THE MOMBASA YOUTH STUDY

REPORT OF FINDINGS: 2023

MEDECINS SANS FRONTIERES
MADAKTARI WASIO NA MIPAKA

MOMBASA YOUTH STUDY

DEPARTMENT OF HEALTH SERVICES
MOMBASA COUNTY

Citation and acknowledgements

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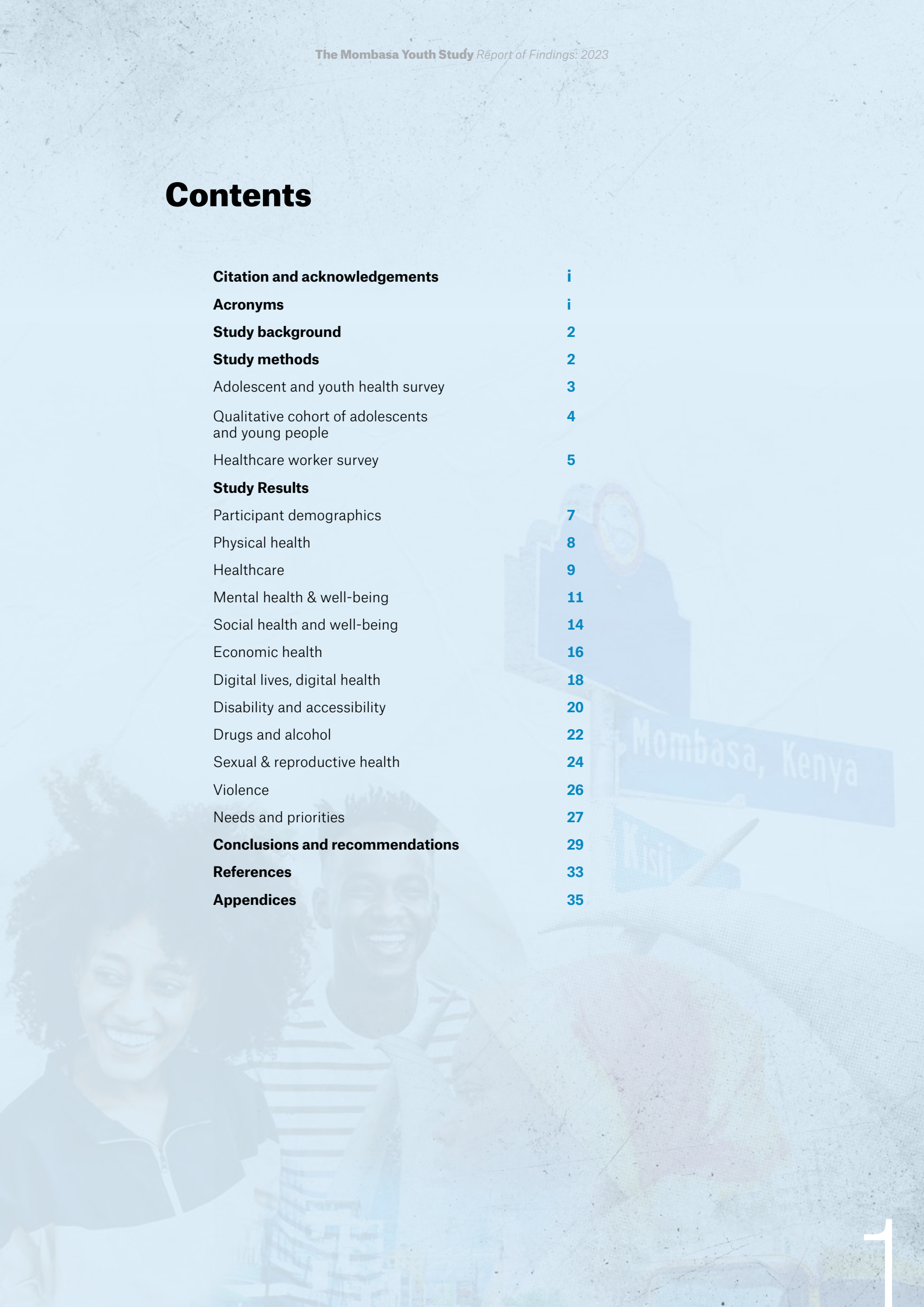
Report and cover design:
Lynne Hambury Creative

Acronyms

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

Contents



Study background

Globally, adolescents and young people face unique challenges to their health and well-being along with a diverse range of health disparities. Notably, adolescents and young people face disproportionately high rates of HIV and other sexually transmitted infections (STIs), sexual and gender-based violence, unplanned pregnancies, and mental health issues including substance abuse [1-5]. Across Kenya and in Mombasa, there is a growing effort to support the health and well-being of adolescents and young people through various strategies and policies [1, 6, 7] including the youth-focused curriculum, *Understanding Adolescence* [8]. These efforts reflect a larger movement across Africa to improve access for these populations by creating a more 'youth friendly' healthcare system [9-12].

Although health policies and interventions for adolescents and young people have traditionally focused on sexual and reproductive health, there is growing awareness of the need for a more holistic approach. The first youth-focused health strategy from the Mombasa County Department of Health strongly focused on sexual and reproductive health, but adopted a "holistic approach to addressing the needs of adolescents and young people" [1]. The second youth health strategy launched in 2024 centres an even more holistic approach, encompassing a diverse array of concerns for physical, mental, and social dimensions of population health [13]. Many public, private, and community organisations are now collaborating to implement the strategy's renewed vision.

The World Health Organization (WHO) also embraces a holistic and multifaceted understanding of adolescent and youth health, noting that such investments result in considerable dividends not only for public health but society generally [14]. To realise such dividends, robust and locally contextualised research is needed to inform services, interventions, and policies targeting adolescents and young people, and, importantly, to monitor progress and impact. To those ends, the *Mombasa Youth Study* was launched in June 2023 as a prospective, community-based study of population health and well-being. This report provides an overview of baseline data collected by the study, with an aim of producing actionable insights towards the improved health and well-being of Mombasa's diverse adolescent and youth populations.

Study methods

Launched 15 June 2023, the *Mombasa Youth Study* is a prospective mixed methods research study comprising: (i) a health survey of adolescents and young people, (ii) a qualitative cohort of young people, and (iii) a repeated survey of healthcare workers' attitudes and practices. The study is a parallel design (i.e., data collection between stages takes places simultaneously) with iterative exchange forming the basis of its mixed methods (i.e., inferences from stages inform collection, analysis, and interpretation of others). As data collection is planned for several years, this report summarises data collected during the study's nine-month baseline period from June 2023 to March 2024. 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.

Adolescent and youth health survey

For 100 days (15 June to 23 September 2023), participants were recruited to take part in a de-identified digital survey. The survey could be self- or interviewer-administered as was needed and appropriate (e.g., for those with lower literacy). It collected data on topics including healthcare access, general health, social life, mental health, substance abuse, and sexual and reproductive health. Participants could nominate to take the survey in English or Swahili, with the instrument translated and back translated by professional translators. Topical areas were reviewed by relevant experts who were also native Swahili speakers to ensure lingo, slang, and jargon were appropriately captured.

Participants were recruited to the survey via active and passive methods. Active recruitment activities included events hosted with local universities, community groups and other partners, empowering 'peer mobilisers' to identify prospective participants and collect data, and setting up recruitment stands at local youth friendly health services and events. Passive recruitment activities included distributing study advertisements through existing online and offline networks, posting them in youth friendly spaces, and working with a local influencer to create a social media campaign. Prospective participants were directed to a dedicated website to learn about the study and assess eligibility.

In total, 1,888 people started the survey of whom 484 were deemed ineligible: 114 failed a comprehension or attention check, 52 did not live, work, or go to school in Mombasa County, and 313 were outside the target age range. Of those who met the inclusion criteria, five were identified as duplicates and removed. The final sample consisted of 1,405 adolescents and young people in Mombasa County. The average time to complete the survey was 31.3 minutes (standard deviation [SD]: 17.8) with 57.8% completing the survey in 30 minutes or less. At the survey's close, participants were asked to rate their experience with 69.8% rating it as average or positive. Following completion of the survey, participants could enter an optional raffle to win small prizes including things like 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 the Kenyan context and with adolescents and young people. Where such instruments were not available, existing measures were modified to make them accessible to younger participants. Routing logics were used to ensure a responsive survey experience overall and to limit exposure to complicated or irrelevant items for the youngest participants (10-14 years old).

Fixed responses were analysed descriptively, reporting frequency and proportion outcomes. As appropriate, all variables have been stratified by gender (boys/men and girls/women) and age group, specifically adolescents (10-17 years old) and young people (18-24 years old). 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 [15].

Qualitative cohort of adolescents and young people

To compliment the quantitative component, a cohort of young people aged 18-24 was established (n=10). Participants were recruited to the cohort using a seed, screening, and selection process. Local youth-engaged 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 to take part in a life history interview. This process was repeated until 20 interviews were completed. The interviews and sociodemographics were then reviewed and used to purposively sample participants via maximum variation along the lines of age, gender, disability status, area of residence, socioeconomic status, and parental status.

The nine-month baseline period comprised a total of 20 individual interviews, two full cohort group interviews, and one small group interview. For each interview, participants were provided with a travel allowance to facilitate their participation (1,000 KES) and phone credit (500 KES). 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 [16]. The topics of discussion were informed by insights from the other stages, inferences from individual interviews, current events, and specific health topics. All interviews were audio recorded, transcribed, and translated from Swahili into English. Transcripts were cleaned of any identifying details.

The purpose of these multiple interviews was to establish a baseline for numerous key topics, including health and healthcare, mental health, social well-being, and similar. For this report, analyses of these qualitative data were predominantly descriptive using the techniques of deductive thematic analysis to synthesise and define key topic-based components [17]. Coding and thematic development were carried out by multiple 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 adolescent and youth health survey

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 was 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 'youth 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 delivery of integrated and stand-alone youth friendly healthcare.

The survey was de-identified, which healthcare workers completed via dedicated tablet computers. It could be completed in English or Swahili and assessed a range of knowledge and stigma towards potentially sensitive health topics (e.g., substance use, early pregnancy). Participants were provided with breakfast or lunch and a small amount of phone credit (250 KES). The survey instrument used established measures to assess key topics, with a focus on those validated for use in Kenya and with healthcare workers.

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.

Figure 2: A recruitment poster displayed in sample clinics to advertise the healthcare worker survey

Table 1: Summary of measures used in the health survey of adolescents and young people and the healthcare worker survey [a]

Instrument name	Domain(s) assessed	Example item	# items used	Cronbach's α	Reference
World Health Organization – Five Well-being Index (WHO-5) [b,c]	General well-being	I woke up feeling fresh and rested.	5	0.88	[18]
Patient Health Questionnaire [b,c]	Indications of depression	In the past two weeks did you have trouble falling asleep?	9	0.85	[19]
Opening Minds Stigma Scale for Health Care Providers (OMS-HC)	Mental health stigma	Mostly, people with mental illness don't try hard enough to get better.	5	0.81	[20]
Youth Quality of Life Instrument (Y-QOL) [c]	Familial satisfaction	I feel my family cares about me.	2	0.81	[21]
	Social satisfaction	I am happy with the friends I have.	4	0.71	
Washington Group Questions [b,c]	Disability status and type	Do you have serious difficulty walking or climbing stairs?	5	N/A	[22]
CAGE Substance use Assessment Instrument [b]	Indications of substance abuse	Have people annoyed you by criticizing your drinking or drug use?	4	0.64	[23]
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	[24]
Adolescent Sexual Reproductive Health Stigma Scale [c]	Early pregnancy stigma	Getting pregnant as a teen brings disgrace and shame to a young woman and her family.	3	0.79	[25]
	Termination of pregnancy stigma	A girl or woman who chooses to terminate her pregnancy cannot be trusted.	4	0.83	
Illinois Rape Myth Scale [c]	Sexual violence stigma	If an individual doesn't physically fight back, you can't really say it was rape.	5	0.72 (adolescents & young people) 0.74 (healthcare workers)	[26]

a. The appendices contain tables listing specific items and responses
b. Previously validated for and used with Kenyan samples
c. Previously validated for and used with adolescent and/or youth samples

Participant demographics

Adolescent and youth health survey

Among the survey sample (n=1,405), 473 were boys/men (33.7%) and 925 were girls/women (65.8%); a further seven participants listed their gender as 'other' (e.g., intersex). As per the eligibility criteria, participants ranged in age from 10-24 years old with a mean age of 19.6 (SD:3.6) and a median age of 20 (interquartile range [IQR]: 17-23). A total of 352 participants were adolescents (i.e., aged 10-17 years) and 1,053 were young people (i.e., aged 18-24 years).

Survey recruitment primarily focused on three of the most populous sub-counties in Mombasa, with the sample majority from Kisauni (55.1%), Nyali (22.8%), and Mvita (15.0%). This focus reflects that the study's lead partners – Médecins Sans Frontières and the Mombasa County Department of Health – were implementing a youth friendly intervention in these sub-counties. Some participants, however, did live in other parts of the county including Likoni (3.8%), Changamwe (2.4%), and Jomvu (1.0%). Nearly all participants were born in Kenya (99.2%) with a small number from Somalia (n=2), Uganda (n=1), and Tanzania (n=1).

Qualitative cohort of adolescents and young people

By design, the qualitative cohort was diverse in several important ways. Participants ranged in age from 18-24 years with a median of 22.5 years (IQR:21-24). From the sample of 20 baseline interviews, five women and five men were selected to participate in the primary cohort. Eight had completed or were enrolled in some tertiary education, while one had completed high school and one had completed primary school. Reflecting the study's geographic focus within Mombasa County, four lived in Kisauni, four in Nyali, and two in Mvita. Seven were unemployed and three were self-employed. Two reported a disability (one cognitive, one physical) and two were parents.

Healthcare worker survey

For the sample of healthcare workers (n=222), 186 (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 was other (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%) and while 23.9% had been in their current position for less than one year, around half (49.6%) had three or more years' experience.

Full details of participant demographics for each stage of the research can be found in Appendix A.

Physical health

APPENDIX A

Overall, most adolescents and young people in Mombasa reported a high level of physical health: among the sample of 1,405 survey participants, 75.1% rated their health as 'good' or 'excellent' [27]. Good health was more common among male than female participants (81.4% vs 72.0%) and more common among adolescents than young people (80.9% vs 73.2%). Very few adolescents and young people (2.3%) rated their health as 'poor' or 'terrible'.

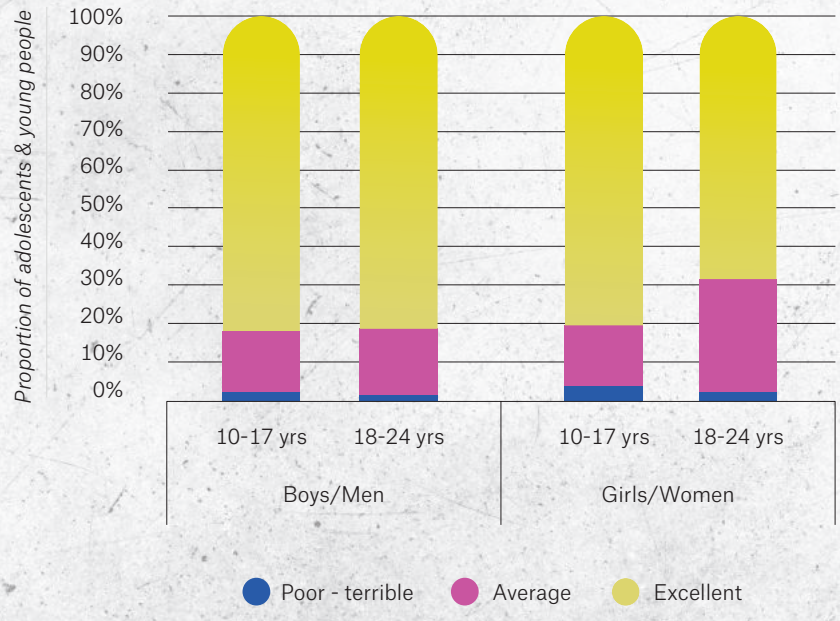
Regarding health behaviours, most adolescents and young people reported a high level of personal hygiene: 86.6% brush their teeth at least every day, while 67.5% always wash their hands after using the bathroom. Consistent personal hygiene was higher among female than male participants (68.0% vs 56.0%).

The WHO recommends adolescents and young people do around 60 minutes of physical activity each day [28]. Only 10.9% of survey participants met this recommendation with six to seven days of physical activity in the week prior to participation; nearly half reported at least three days of physical activity (46.1%) [29]. One out of every five adolescents and young people (20.5%) reported absolutely no physical activity, which was higher among female than male participants (25.0% vs 11.6%).

Underscoring the significance of physical activity, adolescents and young people with three or more days of exercise per week were 2.1 times more likely to report good physical health (OR=2.12, 95%CI:1.65-2.74) and 1.4 times were likely to report overall positive well-being (OR=1.39, 95%CI:1.12-1.73).

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

Figure 3: Self-rated physical health among adolescents and young people in Mombasa, by gender and age (n=1,405)



86.6%
brush their teeth every day

67.5%
wash their hands every time they go to the bathroom

10.9%
are getting enough physical activity

Healthcare

APPENDIX B

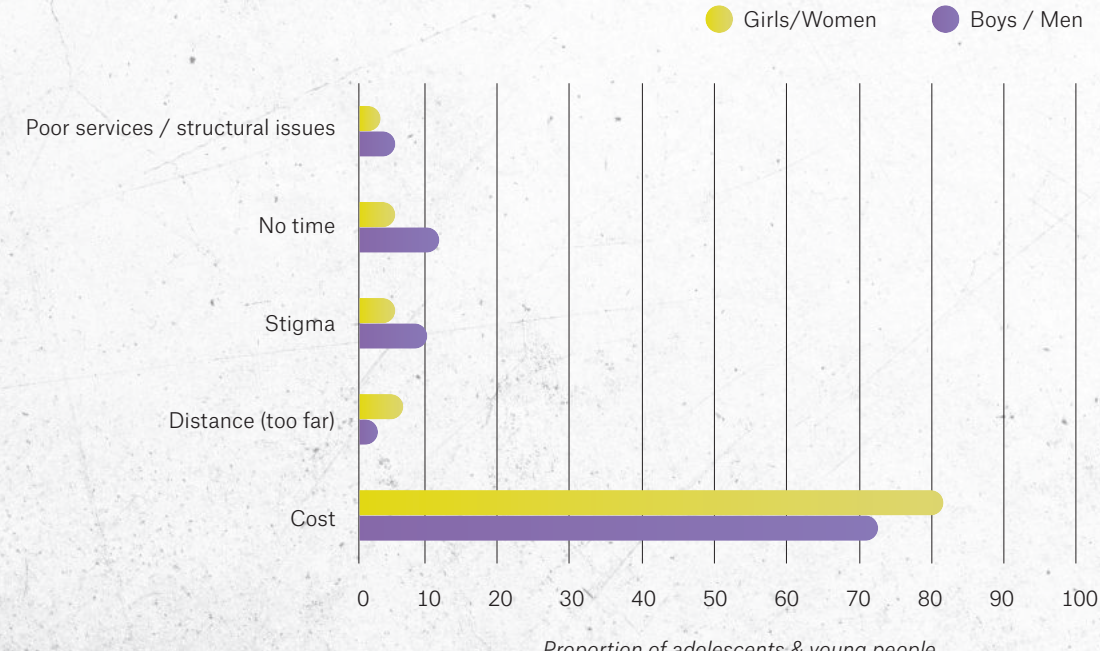
Nearly half of adolescents and young people in Mombasa reported 'good' or 'excellent' access to healthcare (46.9%). In the six months prior to participation, **52.1% of adolescents and young people had tried but failed to receive one or more health service**. Cost was by far the most common explanation for not accessing care, reported by 76.7% of participants. Among those aged 18-years and older, only one in five (20.5%) reported some form of health insurance, which is similar to what has been reported for the general Kenyan population [30]. Among those who did have access to healthcare, the vast majority (83.5%) rated it as high-quality. In total, 27.9% of adolescents and young people said they were commonly experienced negative treatment by healthcare workers.

Of the 1,405 survey participants, 56.4% said they had ever attended a youth friendly health service in Mombasa, which at least partly reflects study recruitment through such sites. Those with exposure to a youth friendly health service were more likely to rate their access to healthcare as 'excellent' (OR=1.69, 95%CI:1.34-2.12) and less likely to report negative treatment by healthcare workers (OR=0.73, 95%CI: 0.58-0.92). Of the 222 healthcare workers surveyed, only a small minority held negative views of young people (5.4%) although over half felt young people were careless with their health (52.2%).

Although a majority of adolescents and young people report positive experiences accessing healthcare, members of the qualitative cohort (n=10) were asked to describe and reflect upon their recent negative experiences. Three dominant characteristics defined such experiences, namely that they were: ineffective (i.e., the primary health need was not met), inconvenient (i.e., long wait times, confusing information, or inefficient systems), or disrespectful (i.e., staff were rude, dismissive, or communicated poorly). Aligning closely with Kenya's national guidelines for youth friendly healthcare [6], these results define a positive healthcare experience for young people as effective, convenient, and respectful.

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

Figure 4: Reasons for not being able to access required health services among adolescents and young people in Mombasa, by gender (n=317)



What characterises a poor healthcare experience for young people?

Ineffective

"So the nurse did things awkwardly to me. She acted as if she was giving me first aid, yet she was still hurting me. The more she pulled my leg, the more pain I felt and continued crying... I asked her if she could get a painkiller or any other medicine but she said she did not have those drugs... They did not provide the service I wanted on that day."

– Man, 24-years-old

Inconvenient

"When you get there, there usually is a queue. I sat there for a while waiting to be called. After sitting there for a while, another doctor came and asked what I was waiting for. I explained it to him. The doctor told me that I should have booked in advance...I was not happy because I was in pain and still had to go back and book."

– Woman, 23-years-old

Disrespectful

"I did not like how they welcomed us. You could clearly see they are not doing any work. We knocked on their door respectfully to also try to inquire for services, and we were just relaxed and my partner was also there...So the doctors also did not receive us well. They told us they were busy and we would have to leave and come back another day."

– Man, 21-years-old

Mental health & well-being

APPENDIX C

General well-being was measured using the five-item WHO Well-Being Index (WHO-5) [31]. Among participants in the health survey, positive well-being was reported by 39.9% of adolescent and young people in Mombasa. A slightly higher proportion of girls/women than boys/men reported positive well-being (40.8% vs 38.5%).

With the nine-item Patient Health Questionnaire (PHQ-9) [19], 18.6% of adolescents and young people had indications of moderate to severe depression, which was more common among female than male participants (20.1% vs 15.9%). Overall, 6.3% of participants had indications of severe depression, which was similar by gender. Further, 13.8% had indications of suicidality. Participants with indications of depression or suicidality were provided a list of resources they could access, including a direct link to mental health programming provided by Médecins Sans Frontières.

It is important to note, this study was not setup to diagnose depression but instead to assess potential symptoms. Previous studies with samples of adolescents and young people in Kenya have produced a wide range of prevalence estimates for depression and depressive symptoms (7.0-45.9%) [32-34]; results from the *Mombasa Youth Study* sit quite near the middle of this range. Globally, the WHO estimates the prevalence of clinically diagnosed depression to be much lower: 1.1% among people aged 10-14 years, 2.8% among those 15-19 years, and 4.0% among those aged 20-24 years [35].

In terms of mental health support, 42.8% of adolescents and young people reported some previous form of formal or informal support. Discussions during the qualitative component highlighted that many adolescents and young people understand 'mental health care' to encompass both formal (i.e., clinical) and informal (i.e., extra-clinical) activities. This result aligns with the Kenyan National Adolescent Mental Health Survey, which found these populations most commonly seek mental health support from friends and family rather than psychologists or other professionals [32].

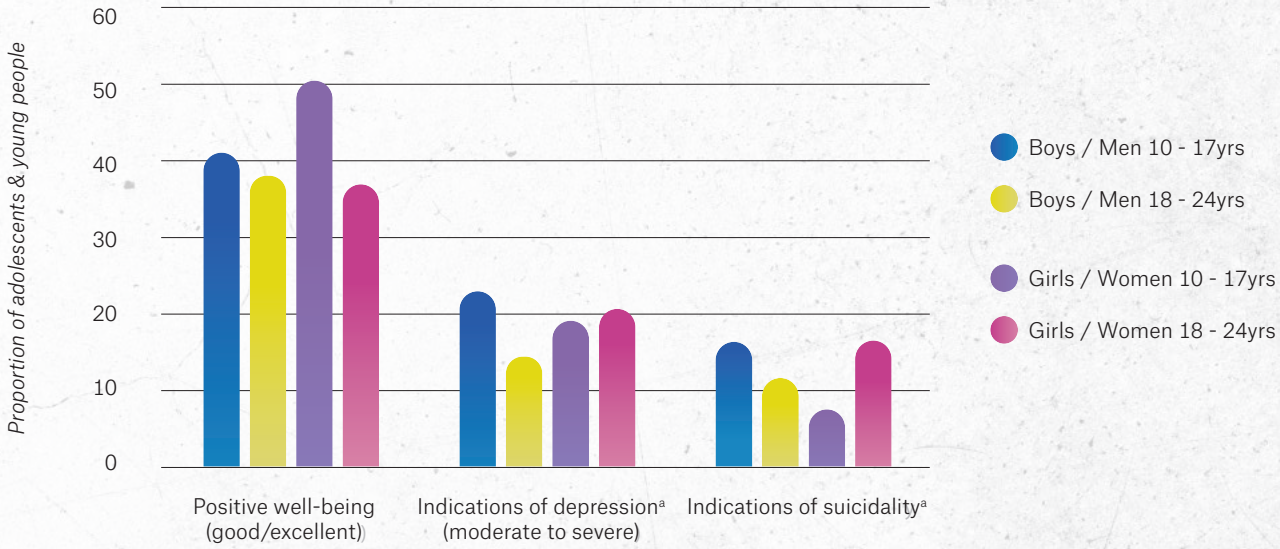
When participants did try to seek out formal mental health support, however, they cited cost, fear, and lack of knowledge (i.e., where and how to receive care) as primary barriers.

In the qualitative data, participants shared what they perceived as key features for effective mental health support. These included that it is: multifaceted (i.e., encompassing clinical and extra-clinical supports), comprehensive (i.e., comprising a combination of service delivery, health promotion, and advocacy), delivered direct-to-communities (i.e., providing community-based and *in situ* services to reach those most in-need), and non-judgemental (i.e., counsellors trained on specific needs with mental health a normalised part of general healthcare).

Among healthcare workers, per the Opening Minds Stigma Scale the majority of clinicians and non-clinicians had low levels of mental health stigma (61.3% and 83.3%, respectively) [20]. While the prominence of low stigma is promising, it is important to note that 38.7% of clinicians – nearly four out of ten – maintained medium to high levels of mental health stigma. This means they agreed or mostly agreed with statements like "Mostly, people with mental illness don't try hard enough to get better". Indeed, clinicians were three times more likely to have stigma towards mental health than their non-clinical peers (OR=3.16. 95%CI: 1.25-7.96). Given the priority adolescents and young people placed on mental health as free-from-judgement, even moderate levels of stigma warrant attention.

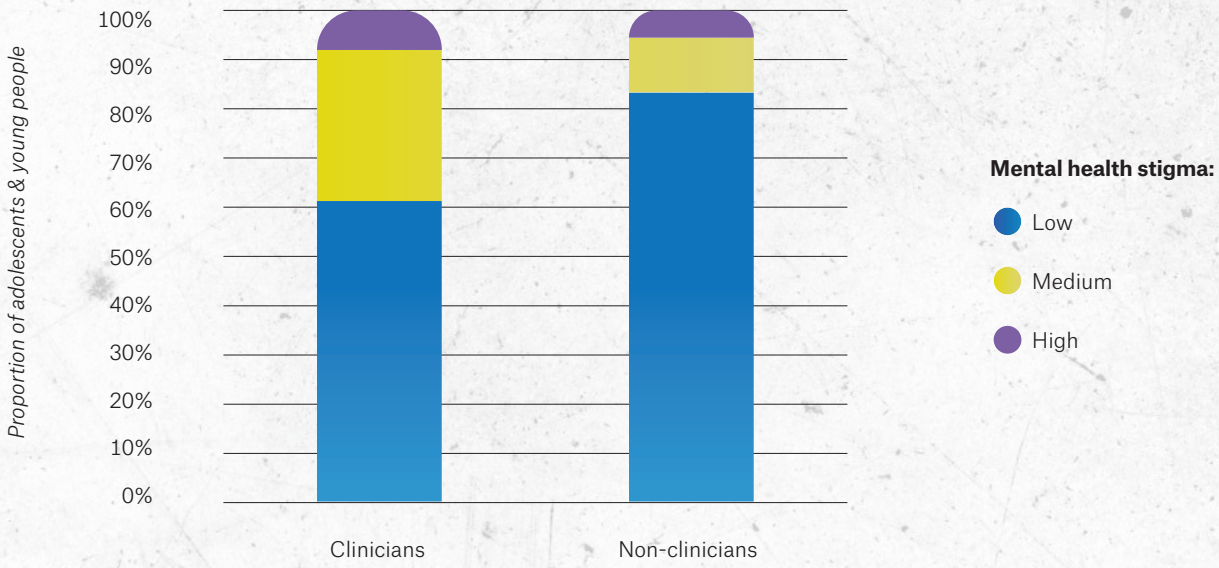
More details on experiences of mental health can be found in Appendix C.

Figure 5: Mental health and well-being among adolescents and young people in Mombasa, by gender and age (n=1,405)



a. Participants with indications of mental health issues were provided links to free services in Mombasa

Figure 6: Levels of stigma towards mental health among healthcare workers in Mombasa, by clinical work (n=222)



What characterises effective mental health support for young people?

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Multifaceted (informal + formal)

"Last year, I lost hope in life. I was not engaging with anybody... but it reached a point and got some help. I started engaging with mental health activities and learned some coping skills that I use when I feel I am stressed. When I can't take it anymore, I just use the coping skills and talk to someone."

– Woman, 24-years-old

Direct-to-communities

"Some organisations do mental health programming, but it is not really enough. Maybe a hospital can volunteer to go to a slum area and provide counselling or mental health talks for the youth, educate them."

– Man, 22-years-old

Comprehensive (services + health promotion + advocacy)

"You have to motivate someone on their mental health"

– Man, 24-years-old

"Last year we had that mental health awareness day, so we had a gathering and learned there are certain places we can go for help with mental health problems including certain community organizations or health facilities."

– Man, 22-years-old

Non-judgemental

"Young people, when they think about going to the hospital to treat the diseases, they fear because they feel someone might come and see them and hence feel judged. So, they look for shortcuts... There should be services just specifically for mental health."

– Man, 22-years-old

Social health and well-being

APPENDIX D

Social relationships – including within families – can significantly affect diverse aspects of health and well-being [36-39]. The 'social health' of adolescents and young people is, therefore, a vital consideration.

In the health survey, the vast majority of adolescents and young people in Mombasa reported having at least one close friend (91.0%). It is notable, however, that 9.0% of participants reported no friendships. Girls aged 10-17 years were the most likely to report no friendships (14.6%) while boys of the same age were the least likely (4.9%).

Most adolescents and young people said they had access to at least one safe and affirming social space (62.6%); access to such spaces was generally lower among young people than adolescents (33.6% vs 48.4%). Although participants reported spending their time in many different places, the three most common social spaces were religious organisations (27.8%), sports fields/clubs (26.8%), and friends' homes (25.1%).

Participants were asked to reflect upon their social lives through a series of standardised items from the Youth Quality of Life Instrument [21]. It was observed that 52.6% of adolescents and young people had high social satisfaction, while 38.8% had medium satisfaction, and 8.6% low. Overall, a greater proportion of female than male participants reported low social satisfaction (9.5% vs 6.9%) as did a greater proportion of young people than adolescents (10.0% vs 3.9%).

Regarding families, the majority of adolescents and young people in the health survey reported some familial contact (92.5%). Two items from the Youth Quality of Life Instrument were used to assess family satisfaction, namely "I feel my family cares about me" and "I feel I am getting along with my family". On the overall measure, 69.5% of participants reported high family satisfaction, 18.3% medium, and 12.2% low. As with social satisfaction, a greater proportion of female than male participants reported low family satisfaction (13.4% vs 9.9%), as did a greater proportion of young people than adolescents (14.1% vs 6.5%).

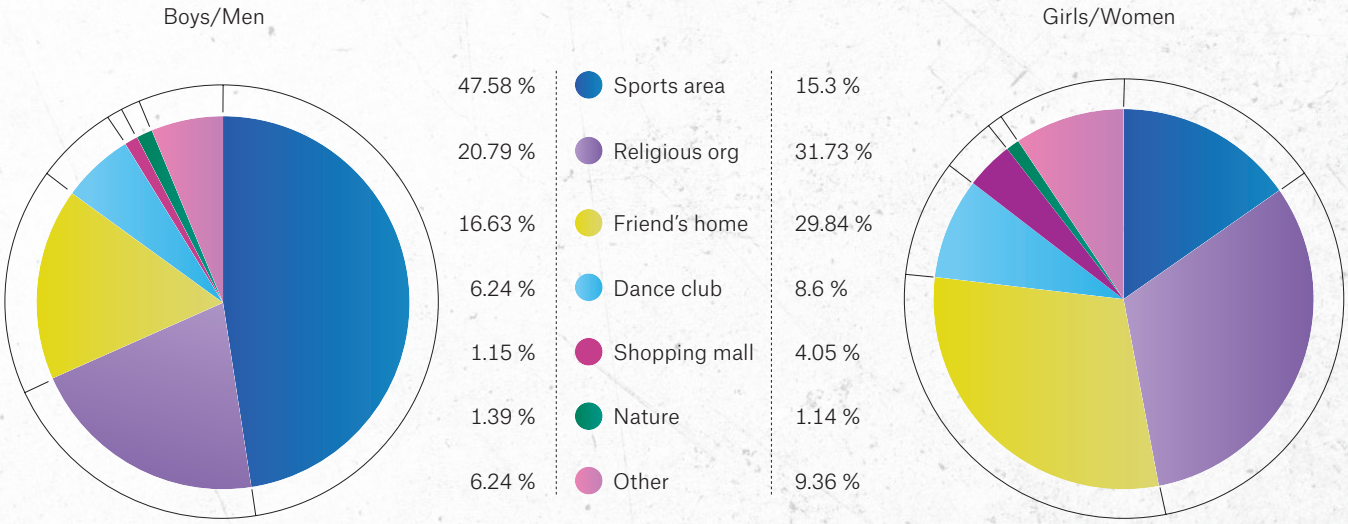
Importantly, both social and family satisfaction were associated with general well-being. **Those reporting high social satisfaction were 2.5 times more likely to have overall positive well-being** (OR=2.47, 95%CI:1.96-3.11), while **those with high family satisfaction were 2.2 times more likely to have overall positive well-being** (OR=2.20, 95%CI:1.70-2.84).

Finally, adolescents and young people aged 15 years and older were asked about their romantic and married lives. In total, 38.9% of participants reported being in a romantic relationship at the time of the survey, while a further 35.4% had some previous relationship. And in total, 6.5% of participants were married while 3.3% were divorced. Past or present marriages were reported by seven participants who were under the age of 18 years. Regarding romantic satisfaction, 37.7% reported high satisfaction, 43.3% medium, and 18.9% low. Low romantic satisfaction was more commonly reported by female than male participants (21.4% vs 14.8%).

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

> **"For sure, some days I would rather go and take a walk rather than stay in the house. I will go and tell stories with my friends until the stress is over. I just go find someone so at least we can talk."**
>
> **– Woman, 24-years-old**

Figure 7: Primary areas for social life among adolescents and young people in Mombasa aged 15-24 years old, by gender (n=1,230)



"You know in this world, not everyone who laughs with you loves you. So you have to look for a friend whose dreams are similar to yours."

- Woman, 23-years-old

Friendships

- **9.0%** of adolescents and young people have no friends
- **44.5%** of adolescents and young people have one friend
- **46.5%** of adolescents and young people have two or more friends

Different forms and levels of satisfaction

- **6.9%** of males and **9.45%** of females have low social satisfaction
- **9.9%** of males and **13.39%** of females have low familial satisfaction
- **14.8%** of males and **21.37%** of females have low romantic satisfaction

Social and family satisfaction impacts well-being!

- Adolescents and young people with high social satisfaction are **2.5** times more likely to have positive mental well-being
- Adolescents and young people with high family satisfaction are **2.2** times more likely to have positive mental well-being

Economic health

APPENDIX E

Socioeconomic factors are among the most important determinants of health, regardless of population or context [40]. For young people, especially those who are exiting school and entering the workforce for the first time, economic health is a pressing and formative concern.

In the health survey, adolescents and young people reported four configurations of school and work life: not working nor attending school (25.6%), attending school and not working (54.8%), working and not attending school (9.7%), and both working and attending school (10.0%). Among school-aged participants aged 10-17 years, 7.2% of boys and 9.7% of girls were not enrolled in school at the time of participation.

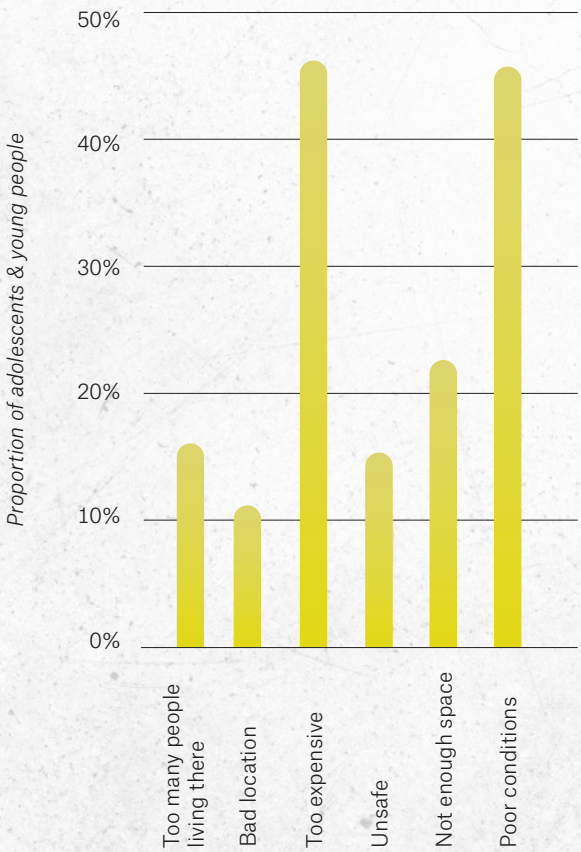
For those aged 18-24 years who were not enrolled in tertiary education, 48.5% reported no monthly income. Young women were more likely than young men to report no monthly income (54.6% vs 35.8%). Even among those who did report some income, the majority (58.1%) made less than 5,000 KES per month. The distinction for poverty in an urban setting like Mombasa, as per the Kenyan National Bureau of Statistics, is 7,193 KES per month [41], which means that over **78.4% of young people were living in poverty**. Young people living in poverty were much more likely than others to report poor access to healthcare (OR=2.36, 95%CI: 1.48-3.76); as noted earlier, cost was by-far the most commonly reported barrier to healthcare.

Food, water, and housing insecurity were faced by a high proportion of adolescents and young people. Overall, 50.7% said they had gone without food for two or more days in the week prior to participation, which was more common among young people than adolescents (53.0% vs 43.6%). Water insecurity was faced by 48.1% of health survey participants. Housing insecurity was reported by 25.6% of participants, and among those who did have stable housing less than half (48.1%) were satisfied with the conditions. Further, 8.9% of participants were simultaneously experiencing food, water, and housing insecurity.

These different forms of insecurity were strongly related to physical and mental health. Adolescents and young people with food insecurity were three times more likely to report poor physical health (OR=2.99, 95%CI:1.33-6.69) and 2.1 times were more likely to have indications of depression (OR=2.13, 95%CI:1.61-2.82). Similar effects were observed for other symptoms of 'poor economic health', underscoring the significant influence socioeconomic factors have in the health of these populations (see Table 2).

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

Figure 8: Among those with a stable place to live, concerns with housing among young people aged 18-24 years in Mombasa (n=798)



7.5%
of adolescents are not enrolled in school

31.0%
of young people have no employment or schooling

78.4%
of young people are living in poverty

50.7%
of adolescents and young people experience food insecurity

48.1%
of adolescents and young people experience water insecurity

25.6%
of adolescents and young people experience house insecurity

On the go!

Many adolescents and young people travel around Mombasa for school, work, or to access care:

- For those currently at school, **35.4%** matriculate outside their sub-county of residence
- For those with a job, **26.4%** commute from a different sub-county
- For those accessing youth friendly clinics, **49.0%** travel from a different sub-county

These findings suggest adolescents and young people are willing to travel in pursuit of opportunity and healthcare. They also reinforce the important of flexible and geographically diverse interventions to meet the needs of these populations close to where they live and spend their lives.

© Confidence/AdobeStock

Table 2: Associations[a] between insecurities (food, water, housing) and key health outcomes among adolescents and young people in Mombasa (n=1,405)

	Type of insecurity		
	Food	**Water**	**Housing**
Poor physical health	OR=2.99 95%CI: 1.33-6.96	OR=1.63 95%CI: 0.73-3.66	OR=3.89 95%CI: 1.91-7.91
Poor mental well-being	OR= 2.03 95%CI: 1.56-2.67	OR=1.73 95%CI: 1.31-2.28	OR=1.37 95%CI: 1.02-1.82
Indications of depression	OR=2.13 95%CI: 1.61-2.82	OR=1.73 95%CI: 0.79-3.79	OR=1.63 95%CI: 1.22-2.18

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

Digital lives, digital health

APPENDIX F

There is little question the digital world is now a significant factor of daily life in Kenya, including for adolescents and young people [42-44]. The idea of 'digital health' is about maximising the internet as a healthy social space while imagining how such technologies can be harnessed for promoting health and well-being.

In the health survey, the vast majority of participants – 86.2% – reported active use of social media. Generally, social media use was higher among boys and young men than girls and young women (90.1% vs 84.1%) and higher among young people than adolescents (93.6% vs 63.8%). On average, participants reported high levels of daily social media use: 25.5% used it one to two hours per day and 45.9% used it three or more hours per day.

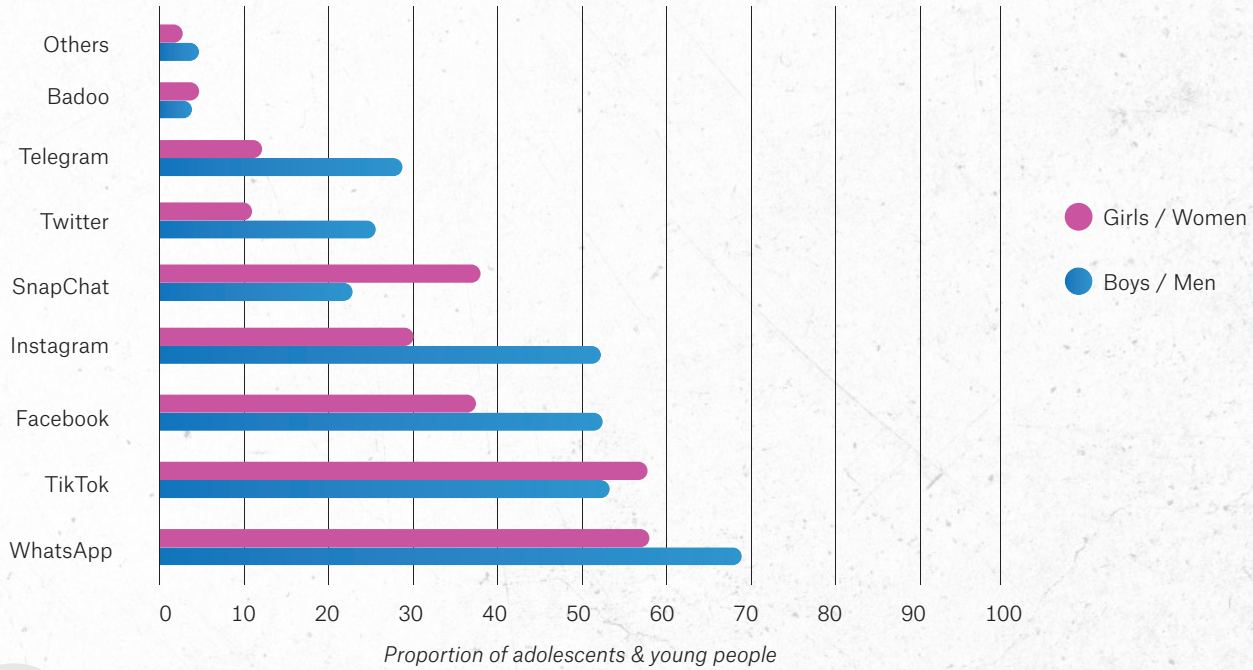
Social media was discussed in detail during the qualitative interviews, with the resulting data used to define its positive ('pros') and negative ('cons') dimensions. Generally, adolescents and young people perceived many positive dimensions of social media ranging from pure entertainment to professional opportunities and personal growth. At the same time, they were able to balance these against negative dimensions, including dangers to mental health, interruptions to daily life, and risks to safety and security.

Adolescents and young people in Mombasa use the most widely known social media platforms globally, including WhatsApp, Facebook, and TikTok. Additionally, 28.1% of those aged 15-24 years reported using websites and mobile apps for finding sexual or romantic partners (e.g., Tinder), including 15.9% who had done so in the six months prior to participation. The use of partner-seeking apps was more common among male than female participants (18.5% vs 14.3%) and much more common among young people than adolescents (30.0% vs 16.4%).

Regarding health, the majority of adolescents and young people thought the internet was a good source of health information (80.0%). When asked their primary source of health information, however, only 19.2% said the internet is the first place they look. This figure compares with 44.2% who rely on clinicians and 27.6% who turn first to their parents.

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

Figure 9: Social media platforms used by adolescents and young people in Mombasa, by gender (n=1,405)



Pros and cons of social media as perceived by young people in Mombasa

PROS

If I have stress, social media is where I go to relieve my stress... I usually check those funny videos that make me laugh"

- Woman, 24-years-old

- Enables information sharing
- Fosters community & connection
- Provides entertainment
- Facilitates personal expression
- Offers professional opportunities

CONS

On the negative side, most of us are not getting adequate sleep because we are on those apps. You can find yourself oversleeping and argue with your boss."

- Man, 23-years-old

- Threatens mental health
- Interrupts daily life
- Endangers safety & security

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86.2%

of adolescents and young people use social media.

45.9% use it 3 or more hours per day

28.1%

of adolescents and young people use partner-seeking apps

19.2%

of adolescents and young people use the internet as a primary source of health info

Disability and accessibility

APPENDIX G

There are many challenges to estimating the prevalence of disabilities, including varied definitions of what constitutes a 'disability' in Kenya and internationally. Although data from the 2019 Kenyan Census suggest 1.1% of adolescents and young people have some form of disability (including 0.8% in Mombasa County) [45], such figures are widely accepted to be serious underestimations [46]. The WHO estimates 16% of all people globally are living with some form of disability [47]. Through the health survey, disability status was assessed among participants aged 15-24 years using a simplified version of the Washington Group Questions [22].

Overall, in the survey sample 10.7% of adolescents and young people self-identified with some form of disability, including 3.4% who were blind or had some other serious vision impairment, 4.8% who were deaf or had some other serious hearing impairment, and 6.9% who had a mobility impairment. While additional items sought to assess cognitive and intellectual disabilities, these were not well understood by participants and, as a result, removed. The removal of such items likely explains the slightly lower prevalence of disability than might be expected.

The National Council for People with Disabilities is a key resource for these communities that can provide financial and other resources; only 18.9% of young people living with a disability reported being registered with the Council. Less than half of adolescents and young people with disabilities (44.7%) felt they could participate in the same activities as their peers. Further, **participants with disabilities were 2.5 times more likely to recently being unable to access necessary healthcare** (OR=2.49, 95%CI: 1.68-3.70). And yet, 59.3% of healthcare workers in Mombasa rated their dispensary as accessible, suggesting some disconnect between the perceptions of service providers and the experiences of patients.

To better engage experiences of patients, a series of individual and group interviews were conducted with two young people with disabilities (one cognitive and one physical). During one interview, participants were shown a youth friendly health service in Mombasa and asked to reflect on their perceptions. Using these data, a thematic analysis defined some characteristics of how to improve accessibility, including: enhancing both provider attitudes and physical infrastructure, empowering maximum autonomy for patients, managing privacy, and anticipating typical challenges.

While some of these characteristics are general ideals for healthcare, they take on special meaning in the context of disability. For example, one participant highlighted the challenges of maintaining privacy when an external person such as a carer or sign language interpreter is required to attend a consultation. Relatedly, participants spoke at length about how experience that might seem typical (e.g., long queues, having to visit multiple departments) can be uniquely challenging for people with disabilities.

More details on people with disabilities can be found in Appendix G.

1 in 10

adolescents and young people are living with some form of disability

22.6%

of adolescents and young people need but do not have access to corrective eyewear

Key features of an 'accessible' healthcare setting for adolescents and young people with disabilities

Enhances both provider attitudes and physical infrastructure

"I have realized that even though they may be kind to people with disabilities, the physical environment is not friendly.... Maybe I have said let me go and see a doctor today and explain a few things. But when I get there, I find going to see the doctor is a path of stairs and it is on the upper floors. The first thing is that I will get discouraged."

Empowers maximum autonomy

"What I would like to be done is if it someone with a disability comes, they should be left alone to take care of themselves. Why I am saying this is most people with disabilities don't like people feeling pity for them. We like to be given freedom because there are some things for which it is not appropriate to be given assistance."

Anticipates typical challenges

"That a youth who has a disability, they should not wait for a long time. There is difficulty concentrating and forgetfulness ... Don't make that youth wait for a long time in the queue. They will feel irritated."

"Because the more you keep them waiting on the wheelchair, the more they get tired. So they feel discouraged fast."

Manages privacy

"She has said that if they find a client who communicates using sign language, they have to call someone they talk to them through video call so that they cooperate. But I think that is not good because if I have come to the hospital to see you, another person should not know my personal things."

Drugs and alcohol

APPENDIX H

In the health survey, 30.0% of adolescents and young people reported consuming alcohol, including 20.7% who had done so in the six months prior to participation. Alcohol consumption was generally higher among boys and men than girls and women (38.5% vs 24.2%). A total of 15.1% of participants had ever consumed cigarettes – including 7.1% recently – which was much higher among male than female participants (22.6% vs 11.0%). The median number of cigarettes consumed in a week was 14 (IQR:3-30). Some participants reported consuming other tobacco-based products, including 2.0% who used tumbaku (loose tobacco often rolled and smoked) and 0.4% Kuber (smokeless tobacco typically held in the mouth for absorption).

Regarding other drugs, 21.1% reported any use and 15.0% recent use. As with alcohol, use of other drugs was generally higher among male than female participants (38.5% vs 24.2%). A total of 2.5% of adolescents and young people had ever injected drugs, including 2.0% who had done so recently, which was much higher among boys and men than girls and women (3.8% vs 1.8%). Very few participants under the age of 18 years reported previous experiences of injecting (n=3). By far the most commonly used drug was alcohol, followed by cigarettes, marijuana, and mugoka, jabba, or khat.

Using the CAGE Substance Abuse Screening Tool [23], 17.1% of adolescents and young people aged 15-24 years had indications of substance abuse, including 5.6% who had very high indications. Indications of substance abuse were higher among male than female participants (24.5% vs 12.8%) and much higher among young people than adolescents (18.7% vs 6.2%). These estimates of substance use and abuse are comparable to other studies with adolescent and young samples in Kenya [48]. Among those with indications of abuse, 23.3% had previously received support while **28.1% of adolescents and young people wanted help to manage their substance use**.

Stigma towards people who use drugs was assessed among healthcare workers in Mombasa via the Bogardus Social Distance Scale [24]. The majority of healthcare workers had low levels of stigma towards people who use drugs (54.7%), although 22.5% of clinicians and 27.8% of non-clinicians had high levels. Overall, 7.5% of clinicians said they would refuse care to someone who uses drugs.

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

Figure 10: Drugs used (ever) by adolescents and young people aged 15-24 years old in Mombasa, by gender (n=1,230)

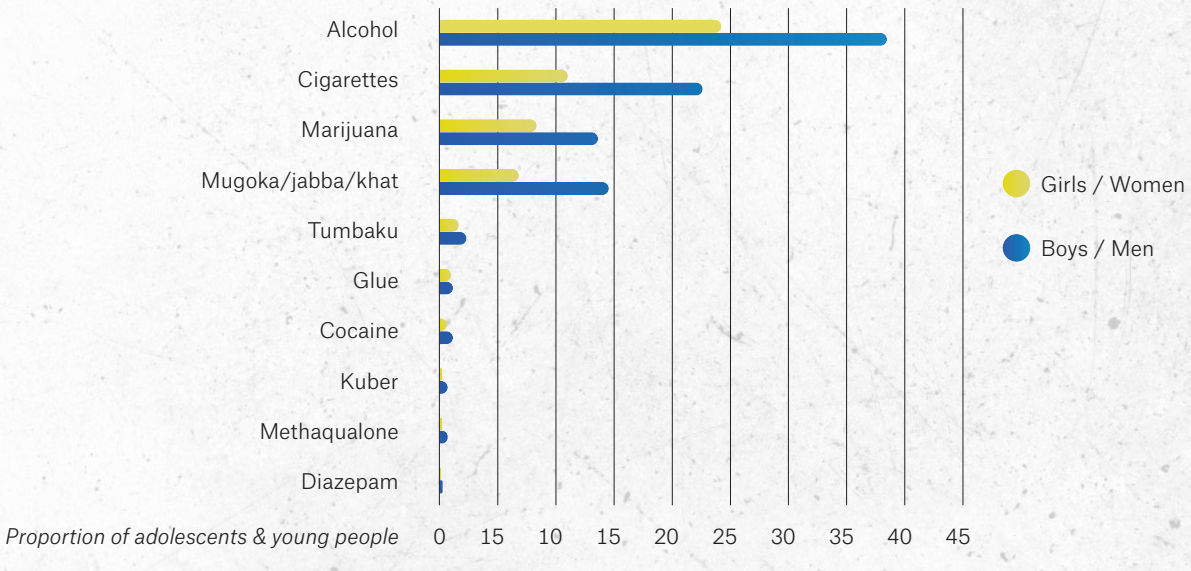
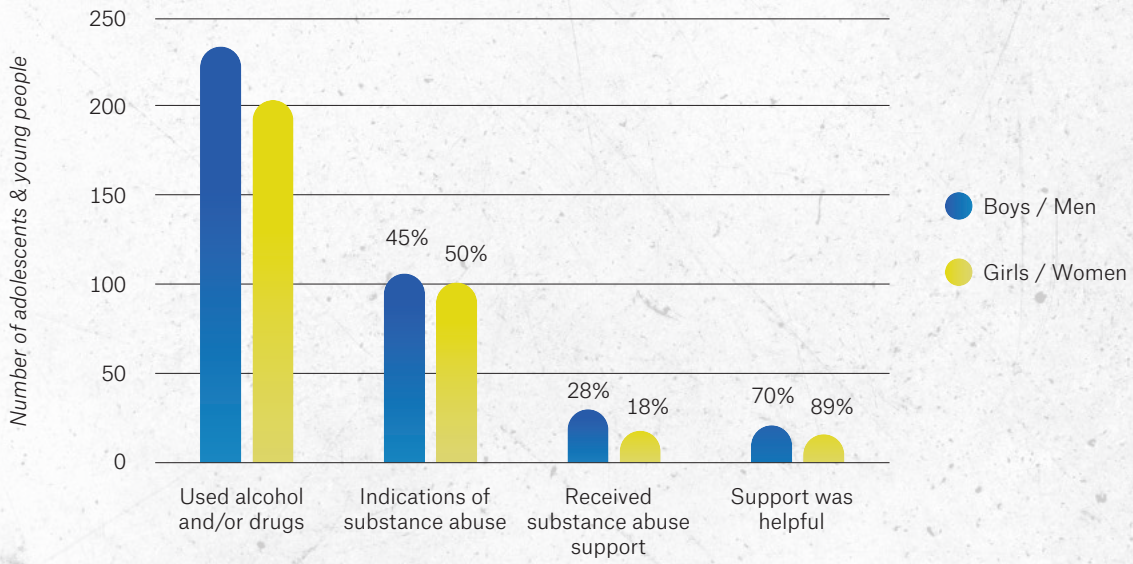


Figure 11: Cascade of substance use, abuse, support, and success among adolescents and young people aged 15-24 years in Mombasa[a], by gender (n=1,230)



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

> **"I would say it was a learning experience. Yeah. Not only book- wise, but I got to learn a lot about life because during that time is the time when I experimented so many things... That was where I first started doing drugs, I would say, out of the pressure I got from school, my seniors. But I thank God, despite all that, I was able to complete my studies."**
>
> **– Man, 22-years-old**

20.7% use alcohol

7.1% smoke cigarettes

14.9% use illicit drugs

2.0% inject drugs

Two out of three adolescents and young people who inject drugs report sharing equipment

Sexual & reproductive health

APPENDIX I

Reproductive health

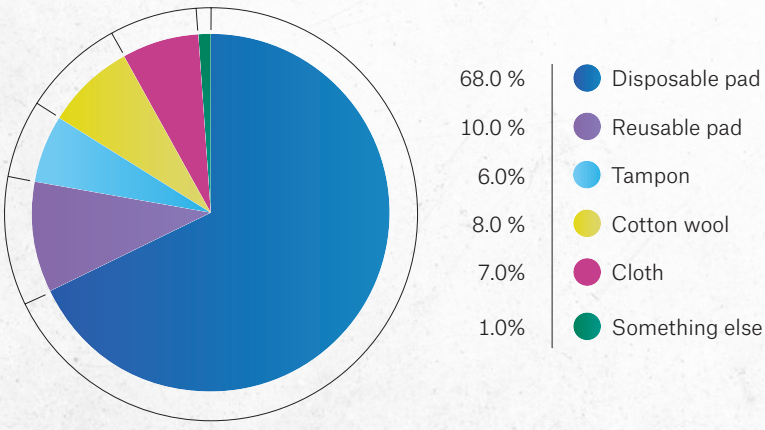
Among the 925 girls and women who participated in the health survey, 22.6% reported previous pregnancy. Among adolescents aged 10-17 years, 5.2% had ever been pregnant, which was the case for 29.7% of young women aged 18-24 years. At the time of participant 16.3% of girls and women were pregnancy while 21.2% (n=43) had given birth in the 12 months prior. Among those who had recently given birth, 37.2% said they had participated in some kind of 'new mother' program, while most (62.8%) said they had received a high level of support from their families and communities.

The WHO defines early pregnancy as one that occurs before the age of 20 years old [49], which was the case for 53.8% of girls and women in this sample. Further, 72.6% of participants said their first pregnancy was unplanned. Stigma towards early (sometimes known as 'teenage' or 'adolescent') pregnancy was assessed among healthcare workers using the Adolescent Sexual and Reproductive Health Stigma Scale [25]. While most had low levels of stigma towards early pregnancy (72.5%), 22.5% had medium stigma, and 4.9% high. There were no observed differences in levels of stigma between clinical and non-clinical staff.

The majority of girls and women aged 15-24 years reported menstruation (97.0%), with most preferring disposable pads as their product of choice (77.0%). Over one third (37.5%) said they had recently struggled to access menstrual products. In total, 60.2% of girls and women were sexually active and of these 62.0% were using some form of contraception. Male condoms were the most common contraception reported (35.8%), followed by injectable options like Depo-Provera (27.6%).

Induced termination of pregnancy was reported by 20.2% of girls and women, of which 24.4% had experienced complications or negative effects. While not directly comparable, these rates are similar to previously reported national estimates in Kenya [50]. A similar proportion of male participants (19.5%) said at least one of their female partners had terminated a pregnancy, noting that 6.0% were unsure. Generally, adolescents and young people had mixed views on termination of pregnancy: 30.0% had low stigma, 31.5% medium stigma, and 38.5% high stigma. By comparison, healthcare workers mad much less stigma towards termination of pregnancy: 54.9% low, 32.4% medium, and 12.8% high.

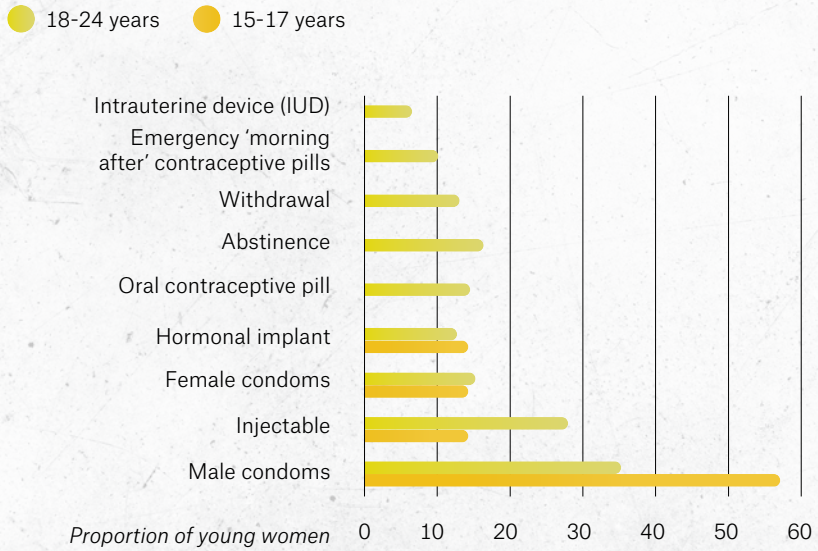
Figure 12: Preferred menstrual product among adolescent girls and young women in Mombasa



1 in 3

girls and young women struggle to access menstrual products

Figure 13: Types of contraception[a] used by sexually active young women aged 15-24 years in Mombasa, by age (n=282)



a. Participants could select multiple options; 77.1% reported using only one form of contraception

1 in 3

sexually active adolescents and young people struggle to access condoms or lube

1 in 3

adolescents and young people received no or poor-quality sexual health education at school

Sexual health

Among participants in the health survey, 56.2% were sexually active, including 64.3% of male participants and 51.7% of female participants. While most adolescents and young people had their sexual debut between the ages of 18-24 years (59.3%), four out of ten (40.7%) were 17 years or younger at the time of their first sexual experience. Only a small number of participants (n=11; 3.5%) reported their first sexual partner was more than 10 years older at the time.

Condom use was generally quite low among sexually active adolescent and young people in Mombasa: only 23.0% reported always using them always during penetrative sex, while 46.7% used them sometimes, and 30.3% never. Limited education may have played a role, **as only 27.6% of young people who attended high school felt they received helpful education on sexual health**, while 33.8% said they received poor education or none at all. Access may also have played a part in poor use of condoms. Some participants (27.9%) reported struggling to access condoms in the six months prior to participation, while one third (34.3%) struggled to access personal lubricants. It is notable that in 2023, Kenya experienced a widely reported national shortage of condoms for public distribution [51].

The majority of adolescents and young people had been tested at least once previously for HIV (69.4%), including 46.8% in the six months prior to participant. Among the overall sample, 65.4% identified themselves as HIV negative, while 4.4% were living with HIV and 30.2% were of unknown or unreported status. This prevalence of HIV is very close to current UNAIDS estimates for the general population of Kenya (4.0%) although higher than those specific to adolescents and young people (2.1% females, 1.2% males) [52]. In contextualising this prevalence, however, it is notable that around 20% of the total sample were recruited directly from clinical sites and services providing HIV testing and treatment.

Among HIV negative and unknown participants, 45.2% were aware of HIV pre-exposure prophylaxis (PrEP) as a method of prevention, while 8.5% were using PrEP or had used it previously. Among those living with HIV, most were accessing antiretroviral treatment (61.5%), although 13.5% had discontinued its use and the 25.0% were treatment naïve.

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

Violence

APPENDIX J

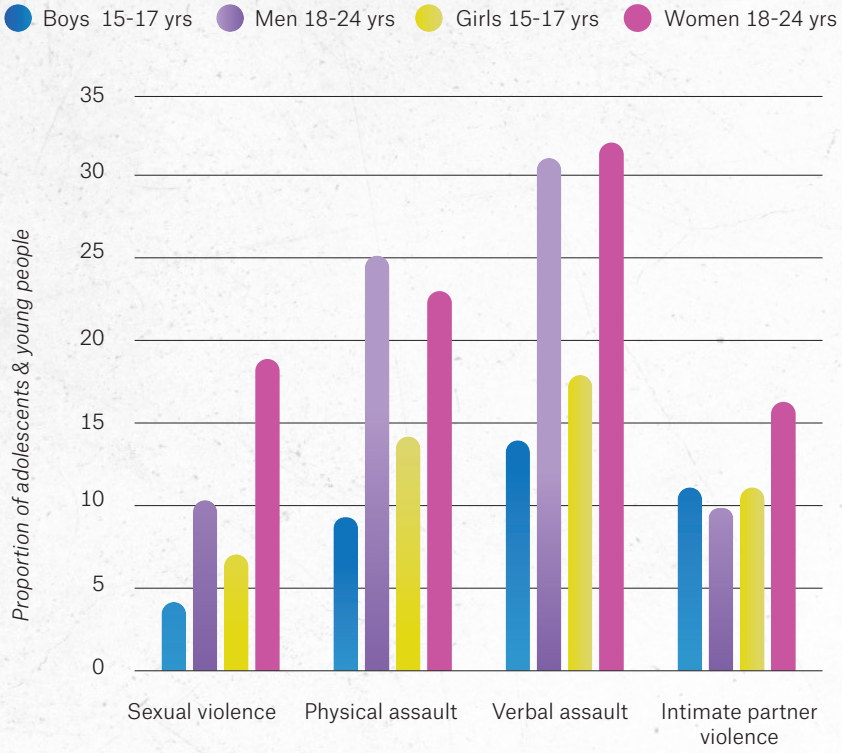
Adolescents and young people in the health survey reported diverse experiences of sexual and other forms of violence. In terms of sexual violence and coercion, 13.7% reported ever having such an experience, including 15.5% of female participants and 9.2% of male participants. Of those who had experienced sexual violence, only a minority (41.4%) had told someone or sought help and help-seeking was lower among boys and men than girls and women (33.3% vs 44.7%). Regarding perpetration of sexual violence, 8.2% of participants viewed consent from sexual partners as 'unimportant'.

Stigma towards survivors of sexual violence was assessed among adolescents and young people as well as healthcare workers using the Illinois Rape Myth Scale [26]. Most adolescents and young people had low stigma towards sexual violence (48.9%), although 12.4% did report highly stigmatising attitudes (15.0% of male and 11.0% of female participants). Generally, healthcare workers had low levels of stigma towards survivors of sexual violence: 65.3% had low stigma, 27.9% medium, and 6.8% high stigma.

Other forms of violence were relatively more common. Physical assault was experienced by 22.4% of adolescents and young people (10.6% recently), while verbal assault was experienced by 29.7% (14.3% recently). A further 13.8% had experienced intimate partner violence including 15.9% of girls and women and 9.9% of boys and men. With the slight exception of physical assault, women aged 18-24 years were the most likely to experience all forms of violence compared to other ages and genders.

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

Figure 14: Experiences of violence among adolescents and young people aged 15-24 years old in Mombasa, by gender and age (n=1,230)



41.4%

of adolescents and young people who experienced sexual violence told someone or sought help

Needs and priorities

APPENDIX K

Through several different exercises, adolescents and young people were asked to share their needs and priorities. Notably, the health survey ended with a simple open-ended item: *Please tell us the single greatest health need (physical or mental) you are currently facing*.

Participants responded to this question in diverse ways, which were organised into simple thematic categories. **Mental health support was, by far, the most common need shared by adolescents and young people** (indicated by 34.6%). As one wrote, "I want to know how to manage my mental health," while another shared: "mentally, I am not doing OK".

The second single greatest need shared by participants was for socioeconomic support (indicated by 10.4%). Many wrote about their struggles finding work, for example: "I have studied for long in the university, and my single mother can't see any fruits in me coz i don't have a job yet and i can't provide for myself." Interestingly, some adolescents and young people explicitly linked their economic and mental health. "I have depression from being broke," wrote one, while another needed mental health support to deal with the "stress of losing a job (am kinda depressed)".

Beyond health, participants were asked to rank the most important things in their lives. They were able to choose from a pre-determined list, with responses analysed to produce a hierarchy of life priorities. The identified 'Top 3' were somewhat different between those aged 10-17 years and those 18-24 years. In order, adolescents ranked their top life priorities as: (1) Family, (2) God and religion, and (3) School. By comparison, young people ranked their priorities as: (1) God and religion, (2) Family, and (3) Money. Given the different life stages of these two populations, such differences are unsurprising, but they do reinforce a need to understand adolescents and young people as related but ultimately distinct populations.

God and religion were clearly very important to these populations, which is why 84.0% said religion was a central part of their daily life. And although health did not reach a Top 3 life priority, it placed fourth for both ages groups. The importance of health was underscored by a participant in the qualitative cohort, who ranked it first and explained their ranking thus: "Health is wealth, I would rather stay poor and alone instead of going for diagnosis every now and then. Family and friends will desert you when you are sick. The community and school will disappoint you when you are desperately needing their help."

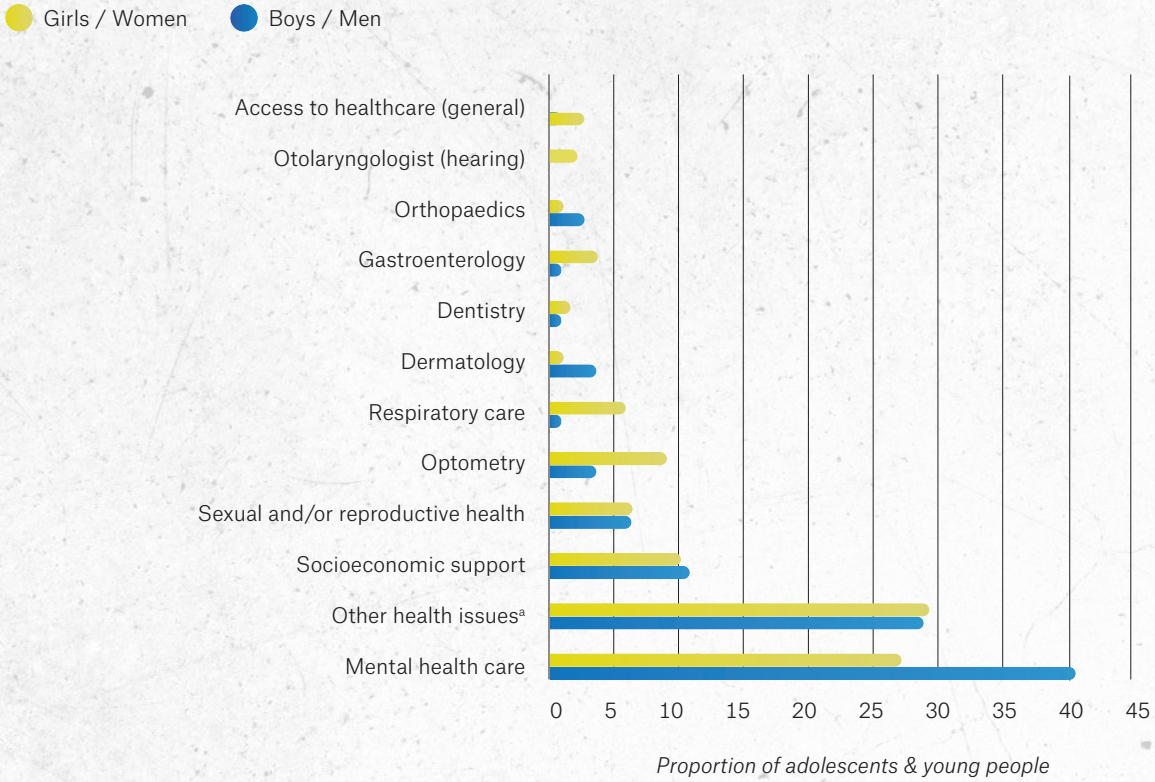
Interestingly, while the planet and environmental issues ranked low for both adolescents and young people, over half of participants (58.9%) nevertheless reported being 'concerned' or 'very concerned' about climate change.

More details on needs and priorities of adolescents and young people can be found in Appendix K.

6 out of 10

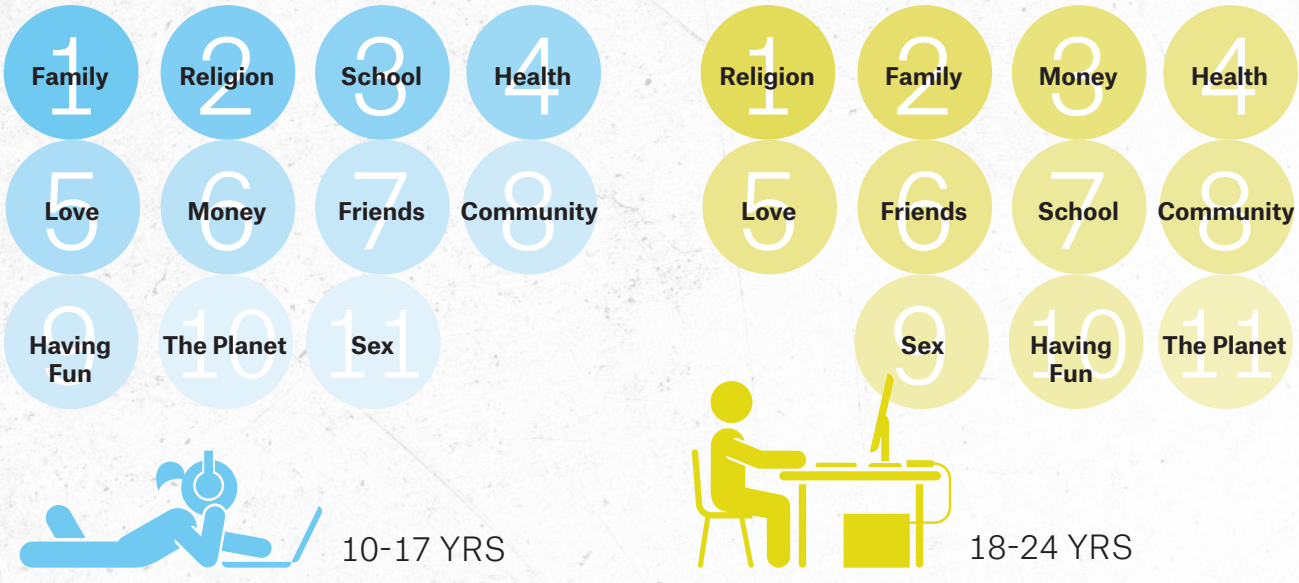
adolescents and young people are concerned about climate change

Figure 15: Priority health needs among adolescents and young people aged 15-24 years in Mombasa, by gender (n=301)



a. Other health issues are those with <4 responses (e.g., physiotherapy, disability support)

Figure 16: Life priorities among adolescents and young people, by age



Conclusions and recommendations

Baseline results from the *Mombasa Youth Study* make clear that adolescents and young people in Mombasa lead diverse lives and face many challenges to their health and well-being. Alongside the general challenges of growing up – navigating adolescence and the transition into early adulthood – they are also faced with social and structural factors that impede access to healthcare and, in some cases, are detrimental to their mental and physical health.

The purpose of this study is to share knowledge that can guide action, inform policy, and support implementation of the *Mombasa County Adolescent and Young People Strategy on Health* [13]. To those ends, a series of workshops were held with study investigators, government and community stakeholders, and young people themselves to review the results and propose tangible recommendations. While the ultimate goal of these efforts is to improve population health and well-being, the resulting recommendations speak to diverse actors within and beyond health.

The recommendations provided here seek to highlight some of the most pressing and significant results; they are by no means an exhaustive account of what was learned or what needs to be done. With this in mind, the primary recommendations arising from this study are as follows:

1. Mental health support for adolescents and young people must continue to expand.

Adolescents and young people in Mombasa consistently named mental health care as their primary unmet need, far greater than any other. This focus is not surprising, as they face low levels of well-being and concerning levels of depressive symptoms. It is also troubling that more than one in ten have indications of suicidality. At the same time, mental health stigma among clinicians remains too high, especially as adolescents and young people themselves highlight the need for an integrated, non-judgmental, and normalized approach to mental health care.

Based on these findings, it is clear that mental health programs for adolescents and young people must continue to expand in Mombasa. Promisingly, there is already work underway to support mental health care for these populations, including some driven by young people themselves [53]. Further, mental health is increasingly integrated into youth friendly health services, and is central to the county's current youth strategy [13]. To combat enduring stigma, however, implementation of youth mental health interventions should prioritise sensitisation trainings, value clarification workshops, and other learning initiatives for healthcare workers. Importantly, such work should be properly evaluated to generate much needed evidence on which anti-stigma strategies are effective in the Kenyan context [54].

Despite numerous efforts to improve mental health and care for adolescents and young people, the study results highlight that much work is yet required. As discussed in subsequent recommendations, there are many reforms and strategies that can have flow-on effects to mental health and related care. Beyond these, however, significant financial investments are required to employ more mental health professional towards ensuring that care – in and out of health services – is accessible, equitable, and effective for adolescents and young people.

2. Investing in the economic health of adolescents and young people is essential to public health.

In Mombasa, adolescents and young people face incredibly high rates of food, water, and housing insecurity. Young people 18-24 years old are particularly affected by these insecurities, with more than three quarters living below the national standard for urban poverty. Each of these forces strongly relates to poor mental and physical health and impede access to healthcare. It is, therefore, not surprising that cost was the most prominent barrier to healthcare experienced by adolescents and young people. Relatedly, only one in five young people have any form of health insurance.

Many youth friendly health services offer free consultations, and access to healthcare was better for those who used such services. Even with free consultations, however, accessing health services often bears other associated costs including transportation to-and-from appointments, required

pathology testing, and any resulting medications. Interventions to address economic barriers to healthcare should think beyond the immediate consultation to encompass other costs of access.

To address poverty and alleviate food, water, and housing insecurity, different forms of immediate intervention are needed. These could include expanding school-lunch and other food provision programs, addressing community-level water sanitation and supply issues, and supporting more social housing options, especially in poorer sub-counties and informal settlements. Urban flooding and other environmental disasters linked to climate change make the need to address housing even more pressing [55]. Interventions to alleviate poverty are also needed and could include programs to increase financial literacy, expand vocational training, and provide greater linkage to training and funding for small business opportunities.

On a grander scale, major structural interventions are needed to improve the economic health of adolescents and young people in Kenya. Job creation policies, strategies to improve employability, skill and capacity building initiatives, and other large-scale innovations are all part of this need. Clearly, such efforts will take concerted effort from many government departments and non-government partners. This point is important, and suggests that greater linkage between health and other areas of investment and expertise are needed to challenge siloed approaches and improve awareness of and connection to diverse resources.

While economic issues may seem tangential, they are perhaps the single greatest determinant of health for adolescents and young people in Mombasa. It is key, therefore, to understand that **investments in economic health are investments in public health**. Indeed, the county's current youth health strategy lists the improvement of economic conditions as one of its primary objectives [13].

3. Interventions are needed to promote physical activity among adolescents and young people.

The study found that only a minority of adolescents and young people are physically active at levels appropriate for their age [28]. As would be expected, low levels of physical activity are linked to poorer physical and mental health among these populations, underscoring the significance of this gap. Given that so many adolescents and young people – especially boys and men – view sports fields and clubs as their primary social space, there are many potential benefits from investing in physical activity. Indeed, activities to promote physical health – including but not limited to group sport – have been shown to improve social satisfaction and cohesion among diverse populations [56], which could thus address another important need for adolescents and young people in Mombasa.

Health promotion activities must continue to advocate for physical activity as an essential part of health and well-being. Notably, the national life curriculum for adolescents, *Understanding Adolescence,* specifically recommends regular physical activity [8]. Educational environments should, therefore, prioritise such opportunities especially given the rising popularity of social and other forms of digital media. Outside of school and especially for young adults, resources for physical activities and programs are needed to promote health. Ensuring such activities are free for participants, geographically distributed, and welcoming to all are important for maximising uptake and retention.

4. Digital literacy and digital health interventions should be prioritised for adolescents and young people.

As is increasingly common globally, adolescents and young people in Mombasa are avid users of social media, with many spending several hours each day engaged in these digital worlds. While recognizing many benefits of social media such as entertainment, information exchange, and professional opportunities, these populations are also aware of some risks. Experiences like cyberbullying, negative comments and 'trolling', exposure to unwanted sexual content, and violation of privacy were highlighted as negative features in the online experience.

To support health and safety online, health promotion and other educational initiatives should expand to encompass digital literacy and other key skillsets. Promisingly, *Understanding Adolescence* devotes a whole section to social media and the internet [8], and through its digital literacy program the Kenyan federal government has introduced specialized training and resources to nearly 100 primary schools in Mombasa County [57]. Sustentation of

such programs along with equitable distribution to poorer areas and informal settlements is vital. Such interventions should also consider how the digital literacy of parents can be expanded, as they can play a central role in guiding young people towards a safe and healthy digital life.

Beyond digital literacy, greater investment is needed to harness social media and other digital technologies to improve access to health and healthcare. Innovative digital health promotion could deliver evidence-based information directly to adolescents and young people, while access to mental health care could be increased through tele- and video-consultation options. Such programs will require both technical and financial resources and must be implemented with full appreciation of data protection and privacy. Drawing upon lessons learned about tele-health during the COVID-19 pandemic can help ensure such efforts are a success.

5. Renewed efforts to provide comprehensive education and supplies to support sexual and reproductive health among adolescents and young people are needed.

The current *Mombasa County Adolescent and Young People Strategy on Health* lists improving sexual and reproductive health outcomes as a primary objective [13]. Despite this focus, among sexually active adolescents and young people in Mombasa, rates of consistent condom use are low while rates of early and unplanned pregnancy are high. Troublingly, many have difficulties accessing condoms and, among girls and young women, one third struggle to access menstrual products.

In Mombasa, numerous services and programs already exist to support sexual and reproductive health. Despite these important activities, results from this study suggest an expanded, renewed or reimagined approach is required. Notably, many programs already exist to provide condoms and menstrual products free-of-charge, but these often face shortages and interruptions to delivery [51, 58]. Ensuring such programs can effectively deliver on their mandates is vital.

Regarding key knowledge of sexual and reproductive health, it is significant that one third of adolescents and young people in Mombasa either did not receive any such education while at school or rated the education they did receive as 'poor'. Redesigning how sexual and reproductive health are taught in school settings may be warranted, with adolescents and young people themselves engaged to help design an effective curriculum tailored to their diverse needs and lived experiences. Further, given the trusted role that families play in the lives of adolescents and young people, initiatives are needed to empower parents to have productive and effective conversations about sexual and reproductive health.

6. Interventions and services for adolescents and young people must embrace accessibility for people with diverse disabilities.

Many adolescents and young people are living with disabilities, including those related to sight, hearing, and mobility. Only a minority of adolescents and young people with disabilities felt they could participate in the same activities as their peers, and they were two and half times more likely to struggle accessing healthcare. Similarly, only around 40% of healthcare workers rated their youth friendly service as accessible. In conversation with young people who have disabilities, issues of autonomy, infrastructure, healthcare worker attitudes, wait times, and privacy stand out as major challenges to accessibility.

All youth friendly services and programs in Mombasa should review operations to identify opportunities to improve accessibility for people with disabilities. Ideally, this review should be carried out in consultation with advocacy groups and young people with disabilities to ensure any changes are acceptable and appropriate. Some health services in Mombasa have already undertaken such work, which can provide learning opportunities for translation elsewhere [59].

Digital interventions may also help improve accessibility among this population, especially for mental health care. A further issue for adolescents and young people with disabilities is low rates of registration with National Council for People with Disabilities. The council can provide access to a range of health and financial services; with only one in five adolescents and young people with disabilities registered in Mombasa, programs to increase uptake of this important resource are needed.

7. Strategies to reduce sexual violence and improve help-seeking are needed for adolescents and young people.

Around one in ten adolescents and young people in Mombasa have experienced some form of sexual violence or coercion, while less than half sought help or even told someone about their experience. Stigma and shame are likely explanations for the low rates of help-seeking, and it is notable that more than half of adolescents and young people maintain medium-high levels of stigma towards survivors of sexual violence. Further, one third of healthcare workers at youth friendly services also held stigmatizing attitudes towards sexual violence. Given the significant negative effects sexual violence can have all aspects of health and development, strategies are needed to reduce stigma and otherwise support those affected.

There are many ongoing efforts to address sexual violence in Mombasa. For example, 2023 saw the launch of a major Gender Based Violence Rescue Centre to support survivors [60]. Despite this and other programs in the county, rates of help-seeking remain far too low. As mentioned, initiatives to destigmatize sexual violence among healthcare workers could help create safer spaces for disclosure and support, while health promotion work should continue to disseminate information on where and how to seek help.

Importantly, help-seeking is lowest among boys and men, suggesting they may require specialised resources and support. In addition to supporting survivors, educational programming should seek to prevent sexual violence in the first. Around one in ten adolescents and young people were ambivalent about consent before sex, suggesting a need for focused efforts to improve understandings of negotiation and consent.

8. Additional recommendations and considerations.

As noted, there are many other possible actions suggested by results of the *Mombasa Youth Study*. Across all recommendations, it is clear that **greater efforts are needed to empower parents as an effective resource**, and it is notable that one in four adolescents and young people turn first to their parents for information on health. Involving parents and other caregivers in health promotion and capacity building is vital, especially to ensure they are empowered with evidence-based information and guidance.

Support for use of alcohol and other drugs is another clear priority. Many adolescents and young people in Mombasa regularly use alcohol along with drugs like cigarettes, marijuana, and mugoka, khat, and jabba. Indications of abuse are prevalent among these populations, while one in four are interested in support to manage or reduce their use. Youth-tailored programs that focus on these 'lighter' substances are warranted and should be an ongoing focus of health promotion initiatives.

Suggested throughout this report is a **need to support the social health and well-being of adolescents and young people.** This period of life is one where many form news friendships that can be incredibly formative; ensuring these are supportive, healthy, and safe is essential. As part of this work, expanding access to safe non-commercial social spaces is important and programs that encourage time spent in nature could have many benefits. Generally, enhancing social health will have flow-on effects for adolescents and young people, including to improve their mental health and well-being.

Finally, it is **essential that adolescents and young people are actively engaged in every step of intervention.** As experts of their own lived experiences, these populations can provide vital information that fully reflects their diverse lives and encompasses their most urgent needs. Fortunately, Mombasa hosts programs like the Youth Advisory Champions for Health and other similar initiatives that empower adolescents and young people to have a voice in this discussion. Investments to expand such initiatives and ensure they incorporate a wide range of intersectional representation is key to their ongoing success.

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

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Appendices

Appendix A: Participant demographics

Table A.1 Sociodemographic characteristics of participants in the adolescent and youth health survey, by gender and age (n=1,405)

			Boys / Men						Girls / Women					
	Total		10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Gender														
Boy / man	473	33.67												
Girl / woman	925	65.84												
Other [a]	7	0.50												
Age at time of participation														
10-17 yrs old	352	25.05	83	17.55			83	17.55	268	28.97			351	25.11
18-24 yrs old	1053	74.95			390	82.45	390	82.45			657	71.03	1047	74.89
Sub-county of residence [b]														
Changamwe	33	2.35	2	2.41	9	2.31	11	2.33	2	0.75	20	3.04	22	2.38
Jomvu	14	1.00	2	2.41	6	1.54	8	1.69	2	0.75	4	0.61	6	0.65
Kisauni	774	55.13	53	63.86	165	42.31	218	46.09	186	69.40	366	55.71	552	59.68
Likoni	53	3.77	7	8.43	23	5.90	30	6.34	4	1.49	18	2.74	22	2.38
Mvita	210	14.96	10	12.05	69	17.69	79	16.70	35	13.06	94	14.31	129	13.95
Nyali	321	22.79	9	10.84	118	30.26	127	26.85	39	14.55	155	23.59	194	20.97
Country of birth														
Kenya	1401	99.72	83	100	390	100	473	100	268	100	653	99.39	921	99.57
Tanzania	1	0.07	0	0	0	0	0	0	0	0	1	0.15	1	0.11
Somalia	2	0.14	0	0	0	0	0	0	0	0	2	0.30	2	0.22
Uganda	1	0.07	0	0	0	0	0	0	0	0	1	0.15	1	0.11
Enrolled in education (any level)														
No	495	35.23	7	8.43	140	35.90	147	31.08	27	10.07	317	48.25	344	37.19
Yes	910	64.77	76	91.57	250	64.10	326	66.92	241	89.93	340	51.75	581	62.81
Highest level of education (enrolled/achieved) [c]														
None	16	1.16	1	1.25	4	1.03	5	1.06	1	0.40	10	1.53	11	1.22
Primary	320	23.18	48	60.00	27	6.92	75	15.96	161	64.66	84	12.82	245	27.10
High	512	37.10	30	37.50	132	33.85	162	34.47	83	33.33	265	40.46	348	38.50
College	425	30.79	1	1.25	176	45.13	177	37.66	4	1.61	240	36.64	244	26.99
University	107	7.76	0	0	51	13.08	51	10.85	0	0	56	8.55	56	6.19

a. Those participants who described their gender as 'other' (e.g., intersex) are included in totals but not included in stratification by gender

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

c. Data on education level missing for 25 participants

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

Participant #	Gender	Age	Highest education	Sub-county	Employment status	Disability status	Parent
1	F	24	High School	Kisauni	Unemployed	None	Yes
2	M	19	College	Nyali	Unemployed	None	No
3	M	22	University	Nyali	Unemployed	None	No
4	M	22	College	Mvita	Unemployed	None	No
5	M	24	University	Nyali	Unemployed	None	No
6	F	24	College	Kisauni	Unemployed	None	Yes
7	F	21	College	Kisauni	Unemployed	None	No
8	F	18	Primary School	Mvita	Self-Employed	None	No
9	M	24	College	Kisauni	Self-Employed	Cognitive	No
10	F	23	College	Nyali	Self-Employed	Physical	No

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

Appendix B: Physical health and hygiene

Table B.1. Physical health and hygiene among adolescents and young people in Mombasa, by gender and age (n=1,405)

			Boys / Men						Girls / Women					
	Total		10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Self-reported physical health														
Poor-terrible	32	2.28	2	2.41	5	1.28	7	1.48	10	3.73	15	2.28	25	2.70
Average	318	22.63	13	15.66	68	17.44	81	17.12	42	15.67	193	29.38	235	25.41
Excellent-good	1055	75.09	68	81.93	317	81.28	385	81.40	216	80.60	449	68.34	665	71.89
Hygiene														
Wash hands after bathroom														
Rarely	121	8.61	10	12.05	43	11.03	53	11.21	10	3.73	57	8.68	67	7.24
Sometimes	336	23.91	23	27.71	116	29.74	139	29.39	39	14.55	155	23.59	194	20.97
Always	948	67.47	50	60.24	231	59.23	281	59.41	219	81.72	445	67.73	664	71.78
Brush/clean teeth														
Rarely	37	2.63	3	3.61	11	2.82	14	2.96	8	2.99	15	2.28	23	2.49
Sometimes	152	10.82	8	9.64	52	13.33	60	12.68	23	8.58	68	10.35	91	9.84
Always	1216	86.55	72	86.75	327	83.85	399	84.36	237	88.43	574	87.37	811	87.68
Physical activity (average days per week)														
None	288	20.50	14	16.87	41	10.51	55	11.63	47	17.54	184	28.01	231	24.97
1-2	469	33.38	19	22.89	109	27.95	128	27.06	99	36.94	241	36.68	340	36.76
3-5	495	35.23	24	28.92	173	44.36	197	41.65	99	36.94	195	29.68	294	31.78
6-7	153	10.89	26	31.33	67	17.18	93	19.66	23	8.58	37	5.63	60	6.49
Vaccinated for SARS CoV-2														
No	601	42.78	52	62.65	132	33.85	184	38.90	189	70.52	228	34.70	417	45.08
Yes	785	55.87	29	34.94	254	65.13	283	59.83	72	26.87	424	64.54	496	53.62
Unsure	19	1.35	2	2.41	4	1.03	6	1.27	7	2.61	5	0.76	12	1.30

Table B.2 Access to physical health care among adolescents and young people in Mombasa, by gender and age (n=1,230) [a]

	Total		Boys / Men						Girls / Women					
			15-17 years		18-24 years		All ages		15-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
General access to healthcare														
Poor-terrible	353	28.70	6	13.95	113	28.97	119	27.48	26	19.40	207	31.51	233	29.46
Average	301	24.47	12	27.91	102	26.15	114	26.33	26	19.40	159	24.20	185	23.39
Excellent-good	576	46.83	25	58.14	175	44.87	200	46.19	82	61.19	291	44.29	373	47.16
Quality of available healthcare [b]														
Poor-terrible	14	1.60	2	5.41	6	2.17	8	2.55	1	0.93	5	1.11	6	1.08
Average	132	15.05	3	8.11	46	16.61	49	15.61	13	12.04	66	14.67	79	14.16
Excellent-good	731	83.35	32	86.49	255	81.23	257	81.85	94	87.04	379	84.22	473	84.77
Health insurance [c]														
No	799	75.88			289	74.10					507	77.17		
Yes	216	20.51			86	22.05					128	19.48		
Unsure	38	3.61			15	3.85					22	3.35		
Recently unable to access necessary healthcare														
No	589	47.89	18	41.86	210	53.85	228	52.66	60	44.78	297	45.21	357	45.13
Yes	641	52.11	25	58.14	180	46.15	205	47.34	74	55.22	360	54.79	434	54.87
Reason for not receiving healthcare [d]														
Cost	243	76.66	4	57.14	80	72.73	84	71.79	16	94.12	143	79.44	159	80.71
Distance (too far)	15	4.73	0	0	3	2.73	3	2.56	0	0	12	6.67	12	6.09
Stigma	22	6.94	1	14.29	10	9.09	11	9.40	1	5.88	9	5.00	10	5.08
No time	25	7.89	1	14.29	12	10.91	13	11.11	0	0	10	5.56	10	5.08
Poor services / structural issues	12	3.79	1	14.29	5	4.55	6	5.13	0	0	6	3.33	6	3.05

a. Only asked of participants aged 15 years and older (n=1,230)

b. Only asked of participants with average or better healthcare access (n=877)

c. Only asked of participants aged 18 years and older (n=1,053)

d. This item was optional and completed by 317 participants who reported recently being unable to access healthcare

Table B.3 Attitudes towards young people among healthcare workers in Mombasa, by type of work (n=222)

	Total		Clinicians		Non-clinicians	
	n	%	n	%	n	%
"Most young people are lazy"						
Disagree	120	54.05	102	54.84	18	54.05
Mixed	49	22.07	39	20.97	10	22.07
Agree	53	23.84	45	24.19	8	22.22
"Young people have exciting and new ideas"						
Disagree	9	4.05	9	4.84	0	0
Mixed	21	9.46	17	9.14	4	11.11
Agree	192	76.49	160	84.02	32	88.89
"Young people don't care about their health"						
Disagree	51	22.97	43	23.12	8	22.97
Mixed	51	24.73	46	24.73	5	22.97
Agree	120	52.15	97	52.15	23	54.05
Overall attitudes towards young people						
Negative attitude	14	5.41	8	4.30	4	11.11
Mixed attitude	84	37.84	75	40.32	9	25.00
Positive attitude	126	56.76	103	55.38	23	63.89

Table B.4 Uptake of 'youth friendly' health services among adolescents and young people in Mombasa, by gender and age (n=1,405)

			Boys / Men						Girls / Women					
	Total		10-17 years [a]		18-24 years		All ages		10-17 years [a]		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Ever attended youth friendly clinic														
No	592	42.14	41	49.40	174	44.62	215	45.45	138	51.49	239	36.38	377	40.76
Yes	750	56.38	32	38.55	202	51.79	234	49.47	118	44.03	392	59.67	510	55.14
Unsure	63	4.48	10	12.05	14	3.59	24	5.07	12	4.48	26	3.96	38	4.11

Appendix C: Mental health and well-being

Table C.1 Indications of well-being and mental health among adolescents and young people in Mombasa, by gender and age (n=1,405)

			Boys / Men						Girls / Women					
	Total		10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Overall well-being [a]														
Poor-terrible	282	20.07	17	20.48	74	18.97	91	19.24	35	13.06	155	23.59	190	20.54
Average	563	40.07	32	38.55	168	43.08	200	42.28	98	36.57	260	39.57	358	38.70
Good-excellent	560	39.86	34	40.96	148	37.95	182	38.48	135	50.37	242	36.83	377	40.76
Indications of depression [b]														
None	1087	77.37	55	66.27	314	80.51	369	78.01	207	77.24	504	76.71	711	76.86
Mild	56	3.99	9	10.84	20	5.13	29	6.13	10	3.73	17	2.59	27	2.92
Moderate	87	6.19	5	6.02	18	4.62	23	4.89	13	4.85	51	7.76	64	6.92
Moderately severe	86	6.12	6	7.23	21	5.38	27	5.71	10	3.73	49	7.46	59	6.38
Severe	89	6.33	8	9.64	17	4.36	25	5.29	28	10.45	36	5.48	64	6.92
Indications of suicidality [c]														
No	1059	86.10	36	83.72	345	88.46	381	87.99	124	92.54	548	83.41	672	84.96
Yes	171	13.90	7	16.28	45	11.54	52	12.01	10	7.46	109	16.59	119	15.04
Previous mental health diagnosis [c,d]														
No	978	82.05	34	80.95	310	82.23	344	82.10	96	73.28	532	83.65	628	81.88
Yes [e]	119	9.98	1	2.38	38	10.08	39	9.31	22	16.79	58	9.12	80	10.43
Unsure	95	7.97	7	16.67	29	7.69	36	8.59	13	9.92	46	7.23	59	7.69

a. As measured by World Health Organization Well-Being Index (WHO-5)
b. As measured by the nine-item Patient Health Questionnaire (PHQ-9)
c. Only asked of participants aged 15 years or older (n=1,230)
d. Some participants (n=38) chose not to answer this question
e. Most participants chose not to describe their mental health diagnosis but among those who did (n=39) they reported: depression (n=15), stress (n=12), anxiety (n=7), intense grief (n=2), neurodivergence (n=2), and substance abuse (n=1)

Table C.2 Mental health support among adolescents and young people in Mombasa, by gender and age (n=1,405)

	Total		Boys / Men						Girls / Women					
			10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Ever received mental health support [a]														
No	803	57.15	53	63.86	213	54.62	266	56.24	167	62.31	365	55.56	532	57.51
Yes	602	42.85	30	36.14	117	45.38	207	43.76	101	37.69	292	44.44	393	42.49
Received mental health support recently [b]														
No	223	41.76	5	41.67	74	41.81	79	41.80	19	37.25	124	42.47	143	41.69
Yes	311	58.24	7	58.33	103	58.19	110	58.20	32	62.75	168	57.53	200	58.31
Perceptions of mental health support [c]														
Unhelpful	12	2.25	0	0	1	0.56	1	0.53	3	5.88	8	2.74	11	3.21
Mixed	39	7.30	2	16.67	14	7.91	16	8.47	3	5.88	20	6.85	23	6.71
Helpful	483	90.45	10	83.33	162	91.53	172	91.01	45	88.24	264	90.41	309	90.09
Knows where to get mental health support [d]														
No	385	31.30	21	48.84	96	24.62	117	27.02	55	41.04	210	31.96	265	33.50
Yes	845	68.70	22	51.16	294	75.38	316	72.98	79	58.96	447	68.04	526	66.50
Reasons for not receiving mental health support [e,f]														
Cost	42	50.60												
Distance (too far)	6	7.23												
Poor services / structural issues	7	8.43												
Fear	14	16.87												
Do not know where/how to access	9	10.84												
No time	3	3.61												
Stigma	2	2.41												

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 aged 15 years and older who reported some recent mental health support (n=534)

d. Only asked of those aged 15 years and older (n=1,230)

e. This item was optional and completed by 83 participants who reported recently being unable to access mental health care;

f. Given small numbers, item only reported overall

Table C.3 Stigmatizing attitudes towards mental health [a] among healthcare workers in Mombasa, by type of work (n=222)

	Total		Clinicians		Non-clinicians	
	n	%	n	%	n	%
"I have negative reactions towards people with mental illness."						
Disagree	190	85.59	158	84.95	32	88.89
Mixed	12	5.41	9	4.84	3	8.33
Agree	20	9.01	19	10.22	1	2.78
"There is little a healthcare provider can do to help people with mental illness."						
Disagree	158	71.17	129	69.35	29	80.56
Mixed	19	8.56	16	8.60	3	8.33
Agree	45	20.27	41	22.04	4	11.11
"Mostly, people with mental illness don't try hard enough to get better."						
Disagree	156	70.27	128	68.82	28	77.78
Mixed	33	14.86	31	16.67	2	5.56
Agree	33	14.86	27	14.52	6	16.67
"Health care providers do not need to be advocates for people with mental illness."						
Disagree	183	82.43	150	80.65	33	91.67
Mixed	13	5.86	12	6.45	1	2.78
Agree	26	11.71	24	12.90	2	5.56
"I struggle to feel compassion for a person with a mental illness."						
Disagree	146	65.77	120	64.52	26	72.22
Mixed	22	9.91	17	9.14	5	13.89
Agree	54	24.32	49	26.34	5	13.89
Overall attitude towards mental health						
Low stigma	144	64.86	114	61.29	30	83.33
Medium stigma	61	27.48	57	30.65	4	11.11
High stigma	17	7.66	15	8.06	2	5.56

a. As measured by the Opening Minds Stigma Scale for Health Care Providers

Appendix D: Social health and well-being

Table D.1 Social relationships among adolescents and young people in Mombasa, by gender and age (n=1,405)

			Boys / Men						Girls / Women					
	Total		10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Friendships														
None	127	9.04	7	8.43	19	4.87	26	5.50	39	14.55	61	9.28	100	10.81
One	625	44.48	23	27.71	152	38.97	175	37.00	98	36.57	347	52.82	445	48.11
Several (2 or more)	653	46.48	53	63.86	219	56.15	272	57.51	131	48.88	249	37.90	380	41.08
Primary location for socialising [a]														
Sports field, club, gym	329	26.75	21	48.84	185	47.44	206	47.58	40	29.85	81	12.33	121	15.30
Religious organisation (e.g., Mosque, church)	342	27.80	7	16.28	83	21.28	90	20.79	44	32.84	207	31.51	251	31.73
Friend's home	309	25.12	9	20.93	63	16.15	72	16.63	34	25.37	202	30.75	236	29.84
Dance club, bar	97	7.89	2	4.65	25	6.41	27	6.24	4	2.99	64	9.74	68	8.60
Shopping mall	37	3.01	1	2.33	4	1.03	5	1.15	2	1.49	30	4.57	32	4.05
Nature (e.g., beach, park)	15	1.22	0	0	6	1.54	6	1.39	0	0	9	1.37	9	1.14
Somewhere else	101	8.21	3	6.98	24	6.15	27	6.24	10	7.46	64	9.74	74	9.36
Access to safe and affirming social spaces														
No	525	37.37	51	61.45	121	31.03	172	36.36	119	44.40	231	35.16	350	37.84
Yes	880	62.63	32	38.55	269	68.97	301	63.64	149	55.60	426	64.84	575	62.16
Importance of religion in daily life														
Unimportant	17	1.21	0	0	6	1.54	6	1.27	2	0.75	8	1.22	10	1.08
Mixed	208	14.80	12	14.46	70	17.95	82	17.34	35	13.06	87	13.24	122	13.19
Important	1180	83.99	71	85.54	314	80.51	385	81.40	231	86.19	562	85.54	793	85.73

a. Only asked of those aged 15 years and older (n=1,230)

Table D.2 Satisfaction with social relationships [a] among adolescents and young people in Mombasa, by gender and age (n=1,405)

			Boys / Men						Girls / Women					
	Total		10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
"I can tell my friends how I feel" [b]														
Disagree	544	42.57	31	40.79	141	38.01	172	38.48	100	43.67	271	45.47	371	44.97
Mixed	228	17.84	8	10.53	75	20.22	83	18.57	19	8.30	122	20.47	141	17.09
Agree	506	39.59	37	48.68	155	41.78	192	42.95	110	48.03	203	34.06	313	37.94
"I am happy with the friends I have" [b]														
Disagree	256	20.03	13	17.11	66	17.79	79	17.67	28	12.23	148	24.83	176	21.33
Mixed	211	16.51	9	11.84	67	18.06	76	17.00	22	9.61	109	18.29	131	15.88
Agree	811	63.46	54	71.05	238	64.15	292	65.32	179	78.17	339	56.88	518	62.79
"People my age treat me with respect" [b]														
Disagree	265	20.74	14	18.42	60	16.17	74	16.55	47	20.52	142	23.83	189	22.91
Mixed	201	15.73	10	13.16	63	16.98	73	16.33	19	8.30	108	18.12	127	15.39
Agree	812	63.54	52	68.42	248	66.85	300	67.11	163	71.18	346	58.05	509	61.70
"I feel most older people treat me fairly" [b]														
Disagree	344	26.92	24	31.58	74	19.95	98	21.92	77	33.62	165	27.68	242	29.33
Mixed	208	16.28	7	9.21	66	17.17	73	16.33	22	9.61	111	18.62	133	16.12
Agree	726	56.81	45	59.21	231	62.26	276	61.74	130	56.77	320	53.69	450	54.55
Overall satisfaction with social life [b]														
No friendships	127	9.04	7	8.43	19	4.87	26	5.50	39	14.55	61	9.28	100	10.81
Low satisfaction	110	7.83	3	3.61	28	7.18	31	6.55	9	3.36	69	10.50	78	8.43
Medium satisfaction	496	35.30	30	36.14	128	32.82	158	33.40	84	31.34	250	38.05	334	36.11
High satisfaction	672	47.83	43	51.81	215	55.13	258	54.55	136	50.75	277	42.16	413	44.65

a. As measured using the Youth Quality of Life Instrument

b. Only asked of participants who reported at least one friend (n=1,278)

Table D.3 Romantic and familial relationships among adolescents and young people in Mombasa, by gender and age (n=1,405)

			Boys / Men						Girls / Women					
	Total		10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Romantic relationship [a]														
Never	317	25.77	25	58.14	59	15.13	84	19.40	96	71.64	137	20.85	233	29.46
Currently	478	38.86	14	32.56	161	41.28	175	40.42	18	13.43	282	42.92	300	37.93
In the past	435	35.37	4	9.30	170	43.59	174	40.18	20	14.93	238	36.23	258	32.62
Marriage [a]														
Never	1110	90.24	41	95.35	365	93.59	406	93.76	129	96.27	570	86.76	699	88.37
Currently	80	6.50	2 [b]	4.65	13	3.33	15	3.46	5 [b]	3.73	59	8.98	64	8.09
In the past	40	3.25	0	0	12	3.08	12	2.77	0	0	28	4.26	28	3.54
Currently in contact with family														
No	105	7.47	9	10.84	28	7.18	37	7.82	18	6.72	48	7.31	66	7.14
Yes	1300	92.53	74	89.16	362	92.82	436	92.18	250	93.28	609	92.69	859	92.86

a. Only asked of participants aged 15 years or older (n=1,230)

b. Among participants who were <18 years old and reported being married (n=7), one was 15 years old, two were 16 years old, and four were 17 years old

Table D.4 Satisfaction with romantic and familial relationships among adolescents and young people in Mombasa, by gender and age (n=1,405)

	Total		Boys / Men						Girls / Women					
			10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
"I feel my family cares about me" [a]														
Disagree	221	17.00	6	8.11	54	14.92	60	13.76	27	10.80	134	22.00	161	18.74
Mixed	119	9.15	3	4.05	40	11.05	43	9.86	12	4.80	63	10.34	75	8.73
Agree	960	73.85	65	87.84	268	74.03	333	76.38	211	84.40	412	67.65	623	72.53
"I feel I am getting along with my family" [a]														
Disagree	263	20.23	10	13.51	67	18.51	77	17.66	36	14.40	150	24.63	186	21.65
Mixed	135	10.38	4	5.41	51	14.09	55	12.61	11	4.40	68	11.17	79	9.20
Agree	902	69.38	60	81.08	244	67.40	304	69.72	203	81.20	391	64.20	594	69.15
Overall satisfaction with familial life [b]														
No contact with family	105	7.47	9	10.84	28	7.18	37	7.82	18	6.72	48	7.31	66	7.14
Low satisfaction	158	11.25	4	4.82	39	10.00	43	9.09	17	6.34	98	14.92	115	12.43
Medium satis-faction	238	16.94	9	10.84	73	18.72	82	17.34	33	12.31	122	18.57	155	16.76
High satisfaction	904	64.34	61	73.49	250	64.10	311	65.75	200	74.63	389	59.21	589	63.68
Overall satisfaction with romantic life [c]														
Low satisfaction	233	18.94	16	37.21	48	12.31	64	14.78	51	38.06	118	17.96	169	21.37
Medium satis-faction	533	43.33	14	32.56	189	48.46	203	46.88	44	32.84	280	42.62	324	40.96
High satisfaction	464	37.72	13	30.23	153	39.23	166	38.34	39	29.10	256	39.42	298	37.67

a. Only asked of participants reporting contact with family (n=1,300)

b. As measured using the Youth Quality of Life Instrument

c. Only asked of participants aged 15 years or older (n=1,230)

Appendix E: Economic well-being

Table E.1 Employment status among adolescents and young people in Mombasa, by gender and age (n=1,405)

			Boys / Men						Girls / Women					
	Total		10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Work and school participation														
None (no work or school)	359	25.55	6	7.23	87	22.31	93	19.66	26	9.70	238	36.23	264	28.54
Currently enrolled in school (no work)	770	54.80	67	80.72	197	50.51	264	55.81	233	86.94	271	41.25	504	54.49
Currently employed (no school)	136	9.68	1	1.20	53	13.59	54	11.42	1	0.37	79	12.02	80	8.65
Currently enrolled in school and employed	140	9.96	9	10.84	53	13.59	62	13.11	8	2.99	69	10.50	77	8.32
Sources of income [a]														
None	308	48.50	8	50.00	69	35.75	77	36.84	27	77.14	203	52.59	230	54.63
Full-time work	199	31.34	5	31.25	88	45.60	93	44.50	2	5.71	102	26.42	104	24.70
Part-time work	72	11.34	3	18.75	18	9.33	21	10.05	4	11.43	46	11.92	50	11.88
Other (e.g., money from parents)	56	8.82	0	0	18	9.33	18	8.61	2	5.71	35	9.07	37	8.79
Monthly income [a]														
None	308	48.50	8	50.00	69	35.75	77	36.84	27	77.14	203	52.59	230	54.63
1-4,999 KES	190	29.92	7	43.75	72	37.31	79	37.80	5	14.29	106	27.46	111	26.37
5,000-19,999 KES	117	18.43	1	6.25	45	23.32	46	22.01	1	2.86	68	17.62	69	16.39
>20,000 KES	20	3.15	0	0	7	3.63	7	3.35	2	5.71	9	2.33	11	2.61
Satisfaction with employment situation [b]														
Low satisfaction	360	61.75			110	56.99					248	64.25		
Medium satisfaction	101	17.32			38	19.69					62	16.06		
High satisfaction	122	20.93			45	23.32					76	19.69		

a. Only asked of participants not only enrolled in school (n=635)

b. Only asked of participants aged 18 years and older not enrolled in school (n=583)

Table E.2 Food security, water security, and living conditions among adolescents and young people in Mombasa, by gender and age (n=1,405)

			Boys / Men						Girls / Women					
	Total		10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Food insecurity [a]														
No	693	49.32	53	63.86	187	47.95	240	50.74	145	54.10	305	46.42	450	48.65
Yes	712	50.68	30	36.14	203	52.05	233	49.26	123	45.90	352	53.58	475	51.35
Access to clean water [b]														
Poor	200	16.26	7	16.28	55	14.10	62	14.32	21	15.67	117	17.81	138	17.45
Average	392	31.87	8	18.60	135	34.62	143	33.03	29	21.64	215	32.72	244	30.85
Good	638	51.87	28	65.12	200	51.28	228	52.66	84	62.69	325	49.47	409	51.71
Housing instability														
No	1046	74.45	52	62.65	283	72.56	335	70.82	196	73.13	510	77.63	706	76.32
Yes	359	25.55	31	37.35	107	27.44	138	29.18	72	26.87	147	22.37	219	23.68
Satisfied with housing [c]														
No	414	51.88			144	50.88					267	52.35		
Yes	384	48.12			139	49.12					243	47.65		
Concerns with housing [d,e]														
Poor conditions	188	45.74			65	45.14					123	46.07		
Not enough space	93	22.63			29	20.14					64	23.97		
Unsafe	63	15.33			23	15.97					40	14.98		
Too expensive	190	46.23			76	52.78					114	42.70		
Bad location	46	11.19			17	11.81					29	10.86		
Too many people living there	66	16.06			16	11.11					50	18.73		

a. Defined as two or more days going hungry in the week prior to participation
b. Only asked of participants aged 15 years and older (n=1,230
c. Only asked of participants aged 18 years and older with a stable place to live (n=798)
d. Only asked of participants who reported being unsatisfied with housing (n=414)
e. Participants could select multiple options (i.e., non-exclusive categories)

Appendix F: Digital health, digital lives

Table F.1 Use of social media among adolescents and young people in Mombasa, by gender and age (n=1,405)

	Total		Boys / Men						Girls / Women					
			10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Use social media														
No	194	13.81	31	37.65	16	4.10	47	9.94	96	35.82	51	7.76	147	15.89
Yes	1211	86.19	52	62.65	374	95.90	429	90.06	172	64.18	606	92.24	778	84.11
Average time on social media (per day) [a]														
None or almost none	76	6.28	8	15.38	14	3.74	22	5.16	25	14.53	29	4.79	54	6.94
<1 hour	271	22.38	22	42.31	66	17.65	88	20.66	72	41.86	111	18.32	183	23.52
1-2 hours	308	25.43	10	19.23	110	29.41	120	28.17	38	22.09	150	24.75	188	24.16
≥3 hours	556	45.91	12	23.08	184	49.20	196	46.01	37	21.51	316	52.15	353	45.37
Social media platform(s) used [b]														
WhatsApp	869	61.85	20	24.10	306	78.46	326	68.92	60	22.39	476	72.45	536	57.95
TikTok	790	56.23	26	31.33	226	57.95	252	53.28	123	45.90	411	62.56	534	57.73
Facebook	598	42.56	14	16.87	234	60.00	248	52.43	41	15.30	305	46.42	346	37.41
Instagram	529	37.65	21	25.30	226	57.95	247	52.22	33	12.31	245	37.29	278	30.05
SnapChat	461	32.81	8	9.64	100	25.64	108	22.83	54	20.15	297	45.21	351	37.95
Twitter	226	16.09	1	1.20	120	30.77	121	25.58	4	1.49	97	14.76	101	10.92
Telegram	249	17.72	3	3.61	133	34.10	136	28.75	7	2.61	105	15.98	112	12.11
Badoo	63	4.48	3	3.61	15	3.85	18	3.81	18	6.72	25	3.81	43	4.65
Others	47	3.35	6	7.23	16	4.10	22	4.65	6	2.24	19	2.89	25	2.70
Use partner-seeking apps (e.g., Tinder) [c]														
No	884	71.87	36	83.72	242	62.05	278	64.20	112	83.58	491	74.73	603	76.23
Yes, within past 6 months	195	15.85	4	9.30	76	19.49	80	18.48	15	11.19	98	14.92	113	14.29
Yes, but not within past 6 months	151	12.28	3	6.98	72	18.46	75	17.32	7	5.22	68	10.35	75	9.48

a. Only asked of participants reporting some use of social media (n=1,211)

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

c. Only asked of participants aged 15 years or older (n=1,230)

Table F.2 Online and other sources of health information among adolescents and young people in Mombasa, by gender and age (n=1,230) [a]

	Total		Boys / Men						Girls / Women					
			10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Perceived usefulness of the internet as source of health information														
Not useful	82	6.67	3	6.98	27	6.92	30	6.93	14	10.45	38	5.78	52	6.57
Useful	984	80.00	35	81.40	322	82.56	357	82.45	99	73.88	525	79.91	624	78.89
Unsure	164	13.33	5	11.63	41	10.51	46	10.62	21	15.67	94	14.31	115	14.54
Primary source of health information														
The internet	236	19.19	2	4.65	88	22.56	90	20.79	6	4.48	137	20.85	143	18.08
Parents	339	27.56	18	41.86	108	27.69	126	29.10	59	44.03	153	23.29	212	26.80
Friends	83	6.75	3	6.98	29	7.44	32	7.39	3	2.24	47	7.15	50	6.32
Doctor/nurse	543	44.15	18	41.86	160	41.03	178	41.11	63	47.01	301	45.81	364	46.02
Religious leader	8	0.65	0	0	4	1.03	4	0.92	0	0	4	0.61	4	0.51
Teacher	6	0.49	1	2.33	1	0.26	2	0.46	2	1.49	2	0.30	4	0.51
Other	15	1.22	1	2.33	0	0	1	0.23	1	0.75	13	1.98	14	1.77

a. Only asked of participants aged 15 years or older (n=1,230)

Appendix G: Disability and accessibility

Table G.1 Self-reported disability among adolescents and young people in Mombasa, by gender and age (n=1,230) [a]

	Total		Boys / Men						Girls / Women					
			10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Self-reported disability status														
No	1098	89.27	29	67.44	362	92.82	391	90.30	119	88.81	582	88.58	701	88.62
Yes	132	10.73	14	32.56	28	7.18	42	9.70	15	11.19	75	11.42	90	11.38
Disabilities [b]														
Blind/serious seeing impairment [c]	42	3.41	3	6.98	12	3.08	15	3.46	3	2.24	24	3.65	27	3.41
Deaf/serious hearing impairment	47	3.82	9	20.93	12	3.08	21	4.85	6	4.48	20	3.04	26	3.29
Mobility impairment	73	5.93	6	13.95	19	4.87	25	5.77	10	7.46	38	5.78	48	6.07
Registered with *National Council for People with Disabilities* [d]														
No	100	75.76	7	50.00	20	71.43	27	64.29	11	73.33	62	82.67	73	81.11
Yes	25	18.94	3	21.43	8	28.57	11	26.19	2	13.33	12	16.00	14	15.56
Unsure	7	5.30	4	28.57	0	0	4	9.52	2	13.33	1	1.33	3	3.33
Able to take part in activities of peers [d]														
No	52	39.39	7	50.00	8	28.57	15	35.71	8	53.33	29	38.67	37	41.11
Somewhat	21	15.91	3	21.43	7	25.00	10	23.81	3	20.00	8	10.67	11	12.22
Yes	59	44.70	4	28.57	13	46.43	17	40.48	4	26.67	38	50.67	42	46.67

a. Only asked of participants aged 15 years or older (n=1,230)
b. Participants could select multiple options (i.e., non-exclusive categories)
c. Additionally, 317 participants (25.77%) reported that they struggle to see but do not have glasses
d. Only asked of participants reporting one or more disabilities (n=132)

Table G.2 Perceptions of accessibility among healthcare workers in Mombasa, by type of work (n=222)

	Total		Clinicians		Non-clinicians	
	n	%	n	%	n	%
"How easy is for people with physical and other disabilities (e.g., cognitive) to access your health service?" [a]						
Very difficult	20	9.35	18	10.00	2	5.88
Somewhat difficult	67	31.31	55	30.59	12	35.29
Somewhat easy	78	36.45	67	37.22	11	32.35
Very easy	49	22.90	40	22.22	9	26.47

a. Excludes participants (n=8) who were unsure

Appendix H: Drugs and alcohol

Table H.1 Use of alcohol and other drugs among adolescents and young people in Mombasa, by gender and age (n=1,405)

			Boys / Men						Girls / Women					
	Total		10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Ever consumed alcohol														
No	994	70.75	74	89.16	217	55.64	219	61.52	252	94.03	449	68.34	701	75.78
Yes	411	29.25	9	10.84	173	44.36	182	38.48	16	5.97	208	31.66	224	24.22
Ever used drugs														
No	1109	78.93	73	87.95	254	65.13	327	69.13	258	96.27	522	79.45	780	84.32
Yes	296	21.07	10	12.05	136	34.87	146	30.87	10	3.73	135	20.55	145	15.68
Ever injected drugs														
No	1370	97.51	80	96.39	375	96.15	455	96.19	268	100	640	97.41	908	98.16
Yes	35	2.49	3	3.61	15	3.85	18	3.81	0	0	17	2.59	17	1.84
Ever smoked cigarettes														
No	1193	84.91	74	89.16	292	74.87	366	77.38	261	97.39	562	85.54	823	88.97
Yes	212	15.09	9	10.84	98	25.13	107	22.62	7	2.61	95	14.46	102	11.03
Recently consumed alcohol [a,b]														
No	975	79.27	39	90.70	277	71.03	316	72.98	128	95.52	528	80.37	656	82.93
Yes	255	20.73	4	9.30	113	28.98	117	27.02	6	4.48	129	19.63	135	17.07
Recently used drugs [a,b]														
No	1046	85.04	39	90.70	300	76.92	339	78.29	129	96.27	576	87.67	705	89.13
Yes	184	14.96	4	9.30	90	23.08	94	21.71	5	3.73	81	12.33	86	10.87
Recently injected drugs [a,b]														
No	1206	98.05	40	93.02	381	97.69	421	97.23	134	100	645	98.17	779	98.48
Yes	24	1.95	3	6.98	9	2.31	12	2.77	0	0	12	1.83	12	1.52
Recently smoked cigarettes [a,b]														
No	1143	92.93	41	95.35	351	90.00	392	90.53	131	97.76	614	93.46	745	94.18
Yes [c]	87	7.07	2	4.65	39	10.00	41	9.47	3	2.24	43	6.54	46	5.82
Drugs used (ever) [a,d]														
Marijuana	129	10.49	3	6.98	56	14.36	59	13.63	3	2.24	63	9.59	66	8.34
Mugoka/ jabba/khat	118	9.59	1	2.33	62	15.90	63	14.55	4	2.99	50	7.61	54	6.83
Tumbaku	24	1.95	0	0	10	2.56	10	2.31	1	0.75	12	1.83	13	1.64
Glue	13	1.06	1	2.33	4	1.03	5	1.15	1	0.75	7	1.07	8	1.01
Kuber	5	0.41	0	0	3	0.77	3	0.69	0	0	2	0.30	2	0.25
Cocaine	10	0.81	2	4.65	3	0.77	5	1.15	0	0	5	0.76	5	0.63
Diazepam (e.g., Valium)	2	0.16	0	0	1	0.26	1	0.23	0	0	1	0.15	1	0.13
Methaqualone (e.g., Mandrax)	5	0.41	1	2.33	2	0.51	3	0.69	0	0	2	0.30	2	0.25

a. Only asked of participants aged 15 years or older (n=1,230)
b. Recently defined as the six months prior to participation
c. Median cigarettes smoked per week was 14 (IQR: 3-30)
d. Participants could select multiple options (i.e., non-exclusive categories)

Table H.2 Indications of and support for substance abuse among adolescents and young people in Mombasa, by gender and age (n=1,230) [a]

	Total		Boys / Men						Girls / Women					
			10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Indications of substance abuse [b]														
None	1020	82.93	38	88.37	289	74.10	327	75.52	128	95.52	562	85.54	690	87.23
Some	141	11.46	4	9.30	67	17.18	71	16.40	5	3.73	63	9.59	68	8.60
Many	69	5.61	1	2.33	34	8.72	35	8.08	1	0.75	32	4.87	33	4.17
Ever sought support for substance abuse [c]														
No, never	102	48.57	1	20.00	50	49.50	51	48.11	4	66.67	46	48.42	50	49.50
No, but would like to	59	28.10	1	20.00	24	23.76	25	23.58	1	16.67	32	33.68	33	32.67
Yes	49	23.33	3	60.00	27	26.73	30	28.30	1	16.67	17	17.89	18	17.82
Perceptions of abuse support [d]														
Unhelpful	3	6.12	1	33.33	2	7.41	3	10.00	0	0	0	0	0	0
Mixed	7	14.29	0	0	4	14.81	4	13.33	0	0	2	11.76	2	11.11
Helpful	39	79.59	2	66.67	21	77.78	23	76.67	1	100	15	88.24	16	88.89

a. Only asked of participants aged 15 years or older (n=1,230)
b. As measured using the CAGE Substance Abuse Screening Tool
c. Only asked of those reporting some or many indications of substance abuse (n=210)
d. Only asked of those reporting some previous support for substance abuse (n=49)

Table H.3 Perceptions of people who use drugs among healthcare workers in Mombasa, by type of work (n=222)

	Total		Clinicians		Non-clinicians	
	n	%	n	%	n	%
"People who use drugs are morally weak."						
Disagree	94	42.34	76	40.86	18	50.00
Neutral	41	18.47	37	19.89	4	11.11
Agree	87	39.19	73	39.25	14	38.89
Would refuse care to people who use drugs [a]						
No			172	92.47		
Yes			14	7.53		
Overall stigma against people who use drugs [b]						
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

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

Appendix I: Sexual and reproductive health

Table I.1 Pregnancy and children among adolescent and young women in Mombasa, by age (n=925) [a]

	Girls / Women					
	10-17 years		18-24 years		All ages	
Ever been pregnant						
No	254	94.78	462	70.32	716	77.41
Yes	14	5.22	195	29.68	209	22.59
Age of first pregnancy [b,c]						
<16 years old	4	66.67	10	5.24	14	7.11
16-17 years old	2	33.33	29	15.18	31	15.74
18-19 years old			61	31.94	61	30.96
≥20 years old			91	47.64	91	46.19
Was first pregnancy planned [b,d]						
No	2	33.33	96	74.42	98	72.59
Yes	4	66.67	29	22.48	33	24.44
Unsure	0	0	4	3.10	4	2.96
Number of children [b]						
None	10	71.43	46	23.59	56	26.79
1	4	28.57	111	56.92	115	55.02
2	0	0	32	16.92	33	15.79
3	0	0	3	1.54	3	1.44
≥4	0	0	2	1.03	2	0.96
Most recent pregnancy [b,e]						
Longer than 12 months ago	3	37.50	124	63.59	127	62.58
Within last 12 months	2	25.00	41	21.03	43	21.18
Currently pregnant	3	37.50	30	15.38	33	16.26
Participated in new mother support programs [f]						
No	0	0	27	65.85	27	62.79
Yes	2	100	14	34.15	16	37.21
Social support received since giving birth [f]						
None or minimal	0	0	5	12.20	5	11.63
Some	0	0	11	26.83	11	25.58
A lot	2	100	25	60.98	27	62.79

a. Only asked of girls and women (n=925)
b. Only asked of girls and women reporting some previous pregnancy (n=209)
c. Data missing for 12 participants
d. Data missing for 79 participants
e. Only asked of girls and women aged 15 years and older who reported a previous pregnancy (n=203)
f. Only asked of girls and women who had given birth in the 12 months prior to participation (n=43)

Table I.2 Attitudes towards early pregnancy [a] among healthcare workers in Mombasa, by type of work (n=222)

	Total		Clinicians		Non-clinicians	
	n	%	n	%	n	%
"Those who become pregnant while a teen should be ashamed of themselves"						
Disagree	183	82.43	154	82.80	29	80.56
Mixed	19	8.56	14	7.53	5	13.89
Agree	20	9.01	18	9.68	2	5.56
"Getting pregnant as a teen brings disgrace and shame to a young woman and her family"						
Disagree	155	69.82	129	69.35	26	72.22
Mixed	26	11.71	22	11.83	4	11.11
Agree	41	18.47	35	18.82	6	16.67
"Children born to teen parents are worse off than those born to adults"						
Disagree	184	82.88	153	82.26	31	86.11
Mixed	20	9.01	17	9.14	3	8.33
Agree	18	8.11	16	8.60	2	5.56
Overall attitude towards early pregnancy [a]						
Low stigma	161	72.52	135	72.58	26	72.22
Medium stigma	50	22.52	41	22.04	9	25.00
High stigma	11	4.95	10	5.38	1	2.78

a. As measured by the Adolescent Sexual and Reproductive Health Stigma Scale

Table I.3 Menstruation and contraception among adolescent and young women in Mombasa, by age (n=776) [a]

	Girls / Women					
	10-17 years		18-24 years		All ages	
Menstruating						
No	6	4.58	17	2.64	23	2.96
Yes	125	95.42	628	37.36	753	97.04
Preferred menstrual products [b,c]						
Disposable pad	78	62.40	502	79.94	580	77.03
Reusable pad	22	17.60	67	10.67	89	11.82
Tampon	13	10.40	39	6.21	52	6.91
Cotton wool	9	7.20	57	9.08	66	8.76
Cloth	13	10.40	43	6.85	56	7.44
Something else	3	2.40	5	0.80	8	1.06
Recently struggled to access menstrual products [b,c]						
No	76	60.80	394	62.74	470	62.42
Yes	49	39.20	234	37.26	283	37.48
Currently using contraception [e]						
No	15	68.18	158	36.49	173	38.02
Yes	7	31.82	275	63.51	282	61.98
Forms of contraception [c,f]						
Male condoms	4	57.14	97	35.27	101	35.82
Female condoms	1	14.29	42	15.27	43	15.25
Hormonal implant	1	14.29	35	12.72	36	12.72
Intrauterine device (IUD)	0	0	18	6.55	18	6.38
Injectable (e.g., Depo-Provera)	1	14.29	77	28.00	78	27.56
Oral contraceptive pills	0	0	40	14.55	40	14.18
Emergency 'morning after' contraceptive pills	0	0	28	10.18	28	9.93
Withdrawal	0	0	36	13.09	36	12.77
Abstinence	0	0	45	16.36	45	15.96

a. Only asked of girls and women aged 15 years and older (n=776)
b. Only asked of girls and women reporting menstruation (n=753)
c. Participants could select multiple options (i.e., non-exclusive categories)
d. Recently defined as the six months prior to participation
e. Only asked of sexually active girls and women (n=467)
f. Only asked of those reporting some form of contraception (n=282)

Table I.4 Experiences of and attitudes towards termination of pregnancy among adolescents and young people in Mombasa, by gender and age (n=1,230) [a]

			Boys / Men						Girls / Women					
	Total		10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Ever terminated pregnancy [b]														
No									6	75.00	150	76.92	156	76.85
Yes									2	25.00	39	20.00	41	20.20
Not reported									0	0	6	3.08	6	2.96
Follow-up care received [c]														
No									0	0	25	64.10	25	60.98
Yes									2	100	14	35.90	16	39.02
Any complications or negative effects [c]														
No									0	0	14	35.90	14	34.15
Yes									1	50.00	9	23.08	10	24.39
Not reported									1	50.00	16	41.03	17	41.46
Ever had a partner terminate pregnancy [d]														
No			14	77.78	241	72.81	255	73.07						
Yes			3	16.67	65	19.64	68	19.48						
Unsure			1	5.56	20	6.04	21	6.02						
Not reported			0	0	5	1.51	5	1.43						
Attitude towards termination of pregnancy [e]														
Low stigma	369	30.00	11	25.58	90	23.08	101	23.23	28	20.90	236	35.92	264	33.38
Medium stigma	388	31.54	10	23.26	134	34.36	144	33.26	43	32.09	199	30.29	242	30.59
High stigma	473	38.46	22	51.16	166	42.56	188	43.42	63	47.01	222	33.79	285	36.03

a. Only asked of participants aged 15 years and older (n=1,230)
b. Only asked of girls and women reporting some previous pregnancy (n=209)
c. Only asked of girls and women reporting some previous termination (n=41) and focused on their most recent experience
d. Only asked of boys and men reporting current or previous romantic relationship (n=349)
e. As measured using the Contraception and Abortion Stigma Scale

Table I.5 Attitudes towards termination of pregnancy [a] among healthcare workers in Mombasa, by type of work (n=222)

	Total		Clinicians		Non-clinicians	
	n	%	n	%	n	%
Overall attitudes towards termination of pregnancy [a]						
Low stigma	110	49.55	86	46.24	24	66.67
Medium stigma	79	35.59	69	37.10	10	27.78
High stigma	33	14.86	31	16.67	2	5.56

a. As measured using the Contraception and Abortion Stigma Scale

Table I.6 Sexual experiences and condom use among adolescents and young people in Mombasa, by gender and age (n=1,405)

			Boys / Men						Girls / Women					
	Total		10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Sexually active														
No	616	43.84	69	83.13	100	25.64	169	35.73	235	87.69	212	32.27	447	48.32
Yes	789	56.16	14	16.87	290	74.36	304	64.27	33	12.31	445	67.73	478	51.68
Age of sexual debut [a]														
<16 years old	79	14.88	2	66.67	41	20.40	43	21.08	5	45.45	31	9.90	36	11.11
16-17 years old	137	25.80	1	33.33	51	25.37	52	25.49	6	54.55	78	24.92	84	25.93
18-19 years old	199	37.48			66	32.84	66	32.35			131	41.85	131	40.43
≥20 years old	116	21.85			43	21.39	43	21.08			73	23.32	73	22.53
Relative age of first sexual partner [b]														
5-10 years younger	17	5.36	0	0	13	9.85	13	9.77	0	0	4	2.25	4	2.20
Same or similar age	168	53.00	0	0	90	68.18	90	67.67	2	50.00	75	42.13	77	42.31
5-10 years older	121	38.17	1	100	26	19.70	27	20.30	1	25.00	92	51.69	93	51.10
11-20 years older	10	3.15	0	0	2	1.52	2	1.50	1	25.00	7	3.93	8	4.40
≥20 years older	1	0.32	0	0	1	0.76	1	0.75	0	0	0	0	0	0
Recent condom use [a]														
Never	161	30.32	1	33.33	36	17.91	37	18.14	5	45.45	118	37.70	123	37.96
Sometimes	248	46.70	1	33.33	93	46.27	94	46.08	4	36.36	149	47.60	153	47.22
Always	122	22.98	1	33.33	72	35.82	73	35.78	2	18.18	46	14.70	48	14.81
Recent difficulty accessing condoms [a]														
No	288	54.24	2	66.67	129	64.18	131	64.22	1	9.09	154	49.20	155	47.89
Yes	148	27.87	0	0	59	29.35	59	28.92	5	45.45	84	26.84	89	27.47
Did not try	95	17.89	1	33.33	13	6.47	14	6.86	5	45.45	75	23.96	80	24.69
Recent difficulty accessing lubricant [a]														
No	164	30.89	2	66.67	77	38.31	79	38.73	2	18.18	83	26.52	85	26.23
Yes	182	34.27	0	0	76	37.81	76	37.25	2	18.18	102	32.59	104	32.10
Did not try	185	34.84	1	33.33	48	23.88	49	24.02	7	63.64	128	40.89	135	41.67
Perception of sexual health education received while in school [c]														
Poor	29	2.75			7	1.79					21	3.20		
Mixed	406	38.56			158	40.51					248	37.75		
Good	291	27.64			108	27.69					183	27.85		
Did not receive	327	31.05			117	30.00					205	31.20		

a. Only asked of participants aged 15 years or older reporting sex within the past 6 months (n=531)
b. This item was optional and not answered by 214 participants
c. Only asked of participants 18 years and older reporting some previous primary or high school (n=1,053)

Table I.7 HIV and hepatitis C among adolescents and young people in Mombasa, by gender and age (n=1,230) [a]

	Total		Boys / Men						Girls / Women					
			10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Ever tested for HIV														
No, never	343	27.89	30	69.77	125	32.05	155	35.80	64	47.76	123	18.72	187	23.64
Yes, within past 6 months	575	46.75	5	11.63	160	41.03	162	38.11	46	34.33	360	54.79	406	51.33
Yes, longer than 6 months ago	279	22.68	2	4.65	94	24.10	96	22.17	21	15.67	161	24.51	182	23.01
Unsure	21	1.71	6	13.95	7	1.79	13	3.00	3	2.24	5	0.76	8	1.01
Prefer not to say	12	0.98	0	0	4	1.03	4	0.92	0	0	8	1.22	8	1.01
HIV status [b]														
Negative	766	65.41	4	10.81	222	59.68	226	55.26	64	49.23	471	75.24	535	70.77
Positive	52	4.44	3	8.11	23	6.18	26	6.36	2	1.54	24	3.83	26	3.44
Unknown (never tested)	343	30.15	30	81.08	127	34.14	157	38.39	64	49.23	131	20.93	195	25.79
Aware of HIV PrEP [b,c]														
No	646	54.84	33	82.50	217	59.13	250	61.43	100	75.76	295	46.60	395	51.63
Yes	532	45.16	7	17.50	150	40.87	150	38.51	32	24.24	338	53.40	370	48.37
Uptake of HIV PrEP [b,c]														
Never	1078	91.51	40	100	333	90.74	373	91.65	131	99.24	571	90.21	702	91.76
Currently	76	6.45	0	0	23	6.27	23	5.65	1	0.76	50	7.90	51	6.67
Previously	24	2.04	0	0	11	3.00	11	2.70	0	0	12	1.90	12	1.57
Uptake of HIV treatment [d]														
Never	13	25.00	1	33.33	4	17.39	5	19.23	0	0	8	33.33	8	30.77
Currently	32	61.54	1	33.33	17	73.91	18	69.23	1	50.00	13	54.17	14	53.85
Previously	7	13.46	1	33.33	2	8.70	3	11.54	1	50.00	3	12.50	4	15.38
Shared injecting equipment [e]														
No	8	33.33	1	33.33	3	33.33	4	33.33	0	0	4	33.33	4	33.33
Yes	16	66.67	2	66.67	6	66.67	8	66.67	0	0	8	66.67	8	66.67
Ever tested for hepatitis C [f]														
No	20	57.14	3	100	8	53.33	11	61.11	0	0	9	52.94	9	52.94
Yes	4	11.43	0	0	2	13.33	2	11.11	0	0	2	11.76	2	11.76
Unsure	11	31.43	0	0	5	33.33	5	27.78	0	0	6	35.29	6	35.29
Result of most recent hepatitis C test [g,h]														
Negative	2	50.00												
Positive	2	50.00												

a. Only asked of participants aged 15 years or older (n=1,230)
b. Excludes participants who chose not to disclose their testing and results (n=69)
c. PrEP=pre-exposure prophylaxis
c. Only asked of participants with reported negative, unknown, or unreported HIV status (n=1,178)
d. Only asked of participants reported as living with HIV (n=52)
e. Only asked of participants reporting recent use of injecting drugs (n=24)
f. Only asked of participants reporting lifetime use of injecting drugs (n=35)
g. Only asked of participants reporting a hepatitis C test (n=4)
h. Given small numbers, item only reported overall

Appendix J: Sexual and other forms of violence

Table J.1 Experiences of sexual violence among adolescents and young people in Mombasa, by gender and age (n=813) [a]

			Boys / Men						Girls / Women					
	Total		10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Experienced sexual violence or coercion														
No	678	83.38	44	91.67	185	86.85	229	87.74	140	89.94	307	78.32	447	81.57
Yes	111	13.65	2	4.17	22	10.33	24	9.20	11	7.05	74	18.88	85	15.51
Unsure	21	2.58	2	4.17	5	2.35	7	2.68	5	3.21	9	2.30	14	2.55
Prefer not to say	3	0.37	0	0	1	0.47	1	0.38	0	0	2	0.51	2	0.36
Told someone or sought help [b]														
No	57	51.35	1	50.00	13	59.09	14	58.33	7	63.64	34	45.95	41	48.24
Yes	46	41.44	1	50.00	7	31.82	8	33.33	4	36.36	34	45.95	38	44.71
Prefer not to say	8	7.21	0	0	2	9.09	2	8.33	0	0	6	8.11	6	7.06

a. Given the sensitive nature of these items, participants were given the option to skip the section on sexual violence (n=592 skipped)

b. Only asked of participants aged 15 years and older reporting some experience of sexual violence or coercion (n=111)

Table J.2 Experiences of physical and verbal violence among adolescents and young people in Mombasa, by gender and age (n=1,230) [a]

			Boys / Men						Girls / Women					
	Total		10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Experienced physical assault														
No, never	800	65.04	34	79.07	233	59.74	267	61.66	97	72.39	434	66.06	531	67.13
Yes, within past 6 months	130	10.57	2	4.65	43	11.03	45	10.39	12	8.96	72	10.96	84	10.62
Yes, longer than 6 months ago	145	11.79	2	4.65	55	14.10	57	13.16	7	5.22	79	12.02	86	10.87
Prefer not to say	155	12.60	5	11.63	59	15.13	64	14.78	18	13.43	72	10.96	90	11.38
Experienced verbal assault														
No, never	641	52.11	29	67.44	182	46.67	211	48.73	88	65.67	340	51.75	428	54.11
Yes, within past 6 months	176	14.31	3	6.98	62	15.90	65	15.01	15	11.19	94	14.31	109	13.78
Yes, longer than 6 months ago	189	15.37	3	6.98	59	15.13	62	14.32	9	6.72	116	17.66	125	15.80
Prefer not to say	224	18.21	8	18.60	87	22.31	95	21.94	22	16.42	107	16.29	129	16.31

a. Only asked of participants aged 15 years and older (n=1,230)

Table J.3 Attitudes towards sexual consent and sexual violence [a] among adolescents and young people in Mombasa, by gender and age (n=1,230) [b]

			Boys / Men						Girls / Women					
	Total		10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Perceived importance of consent from sexual partners [c]														
Unimportant	10	2.28	0	0	2	1.07	2	1.06	0	0	8	3.32	8	3.24
Somewhat important	26	5.92	0	0	12	6.42	12	6.35	0	0	14	5.81	14	5.67
Important	403	91.80	2	100	173	92.51	175	92.59	6	100	219	90.87	225	91.09
"Someone who dresses in revealing clothes should not be surprised if someone forces them to have sex"														
Disagree	708	57.56	31	72.09	201	51.54	232	53.58	88	65.67	383	58.30	471	59.54
Mixed	163	13.25	2	4.65	69	17.69	71	16.40	4	2.99	88	13.39	92	11.63
Agree	359	29.19	10	23.26	120	30.77	130	30.02	42	31.34	186	28.31	228	28.82
"Rape happens when an individual's sex urge gets out of control"														
Disagree	510	41.46	24	55.81	116	29.74	140	32.33	74	55.22	293	44.60	367	46.40
Mixed	164	13.33	4	9.30	63	16.15	67	15.47	9	6.72	87	13.24	96	12.14
Agree	556	45.20	15	34.88	211	54.10	226	52.19	51	38.06	277	42.16	328	41.47
"If an individual doesn't physically fight back, you can't really say it was rape"														
Disagree	673	54.72	28	65.12	206	52.82	234	54.04	69	51.49	366	55.71	435	54.99
Mixed	147	11.95	5	11.63	60	15.38	65	15.01	9	6.72	72	10.96	81	10.24
Agree	410	33.33	10	23.26	124	31.79	134	30.95	56	41.79	219	33.33	275	34.77
"A lot of times, individuals who say they were raped agreed to have sex and then regret it"														
Disagree	714	58.05	24	55.81	187	47.95	211	48.73	71	52.99	428	65.14	499	63.08
Mixed	219	17.80	7	16.28	93	23.85	100	23.09	14	10.45	105	15.98	119	15.04
Agree	297	24.15	12	27.91	110	28.21	122	28.18	49	36.57	124	18.87	173	21.87
"Only women can be raped"														
Disagree	1028	83.58	32	74.42	321	82.31	353	81.52	103	76.87	567	86.30	670	84.70
Mixed	100	8.13	6	13.95	40	10.26	46	10.62	8	5.97	46	7.00	54	6.83
Agree	102	8.29	5	11.63	29	7.44	34	7.85	23	17.16	44	6.70	67	8.47
Overall attitudes towards sexual violence [a]														
Low stigma	601	48.86	24	55.81	158	40.51	182	42.03	65	48.51	350	53.27	415	52.47
Medium stigma	476	38.70	14	32.56	172	44.10	186	42.96	49	36.57	340	36.53	289	36.54
High stigma	153	12.44	5	11.63	60	15.38	65	15.01	20	14.93	67	10.20	87	11.00

a. As measured by the Illinois Rape Myth Scale
b. Only asked of participants aged 15 years and older (n=1,230)
c. Only asked of sexually active participants (n=439)

Table J.4 Attitudes towards sexual violence [a] among healthcare workers in Mombasa, by type of work (n=222)

	Total		Clinicians		Non-clinicians	
	n	%	n	%	n	%
"Someone who dresses in revealing clothes should not be surprised if someone forces them to have sex"						
Disagree	139	62.61	112	60.22	27	75.00
Mixed	34	15.32	30	16.13	4	11.11
Agree	49	22.07	44	23.66	5	13.89
"Rape happens when an individual's sex urge gets out of control"						
Disagree	90	40.54	76	40.86	14	38.89
Mixed	27	12.16	22	11.83	5	13.89
Agree	105	47.30	88	47.31	17	47.22
"If an individual doesn't physically fight back, you can't really say it was rape"						
Disagree	157	70.72	128	68.82	29	80.59
Mixed	26	11.71	24	12.90	2	5.56
Agree	39	17.57	34	18.28	5	13.89
"A lot of times, individuals who say they were raped agreed to have sex and then regret it"						
Disagree	166	74.77	138	74.19	28	77.78
Mixed	21	9.46	18	9.68	3	8.33
Agree	35	15.77	30	16.13	5	13.86
"Only women can be raped"						
Disagree	202	90.99	168	90.32	34	94.44
Mixed	9	4.05	8	4.30	1	2.78
Agree	11	4.95	10	5.38	1	2.78
Overall attitudes towards sexual violence [a]						
Low stigma	145	65.32	116	62.37	29	80.56
Medium stigma	62	27.93	57	30.65	5	13.89
High stigma	15	6.76	13	6.99	2	5.56

a. As measured by the Illinois Rape Myth Scale

Table J.5 Experiences of intimate partner violence among adolescents and young people in Mombasa, by gender and age (n=433) [a]

			Boys / Men						Girls / Women					
	Total		10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
"My partner threatened to harm or kill me or someone close to me"														
No	381	87.99	9	100	132	91.03	141	91.56	16	88.89	222	85.71	238	85.92
Yes	52	12.01	0	0	13	8.97	13	8.44	2	11.11	37	14.29	39	14.08
"My partner told me I was crazy, stupid, or not good enough"														
No	332	74.54	8	88.89	107	74.31	115	75.16	15	83.33	191	73.75	206	74.37
Yes	110	25.46	1	11.11	37	25.69	38	24.84	3	16.67	68	26.25	71	25.63
"My partner kept me from seeing or talking to my friends or family"														
No	369	85.81	7	77.78	129	90.21	136	89.47	14	77.78	217	84.11	231	83.70
Yes	61	14.19	2	22.22	14	9.79	16	10.53	4	22.22	41	15.89	45	16.30
Indications of intimate partner violence [b]														
No	370	86.25	8	88.89	128	90.14	136	90.07	16	88.89	216	83.72	232	84.06
Yes	59	13.75	1	11.11	14	9.86	15	9.93	2	11.11	42	16.28	44	15.94

a. Only asked of participants aged 15 years and older who reported some previous romantic relationship who chose not to skip these sensitive items (n=433)

b. As measured by the Composite Abuse Scale Short Form

Appendix K: Needs and priorities

Table K.1 Needs and priorities expressed by adolescents and young people in Mombasa, by gender and age (n=1,405)

	Total		Boys / Men						Girls / Women					
			10-17 years		18-24 years		All ages		10-17 years		18-24 years		All ages	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Self-reported primary health need [a,b]														
Mental health care	97	32.23					45	40.54					51	27.13
Sexual and/ or reproductive health	20	6.64					7	6.31					12	6.38
Optometry	21	6.68					4	3.60					17	9.04
Respiratory care	12	3.99					1	0.90					11	5.85
Dermatology	6	1.99					4	3.60					2	1.06
Dentistry	4	1.33					1	0.90					3	1.60
Gastroenterology	8	2.66					1	0.90					7	3.72
Orthopaedics	5	1.66					3	2.70					2	1.06
Otolaryngologist (hearing)	4	1.33					0	0					4	2.13
Access to healthcare (general)	6	1.99					1	0.90					5	2.66
Socioeconomic support	31	10.30					12	10.81					19	10.11
Other health needs [c]	104	28.90					32	28.83					55	29.26
Concern about climate change														
Low concern	219	15.59	16	19.28	60	15.38	76	16.07	41	15.30	99	15.07	140	15.14
Medium concern	358	25.48	21	25.30	97	24.87	118	24.95	42	15.67	196	29.83	238	25.73
High concern	828	58.93	46	55.42	233	59.74	279	58.99	185	69.03	362	55.10	547	59.14

a. This was an optional item completed by 301 participants
b. Given small numbers, item only reported overall and by gender
c. 'Other' include any other need listed by <4 participants (e.g., physiotherapy, gastric conditions, etc)

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