

Introduction to user personas

This set of three user personas was developed to inform the design and development of next generation HIV self-tests. Originally developed for use by health workers, rapid HIV tests have expanded to include the self-testing use case. Individuals testing themselves have different needs and motivations than health workers, and these attributes can be captured clearly through user personas.

Personas are a methodological tool used in user-centered design to understand user needs. They represent the characteristics and goals of a user group, including common behaviors, skills, attitudes, limitations, and constraints. Personas also capture information on the environment in which the user group operates. The purpose of personas is to communicate user needs and build a common understanding within multidisciplinary teams that can provide focus throughout the product development process, from defining functional product requirements to designing effective delivery strategies.

The three personas selected represent key populations of interest to global and national stakeholders working on HIV/AIDS. These personas were developed in a two-phase process. First, draft personas were created based on literature reviews and expert interviews (n=3). The draft personas were then refined using in-person, semi-structured interviews with members of the user group (n=25-40) to generate validated personas. PATH has conducted and championed “right-fit” technology development since its founding 40 years ago, recognizing that aligning with the motivations and constraints of the end user is essential for product uptake and, ultimately, the ability of a new tool to improve health outcomes.

For more information on our design and development process, please contact Roger Peck at dxinfo@path.org.



South African adult

Male

25 years old

Single

None

Themba lives in a township in South Africa. He lives with four other family members in a small home.

Themba attended school in his township and finished Grade 11. He has struggled to maintain consistent employment like the 25.5% of men in South Africa who are currently unemployed.

HIV burden: 2.46 million¹

28.9%²

53%³

His home has:



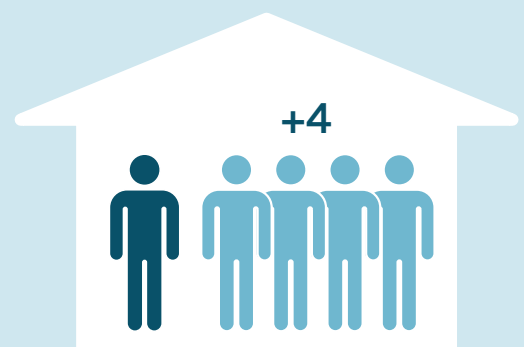
Electricity



Running water



Limited privacy



+4

CARE-SEEKING BEHAVIOR

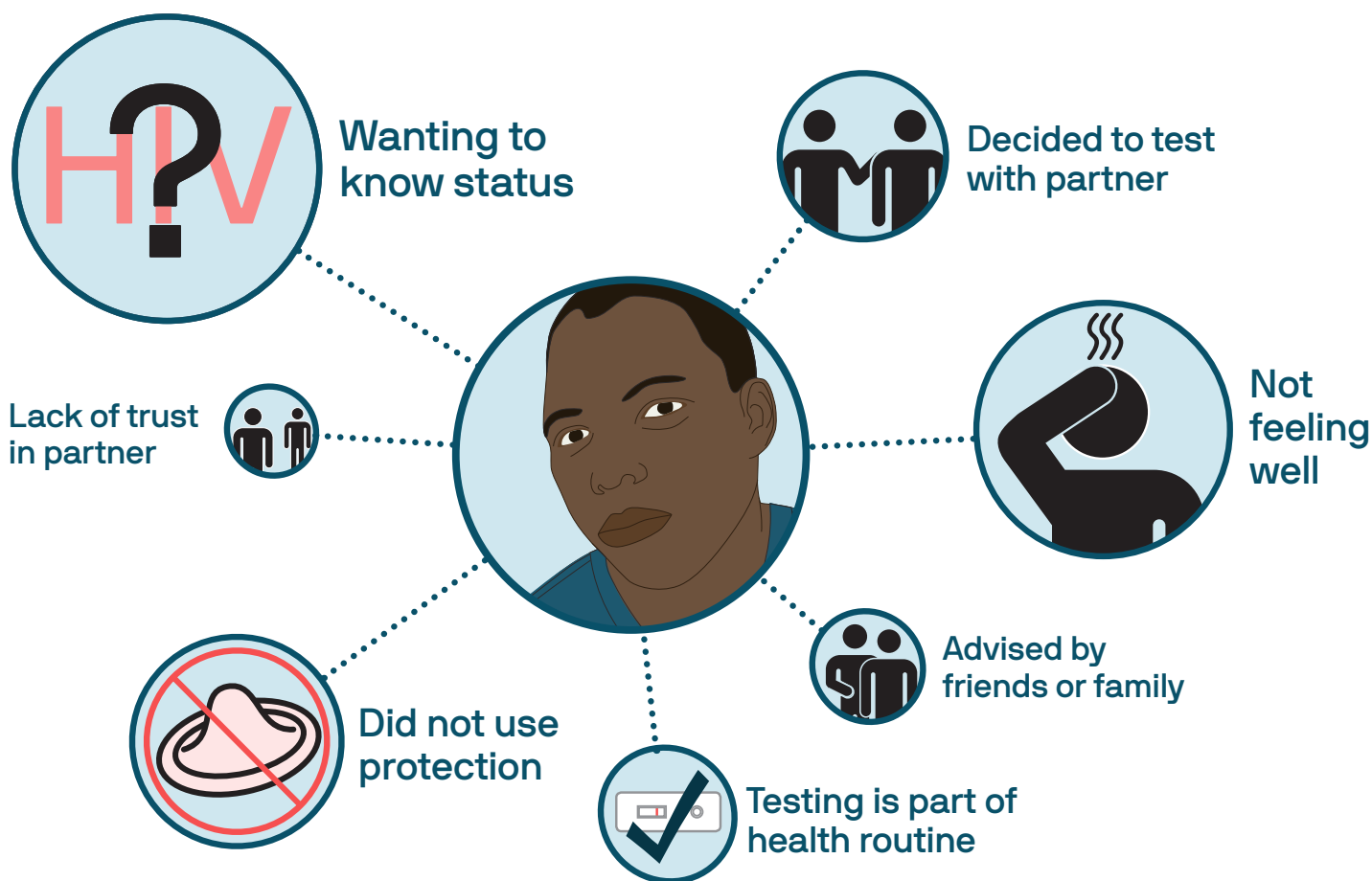
Themba is rarely ill, but when he feels sick, he goes to the pharmacy for self-treatment or to a local clinic that is close to his home. Barriers to his care-seeking are the long lines and wait times at the clinic. Cost and distance are not significant barriers.

SEXUAL HEALTH

Themba is sexually active. He has a female partner and uses condoms with moderate frequency. He and his partner regularly collect free condoms from the market. In the past, Themba has had concurrent sexual partners.

Themba has tested for HIV and has discussed his status with his partner. He learned about HIV through school, media campaigns, and from local health care workers and nongovernmental organizations (NGOs). Themba has never used an HIV self-test.

Factors influencing Themba's decision to test for HIV



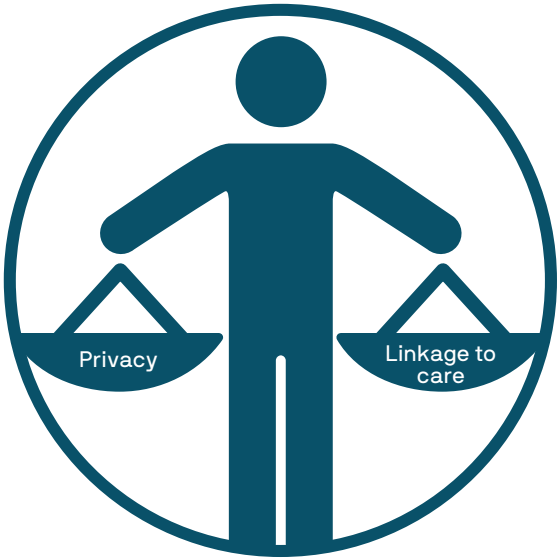
HIV TESTING AT A FACILITY VERSUS SELF-TESTING

Attributes by location

TESTING AT HEALTH FACILITY	SELF-TESTING
Immediate linkage to care: counseling and treatment	More privacy
Less privacy — “There is no privacy at the clinic, as soon as you are seen at the HIV section people will start gossiping about you.”	Control over result disclosure
Health worker interactions shape positive and negative experiences	No wait time
Accessible location	Personal time to process results
Longer wait times	Linkage to care dependent on individual — “There is also a possibility of keeping your positive HIV test a secret and not seek advice. Counseling before an HIV test is important.”
Often free testing services	Greater risk for mental health distress after a positive result
Varied clinic environment	No training on use of self-tests

THE GOAL: CONVENIENT, COMFORTABLE, AND CONFIDENTIAL TESTING

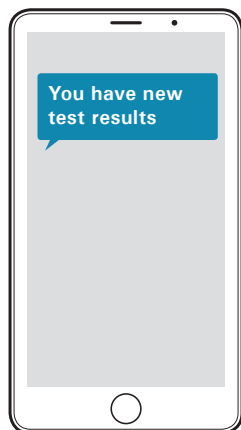
Themba faces a tradeoff when choosing a testing location. He weighs his desire for **privacy, control, and independence** against his desire for **immediate counseling and care**.



PERSPECTIVES ON HIV SELF-TEST USAGE

Mobilization to seek HIV self-testing

Themba considers himself somewhat knowledgeable about HIV. Health clinics and mobile testing sites are highly visible in his community and there is a large NGO presence running HIV campaigns. He regularly hears and sees educational messages on HIV prevention, testing, and treatment on the radio, television, and social media. He has a smartphone, on which he can be reached with messages about HIV self-testing. If he has questions about HIV, he thinks he would seek answers through a health worker, an NGO, or independently via research on his mobile phone.



Location of collection and use of an HIV self-test

Themba has not yet used an HIV self-test, but he is curious and attracted by the confidentiality of the testing process. He would be open to collection of an HIV self-test at either a traditional or nontraditional location, including a health clinic, pharmacy, shopping mall, or market. Themba is most comfortable with the idea of using the test within his home rather than outside it. He would consider testing with his partner or a trusted family member for support, but he values his independence and privacy as well.

Desired HIV self-test features

For Themba, an ideal HIV self-test would be free or inexpensive (less than R20 or US\$1.50), easy to use, and produce a result within 20 minutes. The test should also be able to withstand high summer temperatures and produce an accurate result when stored in the heat.

Linkage to care

Themba has not had recent HIV counseling and he questions what he would do if his result were positive. There is the temptation to keep it a secret, but he hopes he would make peace with the result and go to the clinic for confirmation and treatment. Themba may need additional support before using an HIV self-test, such as pre-counseling at the time of test collection or purchase.

Self-test features

Supply mechanism:

- Disseminate information about self-test availability via radio, television, social media, and SMS (short message service; i.e., text message)
- Provide self-tests for purchase or distribution at highly accessible locations
- Offer pre-counseling at the time of purchase

Cost: Design self-test to be inexpensive

Complexity/ease of use: Minimize test complexity and number of steps; ease of interpretation

IFU: Clearly word instructions for use (IFU) in appropriate languages, incorporating pictorial aids

Time to result: Generate a rapid result (<20 minutes)



Waste management: Ensure test disposal is acceptable for routine waste services

Operating conditions: Operable at high temperatures (up to 40°C)



Connectivity:

Develop mobile app to support:

- Information dissemination on HIV prevention, transmission, symptoms, and treatment
- Confirmation testing after positive self-test
- Mapping of nearby clinics for care
- Scheduling of medical appointments

BUILDING A DIFFERENTIATED CARE MODEL

When Themba considers using an HIV self-test, his need for support is based on his usage goals, behaviors, and testing experiences. These factors include personal attributes such as his level of HIV knowledge and confidence testing. As Themba has less experience testing for HIV in a facility, he may need more support than someone who habitually tests.

Themba “The new tester”

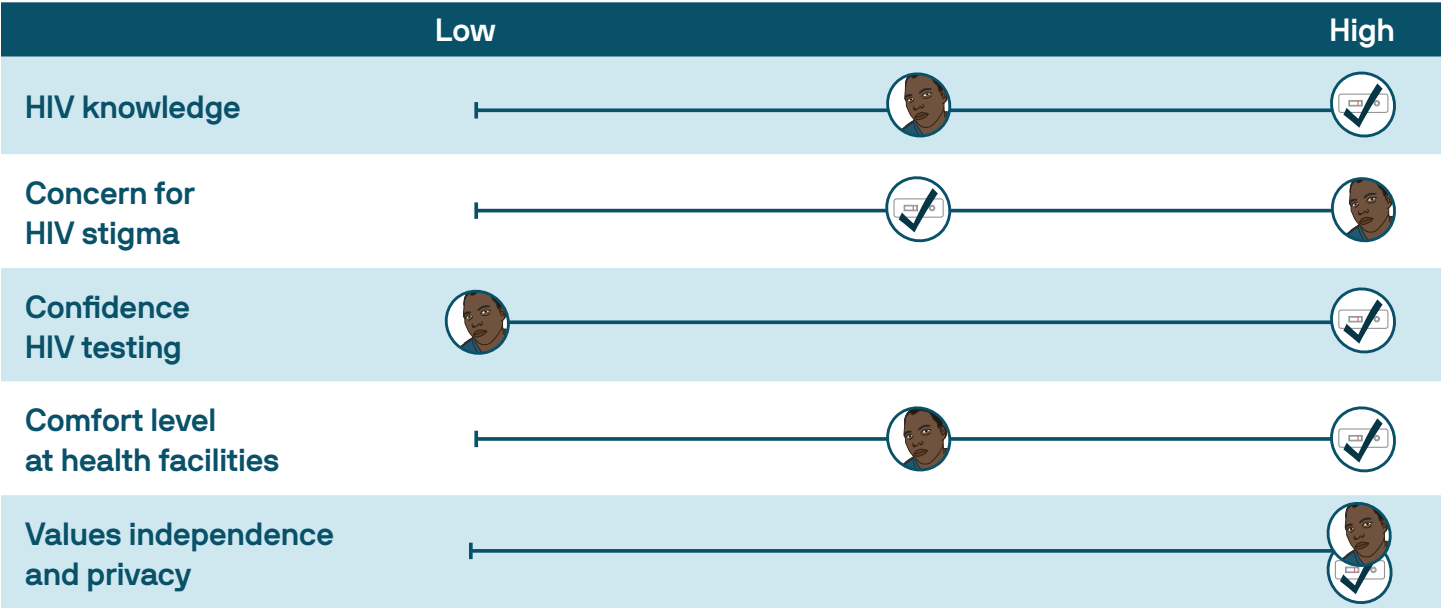


The first time he tested for HIV in a health facility...
“I didn’t have knowledge about HIV so I felt intimidated.”
“It was terrifying because I didn’t know what to expect, I was worried about having to change my lifestyle if my test result came out positive.”

“The habitual tester”



“I get tested routinely whenever I see an HIV testing station just to be sure about my HIV status.”



Varying user needs



References

1. Joint United Nations Programme on HIV/AIDS (UNAIDS). A snapshot of men and HIV in South Africa [brief]. Geneva, Switzerland: UNAIDS; 2017. <http://www.unaids.org/en/file/111992/download?token=HCocZ...Hh>. Accessed September 16, 2018.
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3. Joint United Nations Programme on HIV/AIDS website. Country factsheets: South Africa 2017 page. <http://www.unaids.org/en/regionscountries/countries/southafrica>. Accessed September 28, 2018.

We would like to thank our local partners for support with participant recruitment for this study.



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South African adolescent

Female

20 years old

Single

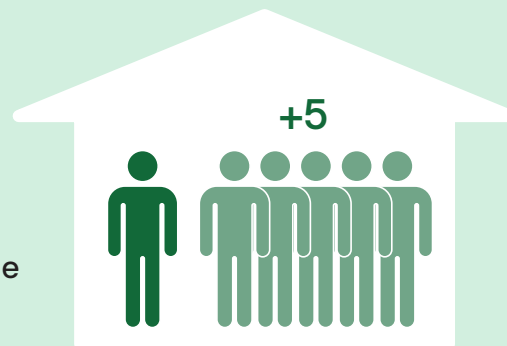
None

Nandi lives in a township in South Africa, where she grew up. She was raised by her grandparents and her mother, who is a domestic worker. Nandi lives in a small home with five other family members.

Nandi is out of school but not working. She completed Grade 12 at the high school in her township.

* Data relevant for adolescent females in South Africa, aged 15–24

Limited privacy



CARE-SEEKING BEHAVIOR

When Nandi seeks health care, she goes to a local health clinic. The distance and cost of getting to the clinic are barriers to her care-seeking. In the past, she has had negative experiences with nurses. Her desire to avoid these interactions limits her seeking care, along with the long lines.

The last time she was sick she had a fever, rested at home, and picked up acetaminophen from a

pharmacy. When her health did not improve, she went to the clinic for care.

SEXUAL BEHAVIOR

Nandi is sexually active and sometimes uses a condom. She has a male partner and receives regular birth control injections. She has tested for HIV at her local clinic but does not test regularly. She has learned about HIV in many settings: at school, in health clinics, and in the media.

Testing experiences

Pregnancy testing

Nandi has used a home pregnancy test and tested in a clinic. Her experience in the clinic was shaped by her interactions with the clinic staff. When she tested at home she did the testing with a friend for support.

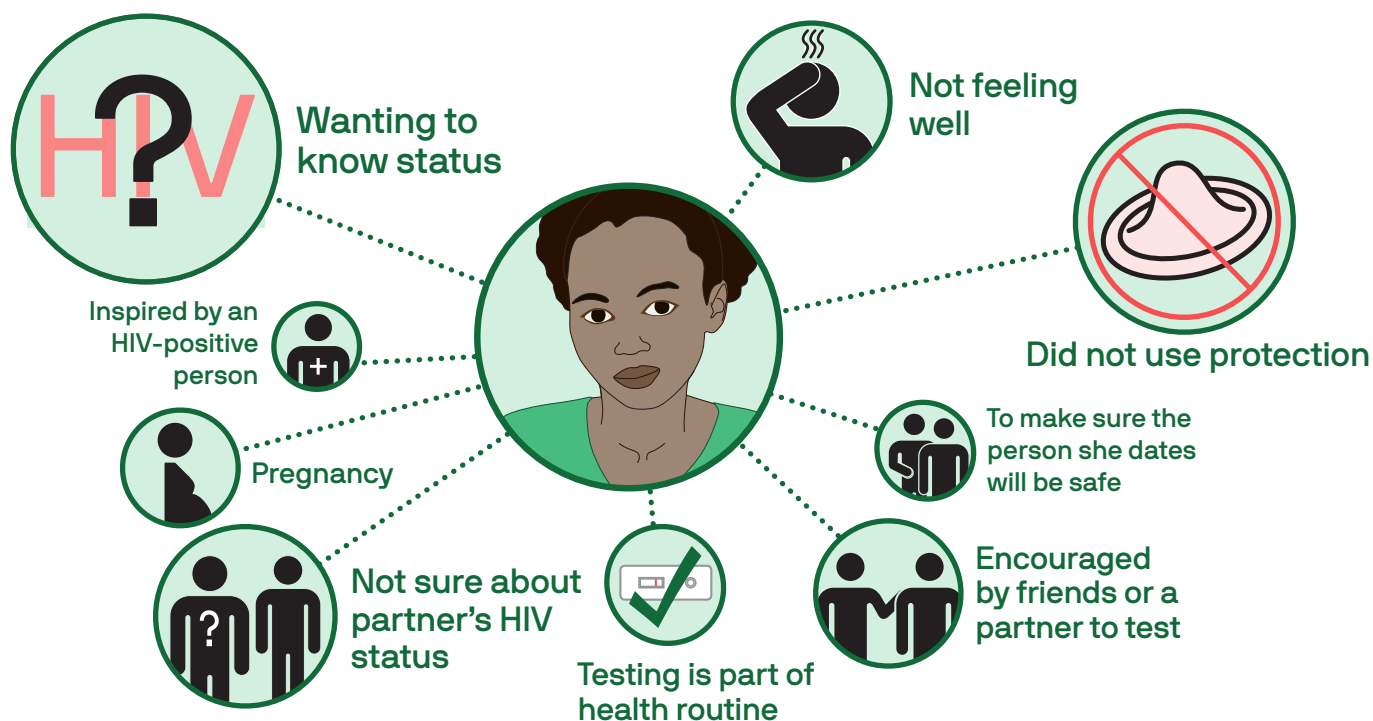


"I was terrified. I went to the clinic. It was uncomfortable because firstly the people that you talk to, the people doing the tests, weren't making it easier. You're treated badly...you're judged. [They say] 'Why did you do that? Why didn't you use contraceptives?'"



"I read the instructions before I took it. It was a good experience but at the same time, I was scared. It taught me how to take responsibility. The moment that I took the pregnancy test, I thought about being responsible as a young woman."

Factors influencing Nandi's decision to test for HIV



HIV TESTING AT A FACILITY VERSUS SELF-TESTING

Attributes by location

TESTING AT HEALTH FACILITY	SELF-TESTING
Immediate counseling and access to treatment	More privacy
Less privacy — “There is no privacy or confidentiality. They shout to ask who is coming to test and you have to come forward.”	Lack of counseling
Trust in the accuracy of test results	Control over result disclosure
Potential for judgement from health workers or others seeking care	Personal time to process results
Access to other health services	Accuracy of result dependent on user — “You may not get accurate answers. You might think that you’ve done the correct things, but you didn’t.”
Locations vary in accessibility	More concern for mental health distress following a positive result
Longer wait times	Potential to facilitate partner testing — “I can test with my partner. Our men don’t want to go to the clinic, a lot of them.”

THE GOAL:

AN ACCURATE AND CONFIDENTIAL TEST RESULT WITH SUPPORTIVE COUNSELING

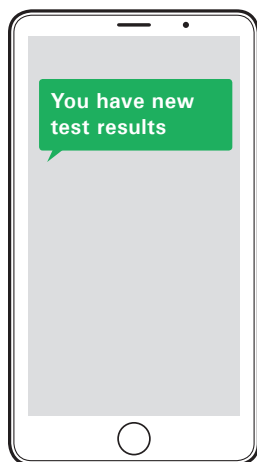
When testing in a facility, Nandi wants health workers to treat her “like a friend.” When considering self-testing, she values control and privacy but worries about the lack of supportive counseling.



PERSPECTIVES ON HIV SELF-TEST USAGE

Mobilization to seek HIV self-testing

Nandi considers herself somewhat knowledgeable about HIV. It is the first time Nandi has heard of HIV self-testing, but she thinks she would prefer it to facility-based testing. Nandi has a smartphone, on which she can be reached with information about HIV, different testing options, and clinic locations. When Nandi has had questions about HIV, she has directed them to health clinic staff or trusted family members or friends. She also uses the Internet to independently research answers.



Location of collection and use of an HIV self-test

If Nandi were to use an HIV self-test, she thinks they should be available in easy to access locations such as pharmacies, shopping malls, and youth centers. Even though she has limited privacy at home, she thinks self-testing at home would be the most comfortable location. She would consider testing with a partner or trusted friend or family member. Having their emotional support would reduce her fear and concern with receiving a positive result.

Desired HIV self-test features

An ideal HIV self-test would be free or inexpensive (less than R20 or US\$1.50), easy to use, and produce a result within 15 minutes. The test should also be able to withstand high summer temperatures and produce an accurate result when stored in the heat. Nandi worries about using an HIV self-test correctly, so clear instructions are essential.

Linkage to care

Nandi has not had recent HIV counseling and the lack of available counseling when using an HIV self-test is a concern for her. However, she is confident that if she tested HIV positive, she would go to the clinic for confirmation testing. Nandi may benefit from forms of distance counseling such as by phone or online. Options for counseling via phone or online may provide the support Nandi needs while protecting her privacy.

Self-test features

Supply mechanism:

- Disseminate information about self-test availability via targeted Internet advertising
- Offer self-tests for purchase or distribution at highly accessible locations

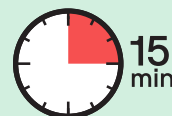
Packaging: Make packaging inconspicuous for privacy

Cost: Design self-test to be inexpensive

Complexity/ease of use: Minimize test complexity and number of steps; ease of interpretation

IFU: Clearly word instructions for use (IFU) in appropriate languages, incorporating pictorial aids

Time to result: Generate a rapid result (<15 minutes)



Waste management: Ensure test disposal is acceptable for routine waste services

Operating conditions: Operable at high temperatures (up to 40°C)



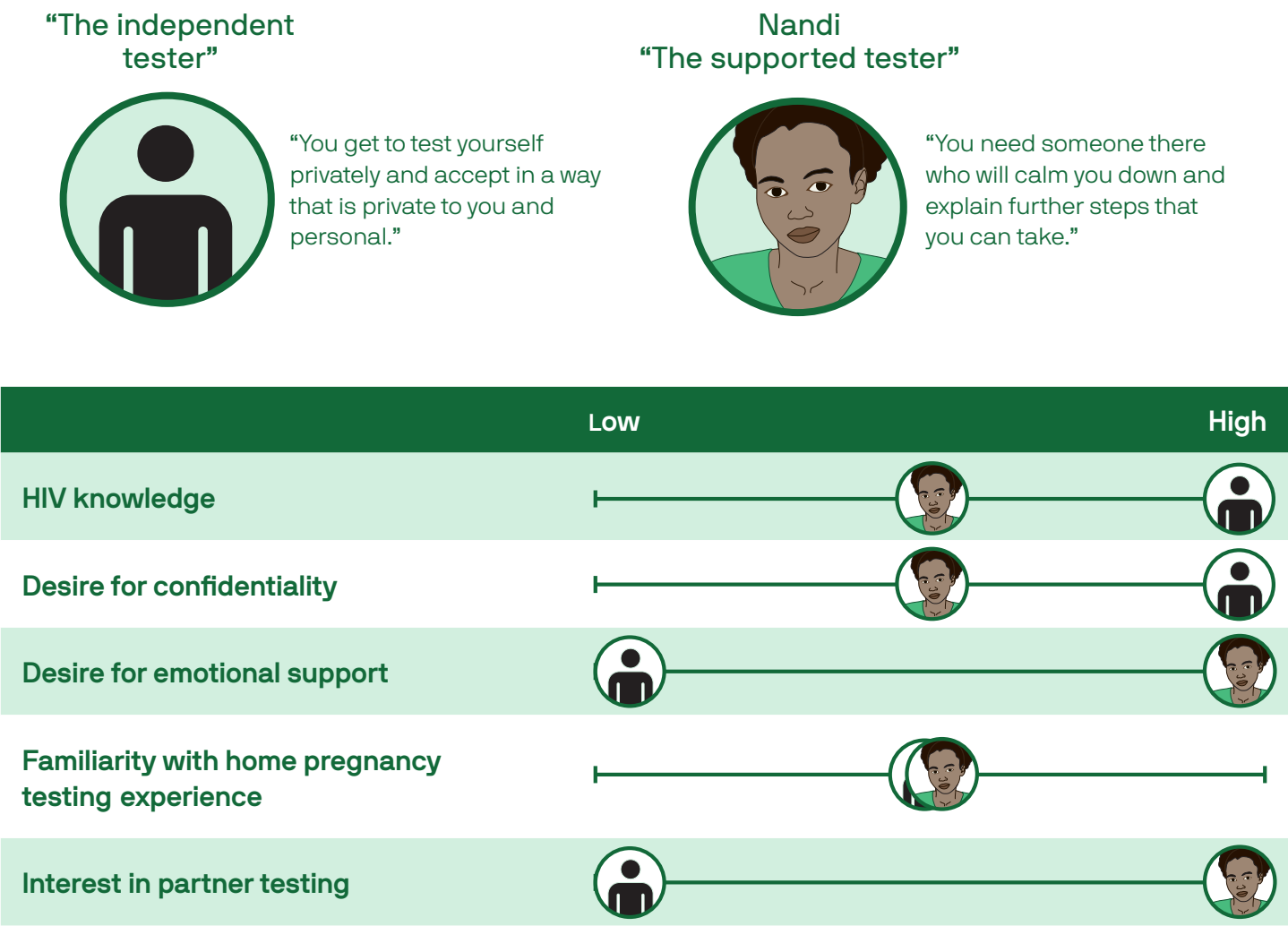
Connectivity:

Develop mobile app or online resources to support:

- Information dissemination on HIV prevention, transmission, symptoms, and treatment
- Confirmation testing after positive self-test
- Distance counseling
- Mapping of nearby clinics for care
- Scheduling of medical appointments

BUILDING A DIFFERENTIATED CARE MODEL

When Nandi thinks about self-testing, her need for support is based on her usage goals, behaviors, and testing experiences. These factors include personal attributes such as her level of HIV knowledge or her familiarity with pregnancy testing. Some adolescents prefer a more independent self-testing experience than Nandi and recognizing these differences helps to create a more appropriate care model.



References

1. National Department of Health South Africa, South African National AIDS Council (SANAC). *Let Our Actions Count: South Africa's National Strategic Plan for HIV, TB and STIs 2017-2022*. Pretoria, South Africa: SANAC; 2017. http://sanac.org.za/wp-content/uploads/2017/05/NSP_FullDocument_FINAL.pdf.
2. National Department of Health South Africa, Statistics South Africa (Stats SA), South African Medical Research Council, ICF. *South Africa Demographic and Health Survey 2016: Key Indicators Report*. Pretoria, South Africa: Stats SA; 2017. <https://www.dhsprogram.com/pubs/pdf/PR84/PR84.pdf>.
3. Joint United Nations Programme on HIV/AIDS website. Country factsheets: South Africa 2017 page. <http://www.unaids.org/en/regionscountries/countries/southafrica>. Accessed September 28, 2018.

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Phuong Nguyen

Vietnamese sex worker

GENDER:

Female

AGE:

34 years old

MARITAL STATUS:

Divorced

CHILDREN:

1

HOME

Phuong lives in a room in a house in Hanoi, Vietnam, with her daughter. They have lived in their home for the past two years. Phuong is divorced and doesn't currently have a partner.

LIFE

Phuong completed Grade 9 in school in the province where she grew up. Phuong began working as a sex worker six years ago. She currently works in a karaoke bar, but has also worked in guest houses and hair salons. On an average day, Phuong works for six hours and has between two and three clients.

National data*

HIV prevalence
among sex workers:

3.7%

Knowledge
of HIV status:

39.6%

ART coverage:

27.6%

Condom use:

82.9%

* 2017 HIV Sentinel Surveillance Plus Behavioral Component (HSS+) data on sex workers in Vietnam

Her home has:



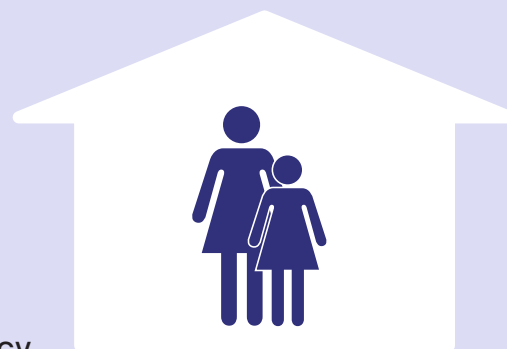
Electricity



A refrigerator



Frequent privacy



CARE-SEEKING BEHAVIOR

Phuong's decision to seek care depends on the severity of her symptoms and whether they impact her work. Often, she goes to a pharmacy, where she describes her symptoms and receives treatment. Phuong is part of a peer group of sex workers who share health information and advice.

Phuong pays per visit for care because she does not have health insurance. Time and cost of medical care are the primary barriers Phuong faces.

SEXUAL HEALTH

Phuong uses a condom with clients most of the time. When she hasn't used a condom, it has been with regular clients whom she trusts. She also considers factors like whether the client looks well and has a good job. She purchases condoms from the pharmacy and also collects them from hotels and guest houses.

Phuong has some knowledge about HIV, which she has learned from community-based organizations (CBOs), peer sex workers, Internet searches, and from media campaigns. She has tested for HIV and other sexually transmitted infections in the past but does not test regularly.

Testing experiences

Pregnancy testing

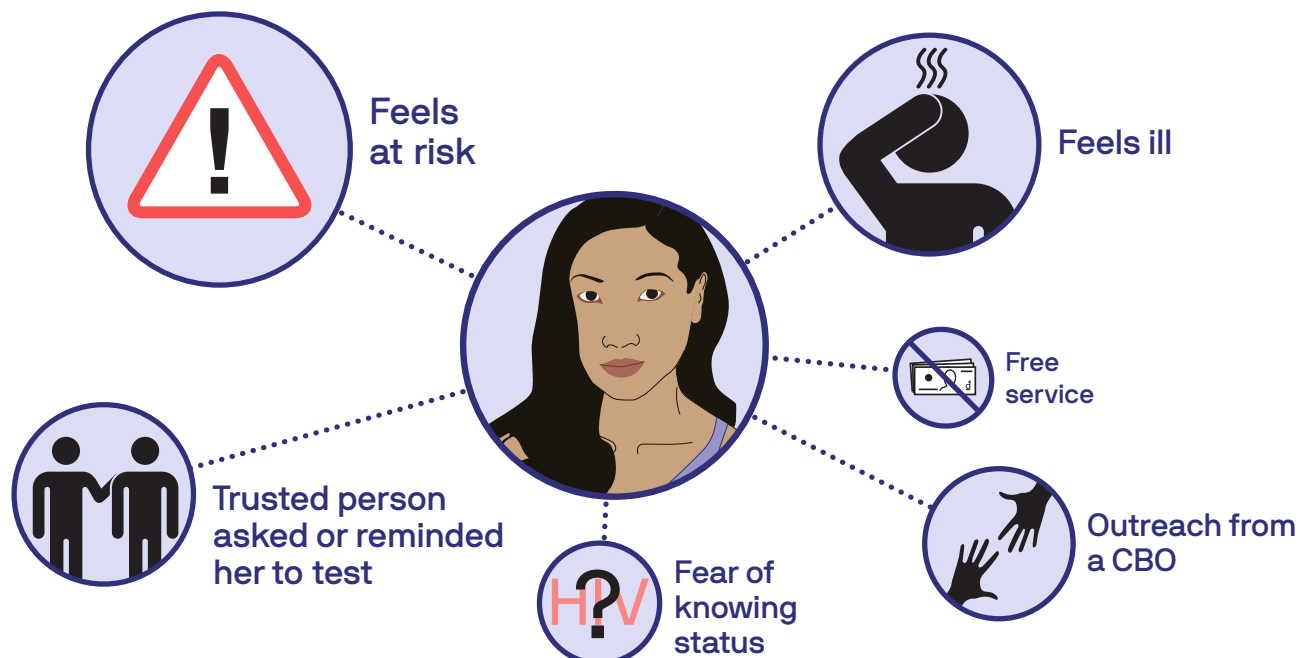
Phuong has had good experiences using home pregnancy tests. The first time she bought a test, she appreciated that the pharmacist took time to explain how to use it. This made testing at home easier. Phuong also found the instructions to be clear and felt confident using the test.



HIV testing

Phuong is nervous about testing for HIV. When she has tested in the past, she has not always shared her profession with providers because of the stigma. If she is able to build trust, then she is more comfortable returning for care or checkups.

Factors influencing Phuong's decision to test for HIV




HIV TESTING AT A FACILITY VERSUS SELF-TESTING

Attributes by location

TESTING AT HEALTH FACILITY	SELF-TESTING
<p>Perceived to be more accurate — “Health providers are more professional than me and it is easier for them to do it. The result of their testing is more correct than my doing at home.”</p> <p>Access to immediate counseling</p> <p>Care can be costly and time-consuming — “It’s far. It takes time, and I don’t have the means.”</p> <p>Interactions with and attitudes of health care providers shape the experience</p>	<p>More privacy</p> <p>More personal control</p> <p>More convenient</p> <p>Risk of making errors in the test procedure</p> <p>Less clarity on next steps if HIV positive — “If I am detected to have the disease, I do not know what to do, and I must go to the health facility for re-examination.”</p>

THE GOAL: TEST RESULTS THAT CAN BE TRUSTED AND PROVIDED IN AN INEXPENSIVE, TIME-EFFICIENT, AND CONFIDENTIAL MANNER

When Phuong considers trying out an HIV self-test, her need for support is based on her usage goals, behaviors, and testing experiences. These factors may also vary by age or life experience. Phuong has a sex worker peer who differs from her in the following ways:

 <p>AGE: 26 years old</p> <p>MARITAL STATUS: Single</p> <p>CHILDREN: None</p> <p>WORKPLACE: More often exclusively works at karaoke bars, rather than other venues, and connects with clients through mobile apps or Internet sites</p> <p>WORK HOURS: Similar hours of work (6 per day) and number of clients (2-3 per day)</p>	<p>CARE-SEEKING</p> <ul style="list-style-type: none"> • Less reported difficulty seeking care • More health insurance coverage • Less connection to peer groups and CBOs • More often seeks health information from health care providers or online (rather than peer groups or CBOs) <p>HIV SELF-TESTING</p> <ul style="list-style-type: none"> • Less familiarity with HIV self-tests but higher reported interest • Higher willingness to pay for an HIV self-test
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PERSPECTIVES ON HIV SELF-TEST USAGE

Mobilization to seek HIV self-testing

Phuong trusts her peer network of sex workers and would be open to receiving an HIV self-test from them. If a “sister” recommended she test, she may feel motivated to try it. She has also used vouchers from CBOs for free health services. Having a CBO show support for a self-test would be persuasive. When Phuong has questions about HIV, she searches the Internet or speaks with health care providers, staff at CBOs, or her peer network. She can be reached with information about self-testing through these channels.

Location of collection and use of an HIV self-test

While Phuong would be comfortable receiving a self-test from her peer network, she is not interested in testing with her peers. For Phuong, self-testing would best be done in private and at home. The location for collecting a self-test is important to her. Phuong is concerned about counterfeit products. She would want to receive the test from a reputable source. She is most comfortable visiting pharmacies and would like the self-test to be available for purchase there. When she purchases a test, she would like the pharmacist to explain the procedure, as this would help her have more confidence in performing the test herself.

Desired HIV self-test features

An ideal HIV self-test would be easy to use, like a home pregnancy test, and cost between 50,000 and 100,000 VDN (US\$2.25-\$4.50). She wouldn't want the test to cost any less or she would suspect it to be of poor quality. The test kit should also include a certificate of quality so that she knows she can trust the product. Phuong wants the test to be accurate and able to provide a clear test result within 20 minutes.

Linkage to care

If Phuong's test result is HIV positive, she may want to keep her result private because of the stigma around HIV. She knows she should visit a health facility for care but may be hesitant to confide in her peers and get their advice. Support mechanisms that promote linkage to care and maintain her privacy are important to her.

Self-test features

Supply mechanism:

- Disseminate information about self-test availability via radio, television, social media, mobile app, and targeted Internet browsing
- Provide self-tests for purchase at pharmacies and health facilities and distribute free of charge via trusted networks, like peer groups and CBOs
- Offer instruction on the test procedure at the time of purchase or collection

Cost: Design self-test to be inexpensive

Quality control: Provide a certificate of quality in test packaging

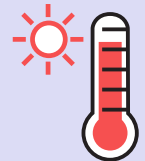
Complexity/ease of use: Minimize test complexity and number of steps; ease of interpretation

IFU: Clearly word instructions for use (IFU)

Time to result: Generate a rapid result (<20 minutes)



Operating conditions: Operable at high temperatures (up to 40°C)



Other supplies:

Develop mobile app to support:

- Information dissemination on HIV prevention, transmission, symptoms, and treatment
- Confirmation testing after positive self-test
- Mapping of nearby clinics for care
- Scheduling of medical appointments

A DIFFERENTIATED CARE MODEL FOR HIV SELF-TESTING

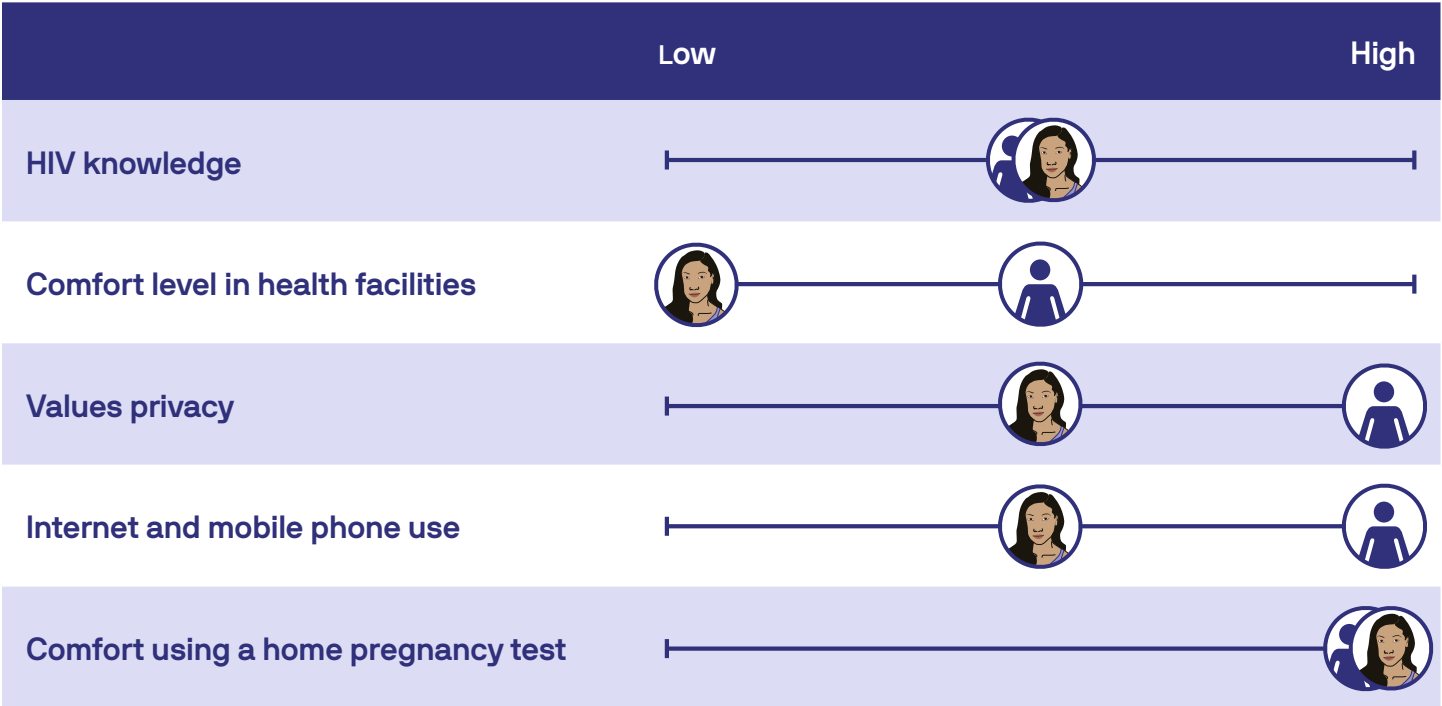
When building a differentiated care model, it is important to understand how age and other factors shape user needs and behaviors.



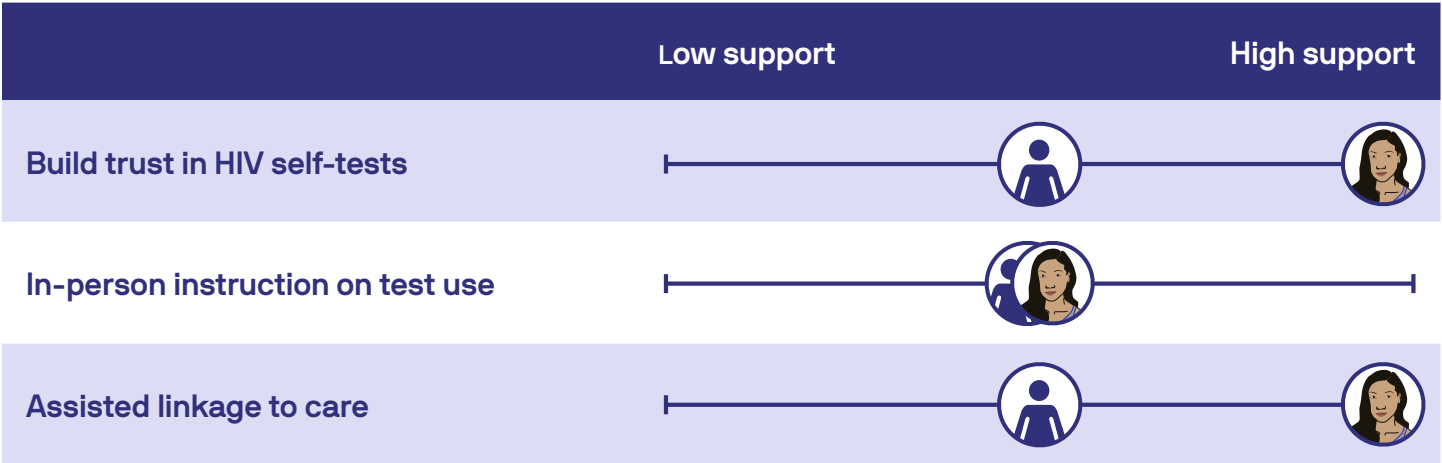
More experienced sex worker



Less experienced sex worker



A support model to match user needs



Reference

Joint United Nations Programme on HIV/AIDS website. Country factsheets: Vietnam 2017 page. <http://www.unaids.org/en/regionscountries/countries/vietnam>. Accessed September 16, 2018.

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