	3	5.08	22	16.54	23	17.97	17	13.28	7	7.87	7	18.92	2	6.06
Aware of HIV PrEP [b,c]																		
No	174	36.48	39	28.06	13	29.55	52	38.81	49	43.75	44	32.59	27	35.06	8	22.86	10	34.48
Yes	303	63.52	100	71.94	31	70.45	82	61.19	63	56.25	91	67.41	50	64.94	27	77.14	19	65.52
Uptake of HIV PrEP [b,c]																		
Never	346	72.54	87	65.59	25	56.82	97	72.39	90	80.36	107	79.26	46	59.74	16	45.71	20	68.97
Currently	103	21.59	45	32.37	15	34.09	29	21.64	16	14.29	20	14.81	25	32.47	18	51.43	7	24.14
Previously	28	5.87	7	5.04	4	9.09	8	5.97	6	5.36	8	5.93	6	7.79	1	2.86	2	6.90
Uptake of HIV treatment [d]																		
Never	6	8.82	2	9.09	3	13.64	0	0	4	18.18	1	8.33	2	9.38	4	80.00	6	100
Currently	53	77.94	17	77.27	19	86.36	14	77.78	16	72.73	8	66.67	17	78.13	1	20.00	0	0
Previously	9	13.24	3	13.64	0	0	4	22.22	2	9.09	3	25.00	1	5.00	0	0	0	0
Shared injecting equipment [e]																		
No	12	33.33	3	23.08	3	37.50	5	27.78	7	38.89	1	20.00	2	28.57	0	0	1	50.00
Yes	24	66.67	10	76.92	5	62.50	13	72.22	11	61.11	4	80.00	5	71.43	4	100	1	50.00

			Sex workers				People who use drugs				Sexual minorities				Gender minorities			
	Total		Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Ever tested for hepatitis C [f]																		
No	29	74.36	9	64.29	4	57.14	15	71.43	14	77.78	7	70.00	3	42.86	2	50.00	3	100
Yes	6	15.38	3	21.43	2	28.57	4	19.05	2	11.11	3	30.00	2	28.57	0	0	0	0
Unsure	4	10.26	2	14.29	1	14.29	2	9.52	2	11.11	0	0	2	28.57	2	50.00	0	0
Result of most recent hepatitis C test [g]																		
Negative	4	66.67	2	66.67	1	50.00	3	75.00	1	50.00	2	66.67	1	50.00	0	0	0	0
Positive	2	33.33	1	33.33	1	50.00	1	25.00	1	50.00	1	33.33	1	50.00	0	0	0	0

a. Excludes participants who chose not to disclose their testing or results
b. Only asked of participants of negative or unknown HIV status
c. PrEP=pre-exposure prophylaxis
d. Only asked of participants living with HIV
e. Only asked of sexually active participants
f. Only asked of participants who reported injecting drug use
g. Only asked of participants who reported a previous hepatitis C test

Table F.3 Pregnancy among cisgender female key populations in Mombasa, by population [a] (n=267)

	Total		Sex workers		People who use drugs		Sexual minorities	
	n	%	n	%	n	%	n	%
Ever been pregnant								
No	128	47.94	67	46.85	60	48.00	42	39.25
Yes	139	52.06	76	53.15	65	52.00	65	60.75
Was first pregnancy planned [b,c]								
No	69	75.00	39	81.25	36	87.80	40	72.73
Yes	20	21.74	7	15.58	4	9.76	13	23.64
Unsure	3	3.26	2	4.17	1	2.44	2	3.64
Ever terminated pregnancy [b]								
No	79	56.43	32	42.11	36	55.38	38	58.46
Yes	54	38.57	39	51.32	26	40.00	25	38.46
Prefer not to answer	7	5.00	5	6.58	3	4.62	2	3.08

a. An error with survey routing means that reproductive health items were not shown to gender minority men. Only data from cisgender women are reported
b. Only asked of participants reporting some previous pregnancy
c. Data missing for 47 participants

Appendix G: Sexual and other forms of violence

Table G.1 Experiences of sexual and other forms of violence among key populations in Mombasa, by population and gender (n=545)

			Sex workers				People who use drugs				Sexual minorities				Gender minorities			
	Total		Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Experienced sexual violence or coercion [a]																		
No	153	49.68	33	34.38	13	35.14	31	35.23	50	65.79	33	40.74	29	52.73	8	40.00	9	56.25
Yes	143	46.43	61	35.54	22	59.46	56	63.64	23	30.26	44	54.32	22	40.00	12	60.00	6	37.50
Unsure	10	3.23	2	2.08	1	2.70	1	1.14	3	3.95	4	4.94	3	5.45	0	0	0	0
Prefer not to say	2	0.65	0	0	1	2.70	0	0	0	0	0	0	1	1.82	0	0	1	6.25
Told someone or sought help [b]																		
No	65	45.45	26	42.62	11	50.00	26	46.43	9	39.13	19	43.18	10	45.45	5	41.67	2	33.33
Yes	67	46.85	30	49.18	9	40.91	23	41.07	11	47.83	21	47.73	9	40.91	7	58.33	4	66.67
Prefer not to say	11	7.69	5	8.20	2	9.09	7	12.50	3	13.04	4	9.09	3	16.64	0	0	0	0
Attitude towards sexual violence																		
Low stigma	301	55.23	89	55.28	27	40.91	87	57.24	62	46.27	102	69.39	54	55.67	15	37.50	17	48.57
Medium stigma	180	33.03	54	33.54	27	40.91	46	30.26	52	38.81	34	23.13	32	32.99	16	40.00	17	48.57
High stigma	64	11.74	18	11.18	12	18.18	19	12.50	20	14.93	11	7.48	11	11.34	9	22.50	1	2.86
Experienced physical assault																		
No, never	212	38.90	51	31.68	15	22.73	53	34.87	51	38.06	70	47.62	26	26.80	6	15.00	12	34.29
Yes, within past 6 months	146	26.79	60	37.27	26	39.39	48	31.58	33	24.63	29	19.73	30	30.93	23	57.50	11	31.43
Yes, longer than 6 months ago	122	22.39	36	22.36	17	25.76	37	24.34	29	21.64	35	23.81	30	30.93	8	20.00	9	25.71
Prefer not to say	65	11.93	14	8.70	8	12.12	14	9.21	21	15.67	13	8.84	11	11.34	3	7.50	3	8.57
Experienced verbal assault																		
No, never	138	25.32	31	19.25	10	15.15	31	20.39	35	26.12	44	29.93	22	22.68	6	15.00	3	8.57
Yes, within past 6 months	206	37.80	73	45.34	33	50.00	67	44.08	48	35.82	48	32.65	38	39.18	26	65.00	22	62.86
Yes, longer than 6 months ago	123	22.57	40	24.84	9	13.64	36	23.68	25	18.66	42	28.57	23	23.71	5	12.50	8	22.86
Prefer not to say	78	14.31	17	10.56	14	21.21	18	11.84	26	19.40	13	8.84	14	14.43	3	7.50	2	5.71

a. Given the sensitive nature of these items, participants were given the option to skip the section on sexual violence (n=237 skipped)

b. Only asked of participants reporting some experience of sexual violence

Table G.2 Lifetime experiences of intimate partner violence [a,b] among key populations in Mombasa, by population and gender (n=214)

			Sex workers				People who use drugs				Sexual minorities				Gender minorities			
	Total		Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
"My partner threatened to harm or kill me or someone close to me"																		
No	137	64.02	30	46.88	8	40.00	32	52.46	39	72.22	42	65.63	22	68.75	5	35.71	8	61.54
Yes	77	35.98	34	53.13	12	60.00	29	47.54	15	27.78	22	34.38	10	31.25	9	64.29	5	38.46
"My partner told me I was crazy, stupid, or not good enough"																		
No	98	45.79	15	23.44	6	30.00	20	32.79	30	55.56	24	37.50	18	56.25	4	28.57	7	53.85
Yes	116	54.21	49	76.56	14	70.00	41	67.21	24	44.44	40	62.50	14	43.75	10	71.43	6	46.15
"My partner kept me from seeing or talking to my friends or family"																		
No	142	66.36	28	43.75	11	55.00	36	59.02	42	77.78	41	64.06	24	75.00	7	50.00	8	61.54
Yes	72	33.64	36	56.25	9	45.00	25	40.98	12	22.22	23	35.94	8	25.00	7	50.00	5	38.46
Indications of intimate partner violence [c]																		
No	131	61.21	24	37.50	7	35.00	30	49.18	38	70.37	36	56.25	22	68.75	6	42.86	8	61.54
Yes	83	38.79	40	62.50	13	65.00	31	50.82	16	29.63	28	43.75	10	31.25	8	57.14	5	38.46

a. Given its sensitive nature, participants were given the option to skip the section on intimate partner violence (n=272 skipped)

b. Only asked of participants who reported some previous romantic relationship

c. As measured by the Composite Abuse Scale Short Form

Appendix H: Digital health, digital lives

Table H.1 Use of social media among key populations in Mombasa, by population and gender (n=545)

	Total		Sex workers				People who use drugs				Sexual minorities				Gender minorities			
			Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Use social media																		
No	38	6.97	13	8.07	4	6.06	13	8.55	12	8.96	10	6.80	3	3.09	7	17.50	0	0
Yes	507	93.03	148	91.93	62	93.94	139	91.45	122	91.04	137	93.20	94	96.91	33	82.50	35	100.0
Average time on social media (per day)																		
None or almost none	66	12.11	20	12.42	9	13.64	20	13.16	20	14.93	13	8.84	9	9.28	10	25.00	2	5.71
<1 hour	72	13.21	28	17.39	10	15.15	12	7.89	16	11.94	20	13.61	11	11.34	6	15.00	4	11.43
1-2 hours	121	22.20	37	22.98	16	24.24	23	15.13	33	24.63	28	19.05	30	30.93	7	17.50	9	25.71
≥3 hours	286	52.48	76	47.20	31	46.97	97	63.82	65	48.51	86	58.50	47	48.45	17	42.50	20	57.14
Social media platform(s) used [a]																		
WhatsApp	401	73.58	111	68.94	40	60.61	115	75.66	93	69.40	120	81.63	72	74.23	21	52.50	26	74.29
TiKTok	321	58.90	95	59.01	31	46.97	101	66.45	69	51.49	91	61.90	54	55.67	19	47.50	24	68.57
Facebook	333	61.10	98	60.87	41	62.12	90	59.21	84	62.62	92	62.59	64	65.98	17	42.50	23	65.71
Instagram	264	48.44	66	40.99	25	37.88	78	51.32	76	56.72	72	48.98	50	51.55	12	30.00	15	42.86
SnapChat	199	36.51	66	40.99	15	22.73	71	46.71	30	22.39	66	44.90	30	30.93	12	30.00	9	25.71
Twitter	160	29.36	40	24.84	15	22.73	46	30.26	42	31.24	47	31.97	29	29.90	9	22.50	13	37.14
Telegram	160	29.36	38	23.60	24	36.36	49	32.24	41	30.60	37	25.17	32	32.99	11	27.50	12	34.29
Badoo	42	7.71	11	6.83	8	12.12	9	5.92	10	7.46	9	6.12	10	10.31	4	10.00	2	5.71
Others	33	6.06	6	3.73	6	9.09	8	5.26	11	8.21	8	5.44	13	13.40	2	5.00	3	8.57
Use partner-seeking apps																		
No	215	39.45	54	33.54	11	16.67	64	42.11	50	37.31	77	52.38	24	24.74	8	20.00	13	37.14
Yes, within past 6 months	188	34.50	67	41.61	39	59.09	54	35.53	42	31.24	35	23.81	44	45.36	27	67.50	13	37.14
Yes, but not within past 6 months	142	26.06	40	24.28	16	24.24	34	22.37	42	31.34	35	23.81	29	29.90	5	12.50	9	25.71

a. Participants could select multiple options (i.e., non-exclusive categories)

Table H.2 Online and other sources of health information among key populations in Mombasa, by population and gender (n=545)

	Total		Sex workers				People who use drugs				Sexual minorities				Gender minorities			
			Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Perceived usefulness of the internet as source of health information																		
Not useful	53	9.72	18	11.18	8	12.12	19	12.50	19	14.18	13	8.84	10	10.31	5	12.50	4	11.43
Useful	403	73.94	112	69.57	48	72.73	104	68.42	96	71.64	106	72.11	73	75.26	28	70.00	27	77.14
Unsure	89	16.33	31	19.25	10	15.15	29	19.08	19	14.18	28	19.05	14	14.43	7	17.50	4	11.43
Primary source of health information																		
The internet	160	29.36	40	24.84	11	16.67	53	34.87	34	25.37	54	36.73	22	22.68	4	10.00	11	31.43
Parents	80	14.68	9	5.59	12	18.18	18	11.84	29	21.64	20	13.61	16	16.49	0	0	3	8.57
Friends	68	12.48	31	19.25	10	15.15	27	17.76	17	12.69	20	13.61	11	11.34	7	17.50	5	14.29
Doctor/nurse	215	39.45	73	45.34	30	45.45	46	30.26	47	35.07	46	31.29	46	47.42	27	67.50	15	42.86
Religious leader	5	0.92	2	1.24	0	0	2	1.32	1	0.75	2	1.36	0	0	1	2.50	1	2.86
Teacher	1	0.18	1	0.62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	16	2.94	5	3.11	3	4.55	6	3.95	6	4.48	5	3.40	2	2.06	1	2.50	0	0

Appendix I: Sex work

Table I.1 Experiences of sex work in Mombasa, by population and gender (n=545)

			Sex workers				People who use drugs				Sexual minorities				Gender minorities			
	Total		Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Ever sold sex																		
No	251	46.06	0	0	0	0	59	38.82	84	62.69	82	55.78	42	43.30	11	27.50	21	60.00
Yes	294	53.94	161	100	66	100	93	61.18	50	37.31	65	44.22	55	56.70	29	72.50	14	40.00
Ever sold sexual services online																		
No	344	63.12	76	47.20	20	30.30	92	60.53	90	67.16	110	74.83	52	53.61	13	32.50	22	62.86
Yes	201	36.88	85	52.80	46	69.70	60	39.47	44	32.84	37	25.17	45	46.39	27	67.50	13	37.14
Recently sold sex																		
No	311	57.06	0	0	0	0	79	51.97	100	74.63	100	68.03	60	61.86	12	30.00	26	74.29
Yes	234	42.94	161	100	66	100	73	48.03	34	25.37	47	31.97	37	38.14	28	70.00	9	25.71
Recently sold sexual services online																		
No	447	82.02	99	61.49	31	46.97	121	79.61	113	84.33	134	91.16	81	83.51	24	60.00	28	80.00
Yes	98	17.98	62	38.51	35	53.03	31	20.39	21	15.67	13	8.84	16	16.49	16	40.00	7	20.00
Selling sex as primary income [a]																		
No	87	37.18	60	32.27	24	36.36	23	31.51	15	44.12	20	42.55	13	35.14	7	25.00	2	22.22
Yes	147	62.82	101	62.73	42	63.64	50	68.49	19	55.88	27	57.45	24	64.86	21	75.00	7	77.78
Age of first selling sex [a]																		
<16 yrs	25	8.96	14	8.97	7	11.48	9	9.89	3	6.82	6	9.52	5	9.80	5	17.86	1	8.33
16-17 yrs	57	20.43	42	26.92	10	16.39	21	23.08	7	15.91	13	20.63	8	15.69	6	21.43	1	8.33
18-19 yrs	65	23.30	33	21.15	16	26.23	21	23.08	12	27.27	11	17.46	11	21.57	8	28.57	5	41.67
≥20 yrs	132	47.31	67	42.95	28	45.90	40	43.96	22	50.00	33	52.38	27	52.94	9	32.14	5	41.67

a.   Only asked of participants reporting recent sex work

Appendix J: People who use drugs

Table J.1 Use of alcohol and other drugs among key populations in Mombasa, by population and gender (n=545)

			Sex workers				People who use drugs				Sexual minorities				Gender minorities			
	Total		Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Ever consumed alcohol																		
No	128	23.49	34	21.12	16	24.24	10	6.58	15	11.19	39	26.53	23	23.71	12	30.00	12	34.29
Yes	417	76.51	127	78.88	50	75.76	142	93.42	119	88.81	108	73.47	74	76.29	28	70.00	23	65.71
Ever used drugs																		
No	188	34.50	60	37.27	24	36.36	0	0	0	0	69	46.94	41	42.27	15	37.50	18	51.43
Yes	357	65.50	101	62.73	42	63.64	152	100	134	100	78	53.06	56	57.73	25	62.50	17	48.57
Ever injected drugs																		
No	495	90.83	144	89.44	55	83.33	126	82.89	110	82.09	137	93.20	88	90.72	35	87.50	32	91.43
Yes	50	9.17	17	10.56	11	16.67	26	17.11	24	17.91	10	6.80	9	9.28	5	12.50	3	8.57
Ever smoked cigarettes																		
No	281	51.56	82	50.93	30	45.45	48	31.58	41	30.60	76	51.70	54	55.67	18	45.00	22	62.86
Yes	264	48.44	79	49.07	36	54.55	104	68.42	93	69.40	71	48.30	43	44.33	22	55.00	13	37.14
Recently consumed alcohol [a]																		
No	229	42.02	61	37.89	30	45.45	31	20.39	32	23.88	71	48.30	43	44.33	15	37.50	15	42.86
Yes	316	57.98	100	62.11	36	54.55	121	97.61	102	76.12	76	51.70	54	55.67	25	62.50	20	57.14
Recently used drugs [a]																		
No	251	46.06	88	54.66	32	48.48	0	0	0	0	88	59.86	59	60.82	19	47.50	19	54.29
Yes	294	53.94	73	45.34	34	51.52	152	100	134	100	59	40.14	38	39.18	21	52.50	16	45.71
Recently injected drugs [a]																		
No	509	93.39	148	91.93	58	87.88	134	88.16	116	86.57	142	96.60	90	92.78	36	90.00	33	94.29
Yes	36	6.61	13	8.07	8	12.12	18	11.84	18	13.43	5	3.40	7	7.22	4	10.00	2	5.71
Recently smoked cigarettes [a]																		
No	411	75.41	121	75.16	42	63.64	87	57.24	80	59.70	113	76.87	78	80.41	29	72.50	26	74.29
Yes [b]	134	24.59	40	24.84	24	36.36	65	42.76	54	40.30	34	23.13	19	19.59	11	27.50	9	25.71
Drugs used (ever) [c]																		
Marijuana	210	38.53	54	33.54	22	33.33	111	73.03	93	69.40	51	34.69	28	28.87	12	30.00	12	34.29
Muguka/ jabba/khat	203	37.25	58	36.02	24	36.36	107	70.39	92	68.66	46	31.29	27	27.84	17	42.50	10	28.57
Tumbaku	45	8.26	16	9.94	8	12.12	22	14.77	21	15.67	9	6.12	6	6.19	5	12.50	3	8.57
Glue	18	3.30	9	5.59	0	0	13	8.55	5	3.73	5	3.40	1	1.03	2	5.00	0	0

	Total		Sex workers Women		Men		People who use drugs Women		Men		Sexual minorities Women		Men		Gender minorities Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Drugs used (ever) [c]																		
Kuber	11	2.02	5	3.11	3	4.55	5	3.29	6	4.48	1	0.68	2	2.06	2	5.00	0	0
Cocaine	19	3.49	8	4.97	3	4.55	11	7.24	8	5.97	5	3.40	2	2.06	3	7.50	1	2.86
Diazepam (e.g., Valium)	5	0.92	2	1.24	2	3.03	2	1.32	3	2.24	0	0	1	1.03	2	5.00	0	0
Methaqualone (e.g., Mandrax)	5	0.92	2	1.24	0	0	2	1.32	3.	2.24	1	0.68	0	0	1	2.50	0	0

a. Recently defined as the six months prior to participation
b. Median cigarettes smoked per week was 14 (IQR: 3-30)
c. Participants could select multiple options (i.e., non-exclusive categories)

Table J.2 Indications of and support for substance abuse among key populations in Mombasa, by population and gender

	Total		Sex workers Women		Men		People who use drugs Women		Men		Sexual minorities Women		Men		Gender minorities Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Indications of substance abuse [a]																		
None	269	49.36	72	44.72	28	42.42	45	29.61	25	18.66	94	63.95	48	49.48	18	45.00	22	62.86
Some	163	29.91	49	30.43	18	27.27	59	38.82	65	48.51	32	21.77	24	24.74	8	20.00	8	22.86
Many	113	20.73	40	24.84	20	30.30	48	31.58	44	32.83	21	14.29	25	25.77	14	35.00	5	14.29
Ever sought support for substance abuse [b]																		
No, never	151	54.71	61	68.54	18	47.37	64	59.81	55	50.46	31	58.49	26	53.06	16	72.73	8	61.54
No, but would like to	61	22.10	13	14.61	3	7.89	25	23.36	22	20.18	16	30.19	8	16.33	3	16.64	1	7.69
Yes	64	23.19	15	16.85	17	44.74	18	16.82	32	29.36	6	11.32	15	30.61	3	16.64	4	30.77
Perceptions of abuse support [c]																		
Unhelpful	6	9.38	0	0	3	17.65	1	5.56	4	12.50	0	0	3	20.00	1	33.33	0	0
Mixed	14	21.88	2	13.33	4	23.53	3	16.67	5	15.63	2	33.33	4	26.67	1	33.33	0	0
Helpful	44	68.75	13	86.67	10	58.82	14	77.78	23	71.88	4	66.67	8	53.33	1	33.33	4	100

a. As measured using the CAGE Substance Abuse Screening Tool
b. Only asked of those reporting some or many indications of substance abuse
c. Only asked of participants reporting some previous substance abuse support

Appendix K: Sexual and gender minorities

Table K.1 Experiences of gender and gender affirmation among gender minorities people in Mombasa, by gender

	Total		Gender minority women		Gender minority men		Gender non-binary	
	n	%	n	%	n	%	n	%
Age started to think of self as gender diverse								
10-12 years old	4	5.63	1	2.94	1	3.82	2	18.18
13-15 years	16	22.54	10	29.41	5	19.23	1	9.09
16-18 years	17	23.94	8	23.53	9	34.62	0	0
>18 years old	34	47.89	15	44.12	11	42.31	8	72.73
Known as name other than assigned at birth								
No	27	31.40	14	35.00	8	22.86	5	45.45
Yes	59	68.60	26	65.00	27	77.14	6	54.55
Chosen name reflected in legal documents [a]								
No, fine as is	26	44.07	13	50.00	11	40.74	2	33.33
No, but would like to change	18	30.51	6	23.08	10	37.04	2	33.33
Yes	15	25.42	7	26.92	6	22.22	2	33.33
Ever taken hormone therapy								
Never	62	72.09	28	70.00	23	65.71	11	100
Previously	14	16.28	9	22.50	5	14.29	0	0
Currently	10	11.63	3	7.50	7	20.00	0	0
Interest in hormone therapy								
No	17	19.77	5	12.50	5	14.29	7	63.64
Yes	57	66.28	31	77.50	24	68.57	2	18.18
Unsure	12	13.95	4	10.00	6	17.14	2	18.18
Satisfaction with hormone therapy [b]								
Dissatisfied	3	12.50	2	16.67	1	8.33	0	0
Mixed	4	16.67	1	8.33	3	25.00	0	0
Satisfied	17	70.83	9	75.00	8	66.67	0	0
Previously exposed to gender conversion programs								
No	49	56.98	18	45.00	24	68.57	7	63.64
Yes	22	25.58	12	30.00	6	17.14	4	36.36
Unsure	15	17.44	10	25.00	5	14.29	0	0

a. Only asked of participants indicating a chosen name

b. Only asked of participants with previous experience taking hormones

Appendix L: Key population stigma

Table L.1 Experiences of stigma in different contexts among key populations in Mombasa, by population and gender (n=545)

			Sex workers				People who use drugs				Sexual minorities				Gender minorities			
	Total		Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Stigma from healthcare workers																		
Low	272	49.91	64	39.75	25	27.88	78	51.32	71	52.99	88	59.86	44	45.39	8	20.00	10	28.57
Medium	174	31.93	59	36.65	21	31.82	50	32.89	40	29.85	41	27.89	35	36.08	18	45.00	14	40.00
High	99	18.17	38	23.60	20	30.30	24	15.79	23	17.16	18	12.24	18	18.56	14	35.00	11	31.43
Stigma from family																		
Low	248	45.50	61	37.89	18	27.27	66	43.42	63	47.01	79	53.74	34	35.05	9	22.50	6	17.14
Medium	166	30.46	52	32.30	21	31.82	41	26.97	42	31.34	47	31.97	38	39.18	11	27.50	13	37.14
High	131	24.04	48	29.81	27	40.91	45	29.61	29	21.64	21	14.29	25	25.77	20	50.00	16	45.71
Stigma from general community																		
Low	222	40.73	47	29.19	14	21.21	56	36.84	62	46.27	70	47.62	30	30.93	10	25.00	7	20.00
Medium	188	34.50	57	35.40	22	33.33	51	33.55	43	32.09	51	34.69	44	45.36	14	35.00	12	34.29
High	135	24.77	57	35.40	30	45.45	45	29.61	29	21.64	26	17.69	23	23.71	16	40.00	16	45.71
Stigma from police																		
Low	262	48.07	64	39.75	15	22.73	73	48.03	60	44.78	87	59.18	38	39.18	10	25.00	10	28.57
Medium	165	30.28	54	33.54	22	33.33	42	27.63	46	34.33	38	25.85	31	31.96	12	30.00	12	34.29
High	118	21.65	43	26.71	29	43.94	37	24.34	28	20.90	22	14.97	28	28.87	18	45.00	13	37.14
Internalised stigma [a]																		
No	275	50.46	122	75.78	47	71.21	69	45.39	53	39.55	97	65.99	68	70.10	33	82.50	29	82.86
Yes	270	49.54	39	24.22	19	28.79	83	54.61	81	60.45	50	34.01	29	29.90	7	17.50	6	17.14

a.   As measured using the Bogardus Social Distance Scale

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Table L.2 Key population stigma among key populations [a] in Mombasa, by population and gender (n=545)

	Sex workers				People who use drugs				Sexual minorities				Gender minorities			
	Women		Men		Women		Men		Women		Men		Women		Men	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Stigma towards sex workers																
Low					107	70.39	68	50.75	96	66.21	63	67.74	31	77.50	26	74.29
Medium					24	15.79	32	23.88	24	16.55	13	13.98	5	12.50	6	17.14
High					21	13.82	34	25.37	25	17.24	17	18.28	4	10.00	3	8.57
Stigma towards people who use drugs																
Low	60	37.27	27	40.91					50	34.48	31	33.33	15	37.50	11	31.43
Medium	34	21.12	10	15.15					43	29.66	24	25.81	8	20.00	11	31.43
High	67	41.61	29	43.94					52	35.86	38	40.86	17	42.50	13	37.14
Stigma towards sexual minorities																
Low	105	65.22	46	69.70	103	67.76	58	43.28					31	77.50	27	77.14
Medium	18	11.18	10	15.15	25	16.45	24	17.91					4	10.00	5	14.29
High	38	26.60	10	15.15	24	15.79	52	38.81					5	12.50	3	8.57
Stigma towards gender minorities																
Low	108	67.08	43	65.15	103	67.76	70	52.24	96	66.21	59	63.44				
Medium	21	13.04	12	18.18	29	19.08	28	20.90	21	14.48	16	17.20				
High	32	19.88	11	16.67	20	13.16	36	26.87	28	19.31	18	19.35				

a. As measured using the Bogardus Social Distance Scale