



A National Evaluation of Sexually Transmitted Infection Services in Public Sector Clinical Sentinel Surveillance Facilities, in South Africa

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South Africa National Department of Health

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| Abbreviations

| | | | |
|--------------|--|---------------|--|
| BV | Bacterial Vaginosis | IM | Intramuscular |
| CDC | Centers for Disease Control and Prevention | I-TECH | International Training and Education Center for Health |
| CHC | Community Health Centre | MMC | Medical Male Circumcision |
| CI | 95% Confidence Interval | MUS | Male Urethritis Syndrome |
| CSS | Clinical Sentinel Surveillance | NDOH | South Africa National Department of Health |
| CWN | Case Writing Notes | PHC | Primary Healthcare Clinic |
| ELISA | Enzyme-linked immunosorbent assay | PITC | Provider Initiated Testing and Counselling |
| EPT | Expedited Partner Therapy | REDCap | Research Electronic Data Capture |
| HAART | Highly Active Antiretroviral Therapy | SP | Standardized Patient Actor |
| HCT | HIV Counselling and Testing | STI | Sexually Transmitted Infection |
| HCW | Health Care Worker | UW | University of Washington |
| HIV | Human Immunodeficiency Virus | VCT | Voluntary Counselling and Testing |
| HRSA | Health Resources Service Administration | VDS | Vaginal Discharge Syndrome |
| HSD | Human Subjects Division | | |
| HSRC | Human Sciences Research Council | | |

| Executive Summary

Introduction

An estimated 499 million cases of curable sexually transmitted infections (STIs) occur annually worldwide (1). STIs are associated with increased acquisition and transmission of HIV and can lead to chronic disease, birth complications, infertility, cancer, and death. In South Africa, the widespread HIV epidemic is coupled with high rates of curable STIs. Recent modelling suggests decreases in the prevalence of curable STIs associated with implementation of syndromic management (2). However, there are considerable health systems barriers to implementation of national STI guidelines. A 2002 survey of South African primary healthcare facilities revealed significant gaps in service delivery for STIs (3) including stock outs, lack of provider knowledge, and limited referral processes.

Identification of opportunities and interventions to improve STI care and guidelines in South Africa are needed to reduce the burden of both STIs and HIV. In this national evaluation, we aimed to reassess the degree and content of gaps in delivery of STI care, with a vision toward informing evidence-based change for National STI service delivery.

Methods

This was a mixed-method national evaluation of STI services in South Africa utilizing cross-sectional health facility surveys, standardized patient actor evaluations of care, value stream mapping processes of service delivery, and qualitative interviews with clinic clients.

Fifty primary healthcare clinics (PHCs) and community health centres (CHCs) were randomly selected from a comprehensive list of 270 clinical sentinel surveillance sites (CSS). The number of facilities per province was proportional to the population size. At all facilities, health facility assessments ascertained the structural aspects of STI care including availability of STI medications and laboratory tests; availability of condoms and partner notification slips; basic facility infrastructure; the presence or absence of STI guidelines, policies, and procedures; and data use and reporting of STI cases at the facility level.

Up to four unannounced standardized patient actors (SPs) presented at facilities to assess STI service provision and adherence to STI national guidelines. The primary outcome assessed essential elements of STI care defined as: correct medication for vaginal or urethral discharge; condom provision; partner notification counselling; and an HIV test. At a subset of three facilities (one urban, one rural, and one coastal), value stream mapping was employed to identify bottlenecks in STI care and to further understand the patient flow during an STI visit. At these same three facilities, patients exiting facilities voluntarily participated in in-depth interviews to assess partner notification preferences.

For health facility assessments and simulated patient actor encounters, results were weighted based on the sampling design and analysed to determine the proportion of facilities or SPs reporting services available. Clinic flow mapping interviews were analysed to generate a map of patient flow at each facility. In-depth interviews were coded based on common themes.

Results

A total of 48 PHCs and two CHCs were assessed in this evaluation. Most facilities were staffed with professional nurses as well as enrolled nurses, nursing assistants, one data clerk, and part-time medical doctors who rotated through multiple facilities. Facilities reported stock outs of STI medications, laboratory tests, and condoms, with fewer than half of facilities reporting cefixime availability.

A survey-weighted 23.1% of SPs were offered all four of the essential STI services. Condom provision was lowest with only 36.5% of patients receiving condoms. Half (50.1%) of SPs were offered a physical genital exam, 64.8% were offered the correct treatment regimen, 70.8% received a partner notification slip or counselling about discussing STIs with their sexual partners, and 62.0% of patients were counselled about practicing safer sex. Men were statistically more likely than women to be offered an HIV test (76.5% compared to 58.5%, $p=0.039$) and to receive partner notification counselling (79.3% compared to 62.4%, $p=0.020$). A total of 70.9% of SPs received a correct medication for chlamydia, 84.0% of SPs received a correct medication for

gonorrhoea, and 77.5% of female SPs were offered metronidazole. Only 6.7% of providers discussed or recommended medical male circumcision (MMC) with male SPs; 25.0% of providers discussed family planning with female SPs.

Clinic flow mapping found that all facilities employed a triage method of services where patients receive a basic consultation but are only taken for the full consultation and laboratory testing if needed. Additionally, facilities used separate spaces including tents for HIV counselling and testing (HCT), and, in some cases, clients had to return to the queue following voluntary HCT. The main barriers to STI care reported by respondents included inadequate infrastructure and staffing, lack of space for HCT, and delays in obtaining laboratory testing and test results.

In-depth interviews with patients revealed that preferred methods of partner notification differed based on the length or seriousness of a relationship with a partner. Specifically for longer-term or more serious relationships, face-to-face partner notification was preferred. Positive feelings were reported related to the availability of additional materials from the clinics to assist with the disclosure process, such as partner notification slips. Concerns were expressed over provider-initiated notification models, primarily via SMS or phone, specifically related to longer-term relationships. Confidentiality, understanding of the seriousness of the information, and concerns about how to convey information on the next steps and importance of treatment were also concerns. Respondents reported fear of violence or dissolution of the partnership after a personal disclosure. Despite a provider-initiated model not being the preferred

method of partner notification, most respondents thought having more precise information from an authority figure was helpful.

Conclusions

This evaluation of STI services across South Africa found gaps in provision of comprehensive STI care, specifically related to condoms and correct medication provision for gonorrhoea clearance. Less than a quarter of SPs received a complete package of essential STI services. Additionally, statistically significant differences between males and females existed related to HIV test recommendation and partner notification counselling. Barriers to STI services included clinical layout, limited staffing, access to laboratory services, and the triage process. Patients reported a partner notification preference of face-to-face from the patient to the partner, particularly for long-term or serious partners, but were interested in assistance or tools from health care providers.

These results indicate a need for availability of appropriate medications, as well as awareness of current comprehensive STI guidelines, continued motivation to provide condoms, and HIV/STI prevention messaging. Integrated care remains a missed opportunity, particularly related to male medical circumcision and family planning counselling for patients presenting with STIs. Significant differences noted between care provided for males and females highlights a need for continued awareness of gender concerns and reduced stigma. Partner notification methods should take into account partner type and consider confidentiality concerns and provision of sufficient patient follow-up and education.

| Introduction

An estimated 499 million cases of curable sexually transmitted infections (STIs) occur annually worldwide (1). STIs are associated with increased acquisition and transmission of HIV and can lead to chronic disease, birth complications, infertility, cancer, and death. Rates of STIs in South Africa are high: a 2005 review approximated a syphilis prevalence of 10%, 5% gonorrhoea, and 20% trichomonas among women attending family planning and antenatal care clinics; it also revealed a 24-42% syphilis and 10-31% gonorrhoea prevalence among high-risk groups (4). More recent modelling suggests decreases in the prevalence of curable STIs associated with implementation of syndromic management by the South African National Department of Health (2). However, there are considerable health systems barriers to implementation of national guidelines, concerns about provider attitudes towards clients with or at risk for STIs, and a burden of asymptomatic infection in women and other populations key to the transmission of STIs and HIV. As a result, unanswered questions persist related to quality of STI services, as well as opportunities for new evidence-based interventions in the setting of the HIV epidemic (5,6).

A 2002 survey of South African primary health care facilities found significant gaps in service delivery for STIs (3). These included stock outs, lack of provider knowledge, and limited referral processes. Stock outs of drug supplies ranged between 2.4% and 24% per province, resulting in 10% of STI clients affected during a one-month period. While care provider attitudes have been demonstrated as barriers to HIV service provision in sub-Saharan Africa, less is known about provider attitudes and stigma towards individuals presenting for STI care or those at increased risk for STI acquisition and transmission. A study in public clinics in Brazil found that STI patients experienced fears and embarrassment when examined by a consulting physician, including fears related to previous discrimination from care providers. Patients reported unhelpful experiences such as lack of counselling, scant information, or little support given after receiving a diagnosis. A Uganda-based study found that perceived quality of care was poor in public settings, including corrupt and unsympathetic staff, causing patients to avoid public health facilities and seek care in private clinics.

Identification and treatment of partners is vital to curb STI/HIV transmission. Among asymptomatic patients enrolled in an HIV treatment program, 21% of women and 16% of men had urethritis/cervicitis pathogens detected (5). Because many STIs are asymptomatic, partner notification may be one of the most effective ways of reaching those without symptoms in settings with syndromic management. Studies in the U.S. have shown that expedited partner treatment is acceptable, effective, and cost-effective in increasing partner treatment and decreasing subsequent re-infection (7–11). While partner treatment represents clear gains in control of STIs, worldwide implementation and outcomes are variable (12), and only 15% of funded Global Fund proposals included a partner treatment component (13). South Africa excels in having adopted partner notification guidelines; however, despite wide availability of forms and dissemination of guidelines, it is expected that few facilities actually use these. In the 2002 surveys, less than a third of providers informed simulated clients of the need to have their partner treated, and only 18% of simulated clients reported receiving partner notification cards (3).

The South Africa National Department of Health (NDOH), as part of its National AIDS Strategy and Primary Health Care Re-engineering process, has invested heavily in integration of all primary health services. Identifying timely opportunities for improving quality of care and linkage to HIV prevention services will assist the NDOH in prioritizing health services interventions, identifying bottlenecks and barriers to care, and improving services with ultimate population benefit in prevention of STIs and HIV. In this national evaluation, we aimed to assess the degree and content of gaps in delivery of STI care, with a vision toward informing evidence-based change for National STI service delivery. The primary aims of this study were to:

1. Evaluate the current utilization and adherence to national STI guidelines, including partner notification practices, for diagnosis and management of STIs;
2. Evaluate community preferences for and acceptability of partner notification and compare these to national practices, and to inform intervention opportunities;
3. Assess integration of key HIV and STI services.

Methods

Study Design

This study used a mixed methods approach to assess STI care in 50 facilities in all nine provinces in South Africa. Study activities conducted at participating facilities included health facility surveys (n=50 facilities), standardized patient encounters (n=50 facilities), value stream mapping (n=3 facilities), and in-depth interviews among clients exiting health facilities (n=58 interviews at three facilities).

Study Population and Sample Size

Health facility assessments and SP encounters

Health facility assessments and standardized patient (SP) encounters enrolled 50 public sector primary

health care facilities selected from 270 Clinical Sentinel Surveillance (CSS) sites. CSS clinics are public health facilities selected by NDOH to have enhanced monitoring of STIs. There are 30 in each of the nine provinces, however we excluded some facilities (mobile/satellite clinics (N=38), district hospitals (N=11), and facilities enrolled in a concurrent STI Etiological study (N=36)) from the randomization process. From this sample, we randomly selected 50 CSS sites stratified by and proportional to the total population of each province (Table 1).

Table 1: Sample size and framework

| Province | Population* | # of facilities | SP encounters (4 per facility) | In-depth interviews | Flow mapping exercises |
|---------------|-------------|-----------------|--------------------------------|---------------------|------------------------|
| Eastern Cape | 6.5 | 6 | 24 | 0 | 0 |
| Free State | 2.7 | 3 | 12 | 0 | 0 |
| Gauteng | 12.2 | 11 | 44 | 20 | 1 |
| KwaZulu-Natal | 10.3 | 10 | 40 | 20 | 1 |
| Limpopo | 5.4 | 5 | 20 | 0 | 0 |
| Mpumalanga | 4.0 | 4 | 16 | 0 | 0 |
| North West | 3.5 | 3 | 12 | 20 | 1 |
| Northern Cape | 1.1 | 2 | 8 | 0 | 0 |
| Western Cape | 5.8 | 6 | 24 | 0 | 0 |
| TOTAL | 51.5 | 50 | 200 | 60 | 3 |

* in millions, 2011 census

Post-randomization, five selected facilities were excluded from study participation due to inclusion in a concurrent aetiologic study, two declined to participate, one clinic was collocated with another study clinic due to renovations, and one was replaced due to confusion related to provincial location. Because of the disproportionate heterogeneity in clinic types, these were replaced by selecting a facility from the CSS list in the same province (and district/sub-district if possible) of the same facility type (clinic, community health centre, or reproductive health centre). When multiple replacements were found within the same sub-district, the facility with the most similar reported patient volume was selected.

Each clinic was designed to have four simulated patient encounters for a total of 200 across the 50 facilities. Before any SP encounters took place, the research team consented all clinical staff at the facility (n=283). If any providers declined to participate, the team noted these individuals to ensure that SPs did not visit these providers.

Value stream mapping

Three of the 50 facilities were intentionally identified for implementation of value stream mapping exercises and partner notification interviews, representing one rural, one urban, and one coastal CSS clinic in North West province, Gauteng, and KwaZulu-Natal

respectively. Six in-depth interviews were conducted: the Facility Manager (or the individual fulfilling the most similar role), and a Deputy Facility Manager or Professional Nurse at each site. Informants were selected based on their position within the clinic and willingness to participate in the interviews. Interviews were administered by trained research staff and conducted in English.

In-depth partner notification interviews

Ten male and 10 female client participants were enrolled among clients attending the clinic at each of the three intentionally selected facilities. To be eligible, a participant had to be between the ages of 18 and 30, able to comfortably speak English, Setswana, or Zulu, and willing to have his or her interview recorded.

Data Collection

Health facility assessments

Health facility assessments were cross-sectional guided surveys conducted with the facility manager or his/her representative. The surveys were designed to assess structural issues around STI care. A research assistant asked the facility manager to respond to a standardized questionnaire (Appendix A) as they toured the health facility. The questionnaire included questions about client volume, staffing, clinic supplies, laboratory testing for STIs, stock outs of critical STI medications, availability of condoms and partner notification slips, and STI guidelines and policies that were in place. Additionally, gaps in documenting and reporting STI services were assessed.

Standardized patient encounters

Unannounced standardized patient actors (SPs) visited health facilities to assess quality of STI service provision and adherence to national STI guidelines. SPs were trained actors who presented to participating health facilities following a standardized STI case script. They were trained to portray the patient and to report to the study team which STI services were provided during the visit. Female patients presented with Vaginal Discharge Syndrome (VDS) and males presented with Male Urethritis Syndrome (MUS). SPs were 22 to 47 years old, reported multiple sexual partners, reported intermittent or lack of condom use, and were otherwise healthy. For all female

patient actors (n=13), the SP reported experiencing vaginal discharge over a four-day period and were not currently pregnant or using injectable, IUD, or oral contraception (Appendix B). Male patient actors (n=14) reported urethral discharge for three days and that they were not currently circumcised (Appendix C). SPs did not report additional symptoms that may suggest other health problems or syndromes besides VDS and MUS.

At each visit, the SP would enter the clinic, provide a local address to the provider at reception, and receive a number in the queue. SPs visiting each facility spoke the local language and dressed in a manner appropriate to the local context. If there were any unconsented healthcare workers working at the clinic, SPs would avoid seeing that clinician. Once they were in the examination room with the provider, they would present with their standardized STI case. During patient encounters, all SPs refused HIV testing, genital examination, or to provide any blood or urine samples to the provider. If the clinician was insistent, the SP would attempt to provide an excuse (female SPs would use being on menses) but if the visit could not be completed due to this problem the SP would have to disclose that she was a simulated patient and complete the visit early.

At the end of the SP encounter, the SP disclosed that they were a patient actor and provided the clinician a medication slip (Appendix E) and a study information sheet (Appendix F). If the clinician had consented to participate in the study, the SP collected any partner notification slips and condoms that were provided and asked the clinician to list the medications that they had provided including the dose, route, frequency, and duration so that no medications were removed from the facility. At the end of every study visit, the research assistant worked with clinic staff to remove the SP's name from the registers and any other clinic documentation, as well as destroy the patient file.

After the visit, a research assistant would collect the medication slip and any condoms and/or partner notification slips from the SP. They debriefed the SP on the visit using a standardized tool to collect information about which services were provided (Appendix D). Indicators included whether the SP

was offered an HIV test, provided condoms, provided partner notification slips, offered a physical genital exam, provided counselling about discussing STIs with the SPs' sexual partners, provided counselling about safer sex, and discussed or recommended medical male circumcision (MMC) (males) or family planning (females). The SP also reported whether they felt judged and whether they felt treated with respect and understanding by the provider. The research assistant collected the time the SP entered the clinic and completed the visit. The clinician's name was not collected as part of this evaluation.

The primary outcome of SP encounters was the percentage of simulated patients who received essential STI care. Essential STI care was defined as being offered an HIV test, receiving condoms, receiving partner notification slips and/or counselling, and being offered the correct treatment for MUS and VDS according to national STI syndromic guidelines. Correct medication was defined as being offered treatment regimens as described in the 2009 and 2015 NDOH MUS and VDS treatment guidelines (16,17):

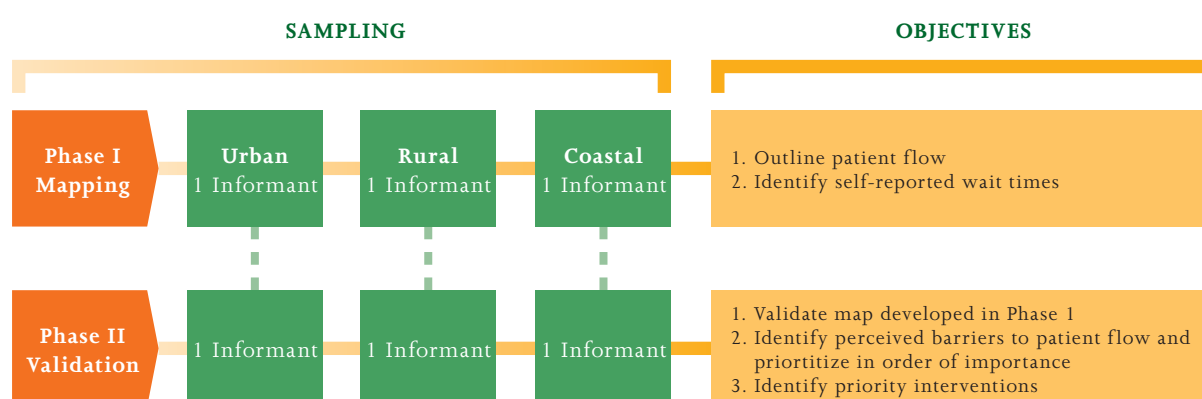
1. Oral cefixime or intramuscular (IM) ceftriaxone for gonorrhoeal infection;

2. Oral doxycycline or oral azithromycin for chlamydial infection;
3. Oral metronidazole for trichomoniasis and bacterial vaginosis (BV) for women;
4. Oral ciprofloxacin and oral amoxicillin were not considered appropriate treatments for gonorrhoeal and chlamydial infection, respectively.

Value stream mapping

Value stream mapping methods were adapted from those outlined by Lane and Husemann (14) and included preliminary mapping coupled with a semi-structured interview and clinic observation (Phase I) followed by further mapping coupled with a semi-structured interview (Phase II) (Figure 1). The aim of Phase I was to outline patient flow for individuals presenting at the clinic for the first time with symptoms of MUS or VDS. Informants were asked a series of questions about how patients first enter the system and where they move to during each subsequent step of the care process. At each step, the interviewee was asked to identify services provided, which service provider administers those services, and to estimate the total time required to complete that step. Research staff toured the clinic with the informant during this process and developed an initial flow map based on clinic observation and detailed process notes (Appendix I).

Figure 1: Value stream mapping phases



Phase II interviews were utilized to validate the maps and to further explore perceived barriers to patient flow and opportunities for intervention. Informants were asked to review and confirm or correct the previously developed flow map. Using the corrected

map as a tool for discussion, he or she was then asked to identify variables preventing and facilitating flow from one step to the next. Next, the informant reviewed the previously identified times required to complete each step and rated them as appropriate

duration, somewhat longer than necessary, or far longer than necessary. For perceived barriers and durations identified as somewhat longer than necessary or far longer than necessary, the participant identified opportunities for intervention and rated their relative importance. Stage II interviews were audio recorded and detailed notes were taken.

In-depth interviews

Interviews were administered by trained research staff fluent in English, Setswana, and Zulu. Research staff spent approximately one week at each of the three selected clinics. They positioned themselves outside the clinic's entrance during business hours and approached individuals leaving the clinic, the only exception being times when all research staff were busy conducting interviews and therefore unable to recruit additional participants. Eligible individuals were invited to participate in an interview lasting 30 minutes to one hour. After screening and consent, participants were asked to describe an STI in order to capture baseline information about knowledge of STIs, and to serve as a proxy for prior exposure to information regarding STIs and partner notification practices. Regardless of their answer, all informants were then given a simple definition of STIs and "partner notification" to ensure a common understanding of the topics being discussed. Interview questions explored perceptions of and preferences for various partner notification methods, barriers to use of various types of partner notification methods, and preferences regarding the design of partner notification slips.

Data Management

All data were delivered from the field to the I-TECH offices in Pretoria using lockable courier pouches and stored in lockable file cabinets. Data did not contain identifying information and were identified using a randomized record ID and a randomized ID for the health facility. The link between the facility names and the facility ID were not shared outside of study staff. Health facility assessments, the simulated patient tools, and the medication slips were entered into an electronic, web-based database using Research Electronic Data Capture (REDCap) software, version 6.4.0 (©2015 Vanderbilt University, Nashville TN) and verified by comparing the entered data against

the original paper forms. All medication data were checked by a clinician for accuracy. Monthly data quality checks of the database identified possible data entry errors and were used to ensure data quality.

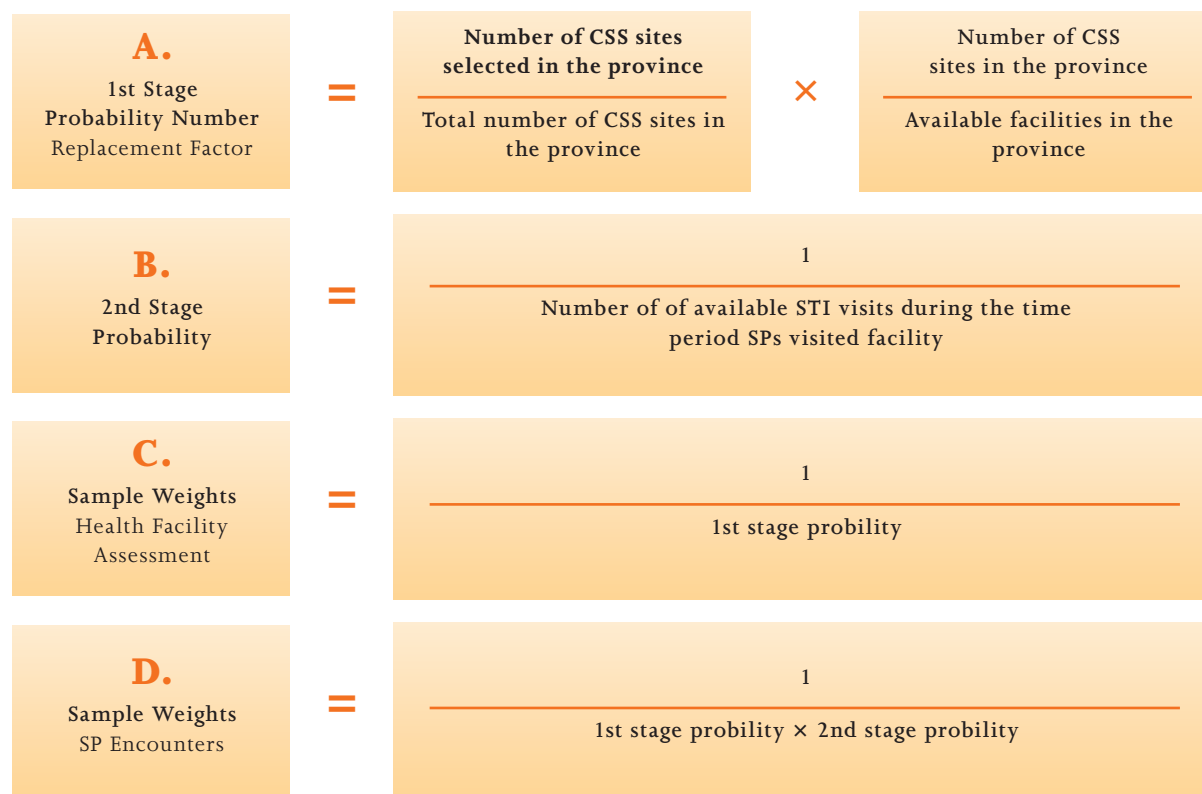
Partner notification interviews were audio recorded, transcribed, and translated. To ensure the quality of translations and transcriptions, all transcriptions and every fifth translated interview were back translated for review by the research team. All audio recordings, transcripts, final translations, and maps were stored on a password-protected secure storage service hosted by the University of Washington (UW).

Statistical Analysis

Health facility assessments and standardized patient encounters

To account for the design of the cross-sectional survey and to generate more representative estimates, we conducted a weighted analysis adjusting for clustering at the health facility level (Figure 2). The probability of being selected into the sample was calculated at two levels: the health facility (1st stage) and the simulated visit (2nd stage). The 1st stage probability was calculated by multiplying the probability of a CSS site being selected into the sample ($\frac{\text{\# CSS sites selected in province}}{\text{Total CSS sites in the province}}$) by the probability of a site being a CSS site ($\frac{\text{\# of CSS sites in the province}}{\text{available facilities in the province}}$). Available facilities included primary healthcare clinics, community health centres, and reproductive health services from a publicly-available list of health facilities in South Africa (15). The 1st stage probability was adjusted based on our sampling scheme since some clinics had to be replaced by multiplying the 1st stage probability by the number of times (replacement factor) each selected facility would have been sampled due to another clinic being replaced from the sample. The 2nd stage probability was the probability at each facility of an STI visit being selected during the days we visited that clinic ($\frac{1}{\text{estimated number of STI visits available}}$). The estimated number of STI visits available in each facility was determined by multiplying the number of days we visited that clinic by the reported daily patient volume and then by the annualized incidence of new STI cases in that province (courtesy of National Department of Health).

Figure 2: Value stream mapping phases



For health facility assessments, the final sample weight was the inverse of the 1st stage sample probabilities (Figure 2C). For SP encounters, the final sample weight was calculated by multiplying the 1st and 2nd stage probabilities and then taking the inverse (Figure 2D). The final weighted estimates and 95% confidence intervals were generated using the “svy” function in Stata, with the facility as the primary sampling unit stratified by the province. For SP encounters, each visit was specified as the secondary sampling unit.

Health facility assessments were analysed using descriptive statistics. For categorical variables, we calculated the number and percentage of health facilities that reported clinic services and characteristics. For continuous variables including staffing, patient volume, catchment area population, and the number of examination rooms, we calculated the mean and 95% confidence interval of indicators. Weighted estimates and 95% confidence intervals were calculated

for STI services, medications, and laboratory supplies reported by health facilities.

The weighted percentage and 95% confidence intervals of SP outcomes were stratified by the gender of the SP. Statistical significance was determined using a generalized linear model with a binomial family and a logit link. All statistical analyses were conducted in Stata version 11 (StataCorp LP, 2009, College Station, USA).

Value stream mapping

Value stream mapping data collection produced two flow maps, extensive observations and interview notes, and Phase II interview audio recordings for each site. Flow maps developed during Phase I and II interviews were cross referenced with observation and interview notes to produce final flow maps. Notes and audio recordings were reviewed to identify barriers and facilitators of clinic flow, and recommendations were produced taking into account feasibility of proposed intervention relative to perceived importance.

In-depth interviews

As a framework for data analysis, the team utilized the six steps outlined by Braun and Clarke for theoretical thematic analysis: familiarizing yourself with the data; generating initial codes; searching for themes; reviewing themes; defining and naming themes; and, producing a final report (18). Coding was conducted in Atlas.ti version 7.0 (Scientific Software Development 2013, Berlin, Germany) using a combination of a priori and inductive techniques. Staff developed an initial codebook based on existing literature. Three members of the research team blind-coded two randomly selected interviews and discussed and corrected any coding discrepancies. Feedback from this initial session was used to revise and refine the project codebook. The research team repeated this procedure every 10 transcripts by randomly selecting and blind-coding an additional transcript for comparison, discussing and correcting discrepancies, and updating the code book as needed (19). Codes were used to identify primary themes and sub-themes for the final analysis.

Ethical Considerations

This protocol was reviewed and approved by the South African Human Sciences Research Council (REC 1/21/08/13). Following NDOH approval, a letter was submitted by the NDOH to the Head of Department of each Provincial DOH. Stakeholder information sessions were then held with provincial, district, and sub-district Department of Health personnel and managers from each sampled facility. Ethical approval processes were followed for all provinces requesting additional approval through their own mechanisms. Clinic managers provided consent for evaluation activities to occur at their facilities and to participate in health facility assessments. All health care workers (HCWs) were consented prior to simulated patient encounters. SP visits were not conducted with HCWs who did not provide consent, or records were destroyed if an unconsented HCW was inadvertently contacted. The UW Human Subjects Division (HSD) determined that health facility assessments, simulated patient encounters, and clinic flow mapping activities did not meet the regulatory definition of research under 45 CFR 46.102(d). In-depth interviews activities were reviewed and approved by the University of Washington Human Subjects Division (#45839).

Results

Health Facility Assessments

Among the 50 facilities visited in this study, 48 (96.0%) were primary healthcare clinics (PHCs) and two (4.0%) were community health centres (CHCs) (Table 2). The average daily patient volume was 132 patients per day [95% confidence interval (CI): 96–167] with an average of 11.3 full-time staff members employed in facilities (95% CI: 7–16). The

main cadres of staff members employed in facilities were professional nurses (mean: 5.4), enrolled nurses (mean: 1.3), nursing assistants (mean: 1.1), and data entry clerks (mean: 1.0). Clinics also reported an average of 1.0 part-time medical doctor on staff. The weighted results show the composition of study facilities after accounting for the survey design, which will be used for all subsequent analyses.

Table 2: Description of health facilities

| Health facility characteristics | | | | Unweighted (N=50) | | Weighted | |
|-------------------------------------|--|--|--|-----------------------|-------------------|----------|-----------------------------------|
| Estimated infection rates (%) | | | | N | % (CI) | | % (CI)** |
| Facility Type | | | | | | | |
| Primary Health Clinic | | | | 48 | 96.0 (90.4–100.0) | | 97.7 (94.0–100.0) |
| Community Health Centre | | | | 2 | 4.0 (0.0–9.6) | | 2.3 (0.0–6.0) |
| Facility Type | | | | | | | |
| Eastern Cape | | | | 6 | 12.0 (2.7–21.3) | | 23.0 (21.5–24.5) |
| Free State | | | | 3 | 6.0 (0.0–12.8) | | 5.9 (3.6–8.1) |
| Gauteng | | | | 11 | 22.0 (10.1–33.9) | | 10.9 (8.8–13.0) |
| KwaZulu-Natal | | | | 10 | 20.0 (8.5–31.5) | | 19.4 (17.4–21.5) |
| Limpopo | | | | 5 | 10.0 (1.4–18.6) | | 12.6 (10.1–15.2) |
| Mpumalanga | | | | 4 | 8.0 (2.1–15.8) | | 7.6 (5.5–9.7) |
| North West | | | | 3 | 6.0 (0.0–12.8) | | 7.8 (7.3–8.3) |
| Northern Cape | | | | 2 | 4.0 (0.0–9.6) | | 3.8 (1.3–6.2) |
| Western Cape | | | | 6 | 12.0 (2.7–21.3) | | 9.0 (6.6–11.5) |
| Client and staffing characteristics | | | | Mean per clinic (CI) | | | Mean per clinic (CI) ^B |
| Clients per day | | | | 132 (96–167) | | | 107 (84–129) |
| People in catchment area | | | | 12,704 (9,259–16,151) | | | 10,433 (8,290–12,575) |
| Number of examination rooms | | | | 4.2 (3.3–5.2) | | | 3.7 (3.1–4.4) |
| Fulltime staff | | | | | | | |
| Medical doctors* | | | | 0.1 (0.0–0.1) | | | 0.1 (0.0–0.1) |
| Clinical officers | | | | 0.02 (0.0–0.1) | | | 0.02 (0.0–0.1) |
| Professional nurses | | | | 5.4 (4.3–6.6) | | | 5.1 (3.8–6.5) |
| Enrolled nurses | | | | 1.3 (1.0–1.7) | | | 1.2 (0.9–1.5) |
| Nursing assistants | | | | 1.1 (0.8–1.5) | | | 1.1 (0.7–1.5) |
| Pharmacy technologists | | | | 0.2 (0.1–0.4) | | | 0.2 (0.1–0.4) |
| Data managers | | | | 0.1 (0.0–0.2) | | | 0.1 (0.0–0.2) |
| Data clerks | | | | 1.0 (0.8–1.2) | | | 0.9 (0.7–1.1) |
| Total | | | | 11.3 (7.0–15.6) | | | 10.8 (6.2–15.3) |
| Part-time staff | | | | | | | |
| Medical doctors | | | | 1.0 (0.8–1.2) | | | 0.9 (0.7–1.1) |
| Other staff | | | | 0.3 (0.1–0.6) | | | 0.3 (0.1–0.4) |
| Vacant positions | | | | 3.0 (0.0–7.1) | | | 3.3 (0.0–7.6) |

* Missing data from 1 facility

** Percentages, means and 95% confidence interval adjusted for clustering at the health facility level and for the survey design

Accounting for the survey design, 45.2% of facilities reported cefixime was currently available (Table 3). For all other STI medications, at least one facility reported medications were not currently available. However, more than 80% of facilities reported that the majority of STI medications (except erythromycin and medications for neonatal conjunctivitis), were currently in stock. HIV rapid testing was available in 98.0% of facilities, and several facilities reported stock outs of HIV ELISA testing and syphilis tests.

16.8% of facilities reported stock outs of condoms in the last six months and 98.8% of facilities reported

partner notification slips were available. Among the facilities reporting condoms out of stock, over half reported that this rarely occurred (five of nine facilities). Most facilities reported STI guidelines were available, including the Essential Drugs List 2008 (98.0%) and the Comprehensive Management and Control of STIs 2008 (79.6%), and 31 facilities (63.3%) reported STI treatment flowcharts were posted. One facility (2.0%) reported that STI services were not available during all clinic hours, as this clinic only provided STI services on Tuesdays, Wednesdays, and Thursdays.

Table 3. STI services available in participating health facilities

| N=50 | |
|---|------------------------|
| First line medications available | % (CI)** |
| MUS/VDS | |
| Oral Cefixime | 45.2 (30.9–59.5) |
| Oral Doxycycline* | 98.3 (95.6–100.0) |
| Oral Metronidazole | 97.8 (93.5–100.0) |
| Other MUS/VDS | |
| Oral Ciprofloxacin* | 84.0 (78.6–89.3) |
| IM Ceftriaxone | 92.2 (83.3–100.0) |
| Oral Amoxicillin | 97.2 (91.5–100.0) |
| Genital ulcer syndrome | |
| Oral Erythromycin | 74.9 (60.8–89.0) |
| Oral Acyclovir | 89.7 (80.2–99.3) |
| Vaginal candidiasis | |
| Clotrimazole (pessary or topical) | 98.8 (96.3–100.0) |
| Syphilis | |
| IM Benzathine-Penicillin | 96.8 (91.4–100.0) |
| Neonatal conjunctivitis | |
| Ceftriaxone paediatric syrup | 15.3 (4.0–26.5) |
| Erythromycin paediatric syrup | 72.2 (58.1–86.3) |
| Testing services available | |
| HIV rapid tests | 98.0 (93.8–100.0) |
| HIV ELISA tests | 49.0 (37.3–60.8) |
| Syphilis rapid tests | 61.1 (46.4–75.8) |
| RPR or VDRL tests for syphilis | 71.6 (57.6–85.7) |
| Reported condoms out of stock in last 6 months | 16.8 (4.6–28.9) |
| Partner notification slips available | |
| In exam room | 92.7 (85.6–99.9) |
| In other area | 5.9 (0.0–12.4) |
| Not available | 1.4 (0.0–4.3) |

| | |
|--|--------------------------|
| Up to date STI guidelines available | |
| Essential Drugs List (EDL) 2008 | 98.8 (96.3–100.0) |
| Comprehensive Management and Control of STIs 2008* | 77.2 (62.7–91.7) |
| Other resource with STI guidelines | 56.3 (40.2–72.3) |
| STI treatment flowcharts posted* | 64.1 (48.4–79.8) |
| STI services available all clinic hours | 98.3 (94.8–100.0) |

* Missing data from 1 facility

** Percentages and 95% confidence interval adjusted for clustering at the health facility level and for the survey design

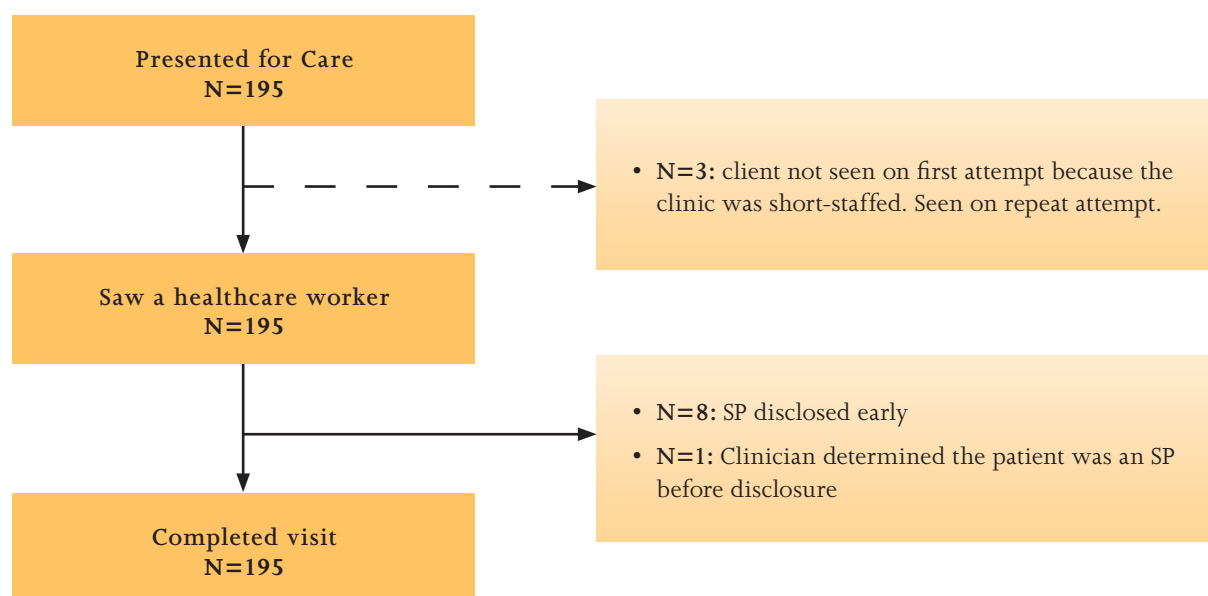
Simulated Patient Encounters

A total of 195 simulated patient encounters were attempted between July 21st and November 27th 2014 (Figure 3). Five of the anticipated encounters were not completed after repeated attempts due to staff assigned to STI care at three facilities having declined to participate in the study. Three SPs were not seen on their first visit because the clinic was short-staffed and was not seeing general patients that day; however, these patients were able to repeat their visits. Of the 195 simulated patient visits where the SP saw a healthcare worker, 186 (95.4%) successfully

completed the visit with the provider. Of those who did not complete the visit, one SP was recognized as a patient actor during the visit and eight SPs had to disclose early because the provider would not provide full services without an HIV test (n=2), a urine sample (n=4), an HIV test and a physical genital exam (n=1), or a urine sample and a physical genital exam (n=1).

The median wait time (the time between entering the facility and completing the visit) was 173 minutes (IQR: 103 – 242 minutes) and with a range of 27 to 428 minutes.

Figure 3. Description of simulated patient visits



Weighted stratified results for simulated patient encounters are presented in Table 4. Accounting for the survey design and clustering at the health facility level, 23.1% (+/- 11.9%) of SPs received all

hypothesized essential STI services. Overall, 50.1% of SPs were offered a physical genital exam, 64.8% were offered the correct treatment regimen, 36.5% were provided condoms, 70.8% received a partner

notification slip or counselling about discussing STIs with their sexual partners, and 62.0% were provided counselling about practicing safer sex. Men were statistically more likely than women to be offered an HIV test (76.5% compared to 58.5%, $p=0.039$) and to receive either a partner notification slip or counselling about discussing STIs with their sexual partners (79.3% compared to 62.4%, $p=0.020$). Additionally, more men were offered the correct treatment regimen (70.4% compared to 59.2%) and received condoms (41.2% compared to 31.8%); however, neither of these relationships reached statistical significance. There was also a trend in that more women were offered a physical genital exam than men (55.6% compared to 44.5%).

Only 6.7% of providers discussed or recommended MMC with male SPs and 25.0% of providers discussed family planning with female SPs. Simulated patients also reported their perceptions of the clinical encounter. Overall, 2.3% of SPs felt judged by the provider and 87.2% felt treated with respect and understanding. Women were more likely to feel treated with respect and understanding during the clinical encounter (96.3% compared 78.0%; $p=0.013$).

Among SPs who did not receive appropriate care, 61.0% did not receive multiple components of appropriate care, mostly driven by condom provision. The next most common reasons were that condoms were not provided (23.2%) and because medications were not offered (13.7%).

Table 4. Percentage of patient actors receiving STI services

| | Total (N=186) | Men (N=93) | Women (N=93) | |
|---|------------------|------------------|-------------------|--------------|
| Services provided | % (CI)** | % (CI)** | % (CI)** | p = |
| Delivery of STI services | | | | |
| Physical genital exam | 50.1 (36.6–63.5) | 44.5 (29.3–59.7) | 55.6 (39.9–71.2) | 0.151 |
| Correct treatment* | 64.8 (53.2–76.4) | 70.4 (57.0–83.9) | 59.2 (45.5–72.9) | 0.121 |
| Received ≥ 1 condom* | 36.5 (25.0–48.0) | 41.2 (26.3–56.0) | 31.8 (19.4–44.2) | 0.207 |
| Partner notification * | 70.8 (61.6–80.0) | 79.3 (70.2–88.3) | 62.4 (48.5–76.2) | 0.020 |
| Counselling about safer sex | 62.0 (47.6–76.4) | 66.6 (50.7–82.4) | 57.5 (40.6–74.5) | 0.253 |
| Integration: HIV prevention | | | | |
| Offered an HIV test* | 67.4 (54.3–80.6) | 76.5 (61.7–91.2) | 58.5 (42.3–74.6) | 0.039 |
| Discussed MMC (males only, N=93) | 6.7 (0.8–12.7) | 6.7 (0.8–12.7) | - | - |
| Discussed family planning (females only, N=93) | 25.0 (14.8–35.2) | - | 25.0 (14.8–35.2) | - |
| Provider attitude | | | | |
| SP felt judged by provider | 2.3 (0.0–4.6) | 3.2 (0.0–6.8) | 1.5 (0.0–4.4) | 0.505 |
| SP felt respect/understanding | 87.2 (80.4–93.9) | 78.0 (64.2–91.8) | 96.3 (92.2–100.0) | 0.013 |
| All essential STI services | 87.2 (80.4–93.9) | 78.0 (64.2–91.8) | 96.3 (92.2–100.0) | 0.013 |
| All essential STI services | 23.1 (11.2–35.1) | 28.2 (13.5–42.9) | 18.1 (5.5–30.7) | 0.134 |

*above

** Percentages and 95% confidence interval adjusted for clustering at the health facility level and for the survey design.

Table 5 describes the medications that were provided to SPs. Overall, 70.9% of SPs received an appropriate medication for gonorrhoea and 84.0% received an appropriate medication for chlamydia. For female SPs, 77.5% were offered metronidazole for BV and trichomoniasis and 8.1% were offered clotrimazole

for candidiasis. Of the 20.8% of SPs who received a medication that was not appropriate for MUS and VDS, 20.4% received ciprofloxacin, 0.9% received amoxicillin, and <0.1% received erythromycin. Additionally, 9.9% of SPs were not offered any STI medications.

Table 5. Medications offered to simulated patients

| | Total (N=186) | Men (N=93) | Women (N=93) |
|--|-----------------------|-----------------------|------------------------|
| Medications provided | N (CI)* | N (CI)* | N (CI)* |
| Gonorrhoea | | | |
| Any appropriate medication for gonorrhoea | 70.9 (61.5–80.4) | 72.3 (58.8–85.9) | 69.5 (58.0–81.5) |
| Cefixime | 36.2 (25.3–47.1) | 33.1 (19.2–47.0) | 39.2 (27.7–47.0) |
| Ceftriaxone | 29.8 (18.0–41.6) | 32.8 (18.4–47.1) | 26.8 (11.2–42.4) |
| Both | 5.0 (0.0–12.3) | 6.4 (0.0–15.1) | 3.5 (0.0–10.4) |
| Chlamydia | | | |
| Any appropriate medication for chlamydia | 84.0 (78.9–89.3) | 88.0 (76.6–99.5) | 80.1 (73.6–86.5) |
| Doxycycline | 80.5 (70.2–90.8) | 87.2 (75.6–98.7) | 74.0 (63.5–84.4) |
| Azithromycin | 3.5 (0.0–9.3) | 0.8 (0.0–2.5) | 6.1 (0.0–17.9) |
| Both | <0.1 (0.0–0.1) | 0.1 (0.0–0.2) | 0.0** |
| Other vaginal infections (women only) | | | |
| Metronidazole | 77.5 (64.2–90.8) | – | 77.5 (64.2–90.8) |
| Clotrimazole | 8.1 (0.5–15.7) | – | 8.1 (0.5–15.7) |
| Offered incorrect medication | | | |
| Any incorrect medication | 20.8 (9.3–32.4) | 28.8 (14.1–43.4) | 13.0 (2.1–23.8) |
| Ciprofloxacin | 20.4 (8.9–32.0) | 28.5 (13.8–43.1) | 12.4 (1.7–23.2) |
| Amoxicillin | 0.9 (0.0–1.9) | 1.3 (0.0–3.1) | 0.5 (0.0–1.6) |
| Erythromycin | <0.1 (0.0–0.1) | 0.1 (0.0–0.2) | 0.0** |
| No medications offered | 9.9 (3.8–16.1) | 7.5 (0.0–19.3) | 12.4 (4.8–19.9) |

* Columns do not sum to 100% because SPs can be offered multiple medications. Percentages and 95% confidence interval adjusted for clustering at the health facility level and for the survey design.

** No patients received medications so confidence intervals could not be calculated.

Clinic Flow Mapping

Six in-depth interviews were conducted between November 2014 and February 2015 at three purpo-

sively selected CSS sites in Gauteng (urban), KwaZulu-Natal (coastal), and North West (rural) provinces. Informants included facility managers, an Acting Deputy Director, and professional nurses (Table 6).

Table 6. Flow Mapping Key Informants

| Region | Stage I Informants | Stage II Informants | Total |
|---------|------------------------------|----------------------------|-------|
| Urban | Facility Manager (1) | Acting Deputy Director (1) | 2 |
| Coastal | Facility Manager (1) | Professional Nurse (1) | 2 |
| Rural | Chief Professional Nurse (1) | Professional Nurse (1) | 2 |
| Total | 3 | 3 | |

The catchment areas of the three clinics ranged in size from between 10,000 and 15,000 people at the coastal clinic to 45,000 and 50,000 people in the urban clinic (Table 7). Self-reported patient flow ranged from between 100 and 200 patients per day

(rural) to 650 and 750 patients per day (urban). All three clinics reported that STI services were offered any time the clinic was open. Staffing structures in coastal and rural sites were similar, both relying heavily on professional and enrolled nurses, while

the urban site employed additional support staff including nursing assistants and one pharmacy technician. The urban clinic was the largest in

physical size (12 exam rooms), while coastal and rural clinics were smaller (2-3 exam rooms).

Table 7. Site Characteristics

| Site Characteristics | Gauteng | KwaZulu-Natal | North West |
|---------------------------------------|----------------|----------------|----------------|
| Background Information | | | |
| Catchment area size | 45,000-50,000 | 10,000-15,000 | 12,000-17,000 |
| Patients seen per day (all services) | 650-750 | 100-200 | 100-200 |
| Days/hours STI services are available | All days/hours | All days/hours | All days/hours |
| Number of exam rooms (all) | 12 | 2 | 3 |
| Staffing Characteristics | | | |
| Medical Doctor | 1 (PT) | 1 (PT) | 1 (PT) |
| Clinical Officer | 0 | 0 | 0 |
| Professional Nurse | 20 (FT) | 8 (FT) | 9 (FT) |
| Enrolled Nurse | 3 (FT) | 3 (FT) | 1 (FT) |
| Nursing Assistant | 4 (FT) | 0 | 0 |
| Pharmacy Technologist | 1 (FT) | 0 | 0 |
| Data Manager | 0 | 0 | 0 |
| Data Clerk | 2 (FT) | 1 (FT) | 1 (FT) |

Clinic 1: Urban Site - Gauteng

The Gauteng clinic's care process is divided into distinct acute and chronic patient flows. This process mirrors the physical architecture of the clinic, which

has devoted one wing to acute and new patients and another to those with chronic conditions. A complete list of services with self-reported wait times is summarized in Table 8.

Table 8. Steps in the patient care process, Gauteng (GP)

| Step/Area | Service Provider | Services Provided | Time |
|------------------|--|---|-----------|
| 1. Waiting | Health Promotor Registered nurse | Health education & prevention | 30 min |
| 2. Registration | Clerk | None | 15 min |
| 3. Acute Waiting | Nursing Assistant | Vitals | 20 min |
| 4. Triage | Registered nurse | Preliminary assessment | 20 min |
| 5. Triage, Cont. | Registered nurse Registered nurse | Medication Rapid HIV test (PITC) | N/A |
| 6. Waiting | None | None | 30 min |
| 7. Consultation | Registered nurse Registered nurse Registered nurse Registered nurse Registered nurse Registered nurse | Health education Exam (if relevant) Partner notification slips Medication Rapid HIV test (PITC) Pre-/post-test counselling (PITC)* Referrals (ANC, MMC, on-going counselling) | 30 min |
| 8. Bloodwork | Registered nurse Registered nurse Registered nurse | HIV-related blood work (ex: CD4, HIV staging) Syphilis test (blood test) TB test | 15-30 min |

| | | | |
|--|----------------------------------|--|--------|
| 9. HCT | Lay counsellor Lay counsellor | Pre-/post-test counselling (HCT/PITC)* HIV test (HCT) | 30 min |
| Total Time (PITC+, including consultation, and other STI services): | | 2hr 40min – 2hrs 55min | |
| Total Wait Time (PITC+, including consultation, and other STI services): | | 1 hr 20min | |

*Exact location of counselling depends on patient load and staffing

The majority of new patients presenting with acute STI symptoms arrive at the clinic and wait for registration in the waiting area. After registration, acute patients proceed to an acute patient waiting area where vitals are taken. Patients are then triaged. Those whose symptoms are easily diagnosable (typically men in the case of STI patients) are assessed, treated, and released, while those whose symptoms are less clear (typically women in the case of STI patients) are directed on to consultation for further exams. The majority of services, including dispensing of medication, are offered either in the triage or consultation steps. HIV tests are offered in consultation (for Provider Initiated Testing and Counselling (PITC)) or in an outdoor gazebo (HCT), while individuals requiring follow-up blood work—a CD4 count for example—are directed to the blood room (Figure 4). The clinic reported offering HIV rapid testing, and RPR/VDRL. They do not offer an HIV ELISA test or syphilis rapid test as part of the facility inventory. Those whose bloodwork is sent out for further analysis are asked to return for follow-up after 14 days. Patients requiring on-going or follow-up STI care are asked to return in seven days.

Barriers and Challenges Affecting Patient Flow

Key informants identified four primary barriers affecting patient flow in Gauteng: lack of sufficient space for triage services; congested hallways blocking consultation rooms; delays in processing of lab specimens; and inadequate or inappropriate space for HCT.

1. Lack of sufficient space for triage services

The clinic utilizes a triage process to identify, treat, and release patients who can be processed quickly, while more complicated cases are directed to consultation. The clinic has one room available for triage services. The validation informant indicated that if more space were available, the clinic would staff at least one additional triage room to speed patient processing at this point.

2. Congested hallways blocking consultation rooms

The clinic's consultation rooms are located off a small hallway lined with benches, and used as a thoroughfare for other parts of the clinic. The hallway is congested and impedes physical access to consultation services. It creates confusion among both patients and providers. Despite feeling this issue was important, the informant did not provide a recommended response.

3. Delays in processing of lab specimens

HIV- and syphilis-related lab tests are sent off site to be processed externally. The clinic consistently experiences delays in receiving results (up to one week), which impedes the clinic's ability to start patients on treatment, including ART, in a timely fashion. Key informants recommended that an additional laboratory be made available to local clinics.

4. Inadequate or inappropriate space for HCT

HCT is offered in a temporary tent outside the facility's front door. In inclement weather, HCT testing is moved into the hallway of the chronic care wing, which physically blocks the hall and creates confusion for patients and providers. The key informant suggested the development of a permanent, indoor space for HCT services.

Clinic 2: Coastal Site - KwaZulu-Natal

The clinic in KwaZulu-Natal utilizes a single space for waiting and registration. Patients sit in line according to arrival at the clinic and register with a nurse stationed at a table in the waiting area. Patients then proceed directly to consultation. The total time required to complete consultation was reported to vary by gender, with women requiring a longer physical exam. From consultation, patients can be referred to the HIV counselling and testing (HCT) room for PITC. HCT is accessed directly from registration, after which positive patients are funnelled directly into consultation. However, lay counsellors are not always

available, in which case HCT services are offered by a professional nurse in consultation. The clinic reported utilizing rapid and ELISA testing for HIV, as well as rapid and RPR/VDLR testing for syphilis as part of the facility inventory (although a rapid syphilis test was not available the day of the inventory). In mapping interviews, informants also identified the use of

HAART testing for HIV. Anyone who tests positive for HIV, or who has a cough, is tested for TB in the cough area and proceeds to the bloodwork room for bloodwork, as needed (Figure 4). STI patients are typically asked to return within seven to 14 days for follow up. A complete list of services with self-reported wait times is summarized in Table 9.

Table 9. Steps in the patient care process, KwaZulu-Natal (KZN)

| Step/Area | Service Provider | Services Provided | Time |
|--|--|--|--------------|
| 1. Waiting | Auxiliary nurse or nutritional advisor | Health education & prevention Vitals | 1 hr 30 min |
| 2. Registration | Assistant nurse | Registration | 30 min |
| 3. Waiting | None | None | 20-40 min |
| 4. HCT Room | Lay counsellor Lay counsellor Lay counsellor | HIV test (HCT/PITC) Pre-/post-test counselling HIV-related blood work (ex: CD4)** | 20-40 min |
| 5. Consultation | Registered nurse Registered nurse Registered nurse Registered nurse Registered nurse Registered nurse Registered nurse | Health education Exam (if relevant) HIV test (PITC)* Pre-/post-test counselling* Partner notification slips Medication Referrals (pap smear, MMC, and warts) | 15-20 min*** |
| 6. Cough Area | Auxiliary nurse | TB test | 30 min |
| 7. Waiting | None | None | 20 min |
| 8. Bloodwork | Registered nurse Registered nurse Registered nurse | HIV-related blood work (ex: CD4) Syphilis test Family planning | 5 min |
| Total Time (+ and other STI patients) | | 3 hrs 30 min to 3 hrs 55 min | |
| Total Wait Time (PITC+ and other STI patients) | | 1 hr 50 min | |

*PITC is typically offered in the HCT room (step 3). However, if lay counsellors are not available, nurses will conduct HIV testing for PITC in the consultation room (step 4).

**HIV-related bloodwork is often processed in the HCT room but patients may be sent to bloodwork if processing equipment in HCT room is not working.

Barriers and Challenges Affecting Patient Flow

Key informants identified three primary barriers affecting patient flow in KwaZulu-Natal: patients lose their place in line for services after utilizing HCT; inadequate or inappropriate space for HCT waiting area; and long wait times at the blood room as result of limited staff.

1. Losing place in line for other services when utilizing HCT

Patients who utilize HCT after registration lose their place in line for other services. This creates tension between patients and providers. The

clinic has attempted to address this by having a nurse escort HCT patients to consultation services. However, those already waiting in line complain that providers are giving preference to family and friends by allowing them to cut queues. The informant did not recommend an intervention to address this challenge.

2. Inadequate or inappropriate space for HCT services

HCT is offered in a room detached from the main clinic. Patients waiting for HCT sit outside the facility in a temporary tent. The waiting space is

unusable in rainy weather and jeopardizes the privacy of individuals waiting for HCT. They often leave prior to being tested for fear of being seen at the tent. Key informants suggested the development of a permanent, private waiting space for HCT.

3. Long wait times at the blood room as a result of limited staff

After initial consultation with a nurse, patients are sent to the blood room for blood work, if necessary (e.g., syphilis testing), and family planning services. Current self-reported wait time for services (20 minutes) was identified as unnecessarily long. Key informants suggested adding additional staff to the blood room to improve patient flow and reduce wait times.

Clinic 3: Rural Site - North West

At the rural clinic in the North West province, patients arrive at the clinic and wait for registration.

Registration is located in a distinctly separate area from the main waiting room. After registering and returning to the waiting room for a second time, patients proceed to consultation. PITC occurs in consultation, including HIV- and STI-related bloodwork. Patients may exit the flow process at this point or be directed to a maternity or board room for a pap smear. Patients arriving for HCT register and wait in an HCT-specific waiting area; they receive HIV testing, counselling, and HIV-related bloodwork in the HCT room before exiting the clinic.

The clinic reported utilizing rapid and ELISA testing for HIV, as well as rapid and RPR/VDLR testing for syphilis as part of a facility inventory. During key informant interviews, informants referred to rapid “finger prick” testing for HIV. Patients are asked to return after two days for test results. A complete list of services with self-reported wait times is summarized in Table 10.

Table 10. Steps in the patient care process, North West (NW)

| Step/Area | Service Provider | Services Provided | Time |
|--|--|---|----------------------------|
| 1. Waiting | None | None | 2 hr* 10 min** |
| 2. Registration | Registered nurse | None | 10-15 min |
| 3. Waiting (regular) | None | None | 30 min |
| 4. Waiting (HCT) | Engineering nurse | Health education | 30 min |
| 5. HCT | Lay counsellor Lay counsellor Professional Nurse | HIV test (HCT) Pre-/post-test counselling (HCT/PITC) HIV-related blood work (HCT) | 30 min |
| 6. Consultation | Registered nurse Registered nurse Registered nurse Registered nurse Registered nurse Registered nurse Registered nurse Registered nurse | Health education Vitals Exam (if relevant) HIV test (PITC) HIV related bloodwork (PITC) Syphilis test Partner notification slips Medication TB screening Referrals (pap smear and MMC) | 30-50 min |
| 7. Maternity or Board room | Registered nurse | Pap smear | 15 min |
| Total Time (PITC+ and other STI patients) | | | 3 hr 25 min to 3 hr 50 min |
| Total Wait Time (PITC+ and other STI patients) | | | 2 hr 30 min |

*PITC and other STI patients

**HCT patients

Barriers and Challenges Affecting Patient Flow

Key informants identified three primary barriers affecting patient flow in the North West clinic: lack of clerks to expedite registration; lack of auxiliary nurses to provide basic services like screening patients and taking vitals; and, lack of comfortable beds for STI-related consultation services.

1. Lack of clerks to expedite registration

There are no registration clerks, so registered nurses register patients in the waiting area, which affects their availability to provide direct services. Informants suggested the clinic hire clerks for the reception area. When probed for other ways to address this issue, the informant suggested asking for community volunteers to support patient registration.

2. Lack of auxiliary nurses to provide basic services like screening patients and taking vitals

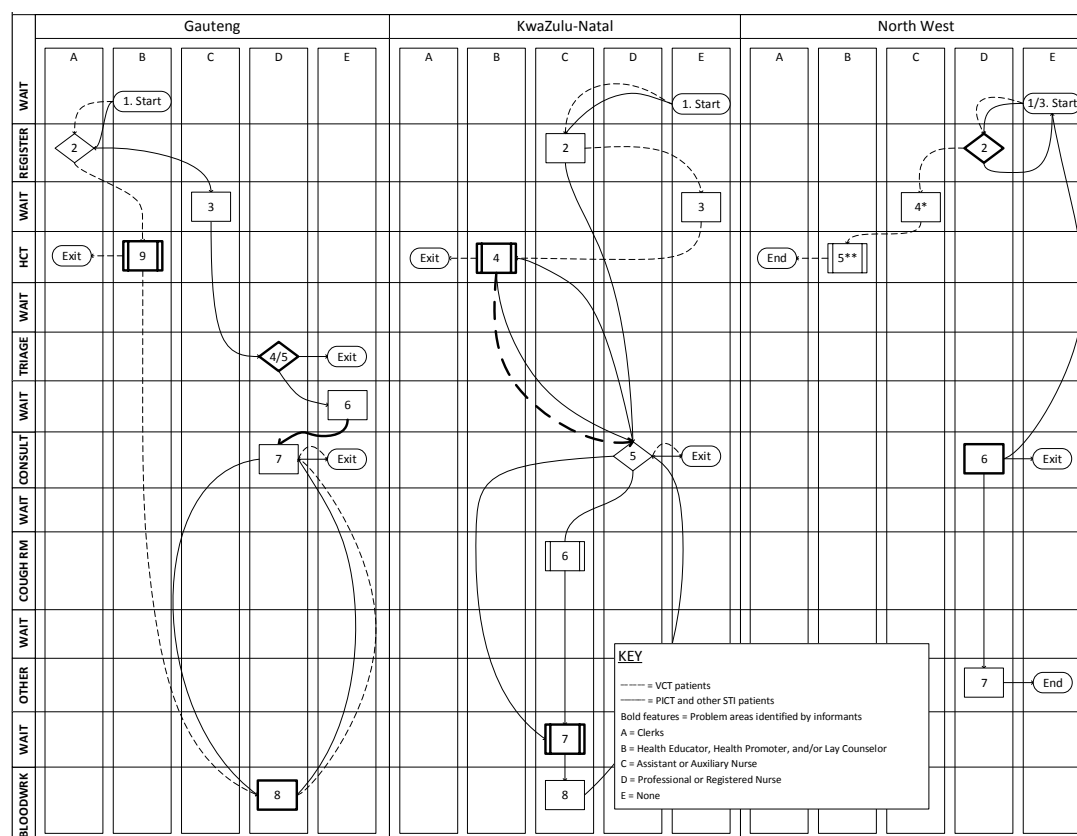
The clinic has no auxiliary or assistant nurses, which means professional nurses are expected to

provide all services, including screening activities and taking patient's vitals. This was perceived to be increasing the burden on professional nurses and slowing patient flow. Key informants suggesting hiring assistant or auxiliary nurses to assist with vitals to reduce wait times.

3. Lack of comfortable beds and adequate light for STI-related consultation services

The consultation rooms used for STI care are small, the beds are considered "worn out", and the lighting is poor. As a result, nurses move patients to the clinic's board room or the maternity ward for services that require use of beds or adequate light (e.g., pap smears and HIV-related bloodwork). This constitutes unnecessary movement, which is considered waste in LEAN terms, and jeopardizes confidentiality according to key informants. Informants suggested replacing beds in the consultation rooms used for STI care in order to avoid unnecessarily moving patients between clinic rooms.

Figure 4: Value stream mapping output of all 3 sites

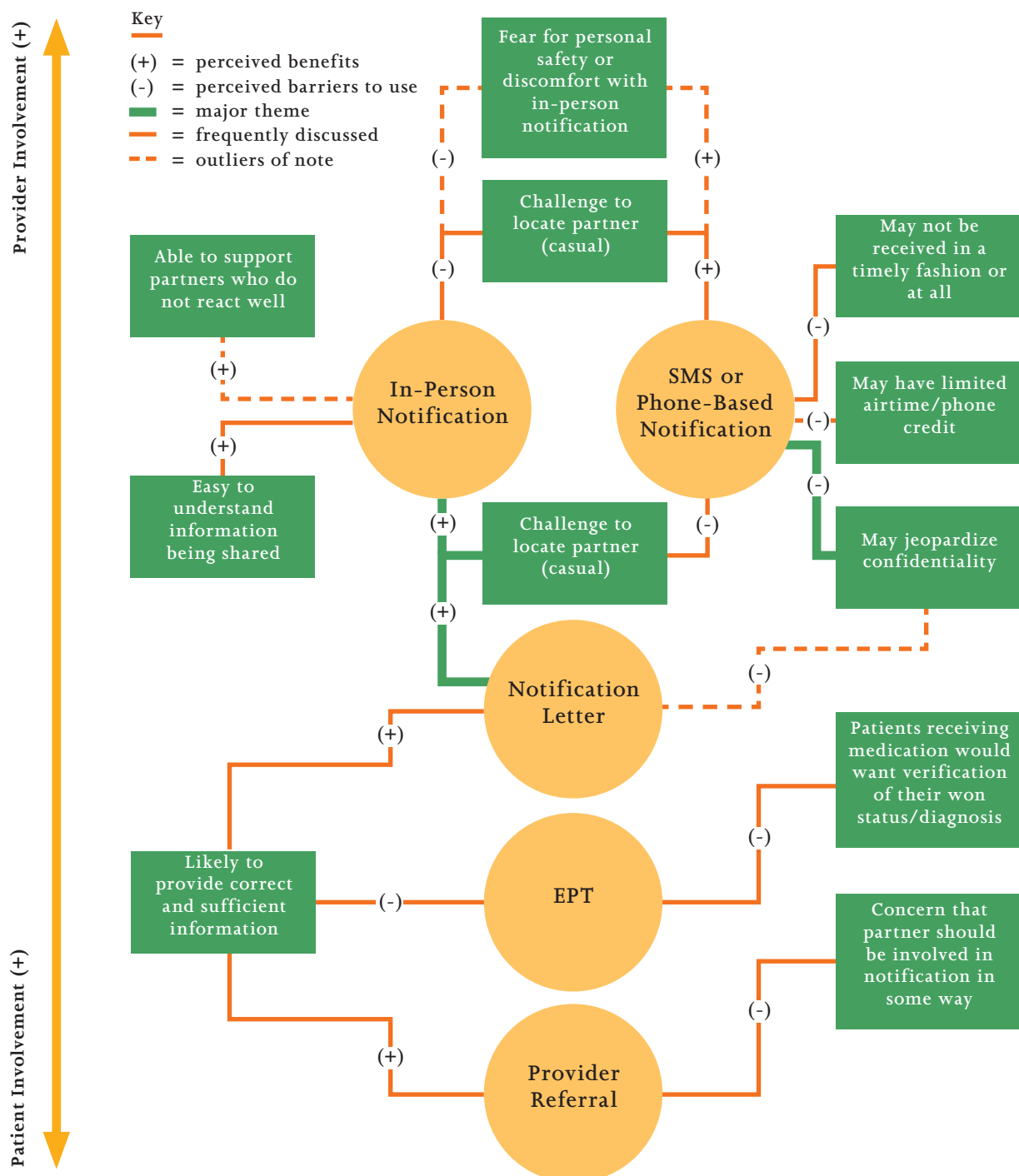


In-Depth Interviews

Interviews were conducted with both men (N=28) and women (N=30). The average age was 22 years

old (range 18-29). A summary of participant findings is presented in Figure 5.

Figure 5: Overview of partner notification preferences



Most participants said they would be willing to notify their partner(s) that they may have been exposed to an STI and should seek treatment. Participants expressed mixed emotions, including feelings of guilt and shame, anger and betrayal, and concern that notification would lead to fighting, loss of trust in the relationship, and/or potentially bring an end to the relationship itself. When discussing fear of damaging the relationship, an 18-year-old female commented, “He will say that I have been hiding secrets from him... and he will not trust me. He will leave me.”

However, there were also positive feelings associated with notification because of the belief that one is protecting/taking care of the partner, or enabling the partner to take care of him or herself.

“Yes, I would inform her because I imagine when it is her who has contracted it, you see? She hides it from me that she has contracted it then she infects me with that thing, you see? This means that I am bound to be honest to her so that we can be able to cleanse ourselves both of us. I should not leave her without the knowledge that she is ill so then she does not cleanse herself, you see? I will spoil her further on. So it is better for her to cleanse herself while she still has a future.”

– Male participant (21 years old)

Overall, willingness to notify partners differed by partner type. Participants described notifying serious and long-term partners as both easy and challenging—potentially easy because of the level of commitment inherent to their relationship, or difficult because it could result in the perception that a partner was cheating and/or dissolution of the relationship. When explaining what would make notifying a long-term partner easy, a 23-year-old male participant explained, “The two of you are married, right? You are committed to each other as one person from now on. That means there is nothing that you will hide and I will also hide nothing from you, you see?”

Patient referral: In-person, phone call, or SMS, or partner notification slip

Overall, the majority of participants said they would prefer to notify partners themselves, in person or face-to-face. Most described “in-person” partner notification simply as a process by which the informant informs his or her partner verbally. However, slight

variations were also described, the most common being a scenario in which the informant notifies his or her partner personally while showing them additional information from the clinic, such as appointment slips or medication.

The primary reason for notifying partners this way included a desire to see the partner’s emotions. This idea was linked to the feeling that the informant would be able to tell if his or her partner was being truthful and that he or she would be more likely to take the conversation seriously. A 24-year-old male participant commented, “I think face-to-face ‘cause she has to see my facial expression and emotions to see how serious it is. Maybe if she sees my face, [she will know] that I’m not joking.”

Although identified less frequently, other reasons for in-person notification were also discussed. These included a sense that in-person notification is the “right” or respectful way to notify a serious or long-term partner, having the ability to support a partner in-person if he or she did not react well to the news, and the feeling that it could be easier to understand the information being shared.

Very few individuals expressed concern about the idea of notifying a partner in person; however, there were several instances in which participants said they would like the use of a different type of method (e.g., SMS) because it could be hard to face a partner. In one example, a 19-year-old female related her hesitation to a fear of violence saying, “It would be difficult to tell him and it won’t be easy to face him, and what if he’s the kind of person with anger who can beat you up, then I would not be able to tell him face-to-face.”

While the majority of participants preferred to notify their partners personally, most expressed concern about the idea of using phone or SMS to do so. Exceptions were occasionally made for casual partners or one night stands. This was typically because the partner may be in another area and therefore challenging to inform in person or because the relationship is deemed less serious. A 27-year-old female participant explained, “I can tell him by telephone because that person would be my secret lover, which means that I do not see him quite often.”

For those who did not want to use a phone call or SMS, the most common concerns were that the per-

son being notified may not take the message seriously or be believed, that a text message may jeopardize confidentiality, and that a partner might not receive a text in a timely fashion or that they might not receive it at all. When discussing how partners might react to a phone call or SMS, an 18-year-old informant explained, “The phone does not help. He will not take me seriously. Even SMS ... he is going to say to me that I am joking.”

Partner notification slips were generally considered acceptable and were identified as the preferred method of notification second to face-to-face, although it was identified significantly less frequently overall. Nearly all participants who expressed interest in using a partner notification slip said it was because a notification slip was a way to provide evidence or proof of STI status to one’s partner. A 24-year-old male commented, “It would be a proof...solid proof that I went to the clinic.”

Another somewhat less frequently perceived benefit of notification slips was the feeling that notification slips would provide important information for both patient and providers, such as the type of infection suspected and important next steps.

Why would I prefer to take the slip to her? Because it explained clear what kind of STI is that. And she will take that appointment card, or appointment slip, to the clinic so they will know exactly what kind of STI is that. So it’s help my partner. And it helps the medical practitioner that he... what exactly is that he’s curing for...

— Male participant (28 years old)

A minority of participants expressed concern about using partner notification slips, including the concern that a slip could be shown to others and used to reveal an individual’s identity. None of these barriers were discussed enough to be considered common themes.

Provider/Clinician referral

Most participants said they felt comfortable having a clinician notify their partners but rarely identified this as the preferred notification method. A minority of participants expressed reservations about provider referral, often stating that partners should notify one another directly. A 26-year-old female participant stated, “I must tell them myself. Why should the nurse be the one who’s telling them?”

Often participants who were open to provider referral wanted to be involved in that process in some way, for example by notifying their partner first and then coming with their partner to the clinic, or warning them in advance about an impending phone call from a clinician.

I would feel okay [if the people from the clinic informed by partner]. But I can alert them first that they should not tell her first. I will tell her for myself. I would want her to hear from me first. They will tell her later when she comes [to the clinic] with me, being the two of us.

— Male participant (25 years old)

The most commonly identified benefit of provider/clinician notification was that providers were often viewed as authority figures who can provide reliable, accurate information about STIs and patient health. A 21-year-old male participant commented, “It can be better just because of, it is a learned person... he/she is a person who has advices regarding those things.”

Aside from visiting the clinician in person, participants were more comfortable with the idea of a clinician calling his or her partner using the phone than having a clinician send an SMS. Participants expressed concerns that mirrored those expressed when thinking about using SMS themselves. These included concern that an SMS would not be taken seriously, or might not be received in a timely fashion.

Expedited partner therapy (EPT)

Discussion of expedited partner therapy produced mixed results. Some participants expressed willingness to utilize EPT, while others expressed concern and/or general confusion. Often, the interviewer had to spend additional time clarifying what EPT entails. Those discussing EPT for husband/wife or “serious” relationships tended to be more amenable to the idea than those discussing casual partnerships. Motivations for using EPT or accepting EPT from one’s partner were most often related to a desire to take care of or heal oneself or a partner.

I have to tell him he’s not doing it for my own sake, but for his sake, né. Yeah. It’s for himself. If he don’t want to die ... If he has some plans about his future, né, I think he would take [the medicine].

— Female participant (21 years old)

A need for adequate information about what the medication was for and how to take it was important to both those who said they would use EPT and those who said they would not. For some, this factor was enough to make them say they would not accept or deliver EPT. For others, they would use EPT contingent upon receiving adequate information about why and how to take medication. One participant commented:

I didn't go to counsel. He's the one who went there and they consulted him. I think he would have to give me those reasons that they also gave him. Why I have to take those medications. But in the end I would take it. – Female participant (21 years old)

Other participants, although fewer, said they would want to know their status, or that their partner would likely want to know his or her status, before taking medication.

You cannot just take pills and then use them without knowing what they are for. You must go and confirm at the clinic to confirm what they are for, and make sure. You see? I wouldn't take pills after receiving them from a person and just take them. Maybe they are pills for something else... I will come to the clinic to be tested so that I am certain about my issues.
– Male participant (21 years old)

Those who were opposed often stated that they would prefer to bring their partner to the clinic and receive medication together.

Discussion

This national evaluation of STI services identified gaps in STI care based on simulated patient encounters and facility assessments at 50 health facilities across South Africa and clinic flow mapping in a subset of three facilities. Facility surveys identified stock outs of STI medications and laboratory tests, as well as some stock outs of condoms. While the majority of SPs were offered HIV testing services, received partner notification slips or counselling about discussing STIs with their sexual partners, and were offered the correct treatment regimen for MUS or VDS, only one in five SPs received all critical STI services. Clinic flow mapping revealed inadequate infrastructure and staffing, as well as delays in the return of laboratory test results.

Despite the fact that cefixime was reported available in only 45.2% of facilities, an estimated two-thirds of SPs were offered the correct medication regimen for MUS or VDS. In many facilities, clinicians provided injectable ceftriaxone, the first-line gonorrhoea medication in the upcoming 2015 STI treatment guidelines. However, other clinicians provided ciprofloxacin, which should only be provided in the case of patients who are allergic to penicillin (16). While we cannot be certain that ceftriaxone and ciprofloxacin were provided due to cefixime stock outs, these results suggest that providers were aware of the correct medication regimens but had to improvise when the necessary treatments were not available. Unlike treatment options for gonorrhoea, nearly all clinicians provided chlamydial infection medications following the 2009 treatment guidelines (16). Of the 139 patients who received a medication for chlamydia, 136 received doxycycline and only four were offered the 2015 first-line treatment, azithromycin (one patient was offered both).

Condom provision remains a challenge in public sector health facilities, with an estimated 36.5% of SPs being provided condoms during visits. While stock outs of condoms were reported, low condom provision does not appear to be wholly driven by stock outs since only 16.8% of facilities reported stock outs in the last six months, and the majority of these (five out of nine facilities) reported that they were rare. In some facilities, condoms are available in reception areas and are not typically provided during clinical

encounters. While we attempted to categorize SPs as being offered condoms in these facilities, it is possible that we have underestimated condom provision due to this issue. Regardless, we identified a missed opportunity for condom provision in the selected health facilities.

Simulated patients reported positive experiences of the clinical encounter. Accounting for the survey design, only 2.3% of SPs reported feeling judged by the provider and 87.2% felt treated with respect and understanding. Women were also more likely to feel treated with respect and understanding by the provider. It is difficult to assess whether this is due to differences in how the male and female SPs perceived the clinical encounter or based on provider attitudes towards male and female patients.

Compared to a similar evaluation of STI services conducted in 2002-2003, simulated patients more frequently received partner notification slips, with 70.8% of SPs receiving slips or counselling about discussing STIs with their sexual partners. In the 2002-2003 survey, 18% of patients received a partner notification slip and among those who were not offered a slip, 35% of clinicians recommended the patient have his or her partners come to the facility for treatment (3). While these studies are not directly comparable, it suggests providers more frequently use partner notification of STIs procedures. Additionally, there was a large increase in the proportion of providers offering HIV testing. While only 8.1% of clinicians offered HIV testing in the previous study, 67.4% of SPs were offered HIV testing in this current evaluation.

All three clinics participating in the flow mapping described their STI care process as utilizing the “one-stop” or “supermarket” approach, as outlined by the NDOH’s comprehensive PHC service package. All three clinics described the provision of key services (promotion, preventative, and curative services) as being offered in a single consultation room. Provider-identified barriers to patient flow most often fell under three of the seven waste categories identified by Lynam, Smith, and Dwyer (20): delays, movement, and resource inefficiencies. The underlying causes of these barriers were related to staffing, as

well as physical layout of the clinics and space allocation to the provision of services.

In addition to barriers identified by key informants, the literature review, observations, and analysis of final maps highlighted several other factors worth considering for the purposes of improving patient flow. The first is the use of appointments and staggered patient arrival times to expedite flow. In two of the three clinics included in this study, the majority of self-reported wait time, non-value-adding components of the patient flow process, occurred before and after registration but before services were received. This indicates a need to improve patient registration and entry into direct care (consultation). The use of appointments and staggered patient processing has been shown to reduce wait time in a number of settings. In an example from a hospital in South Africa, a small pilot study successfully reduced patient wait times and streamlined patient flow by creating staggered appointments for patients and notifying patients of those times via phone in advance, giving patients numbered stickers upon arrival, creating clear clinic signage to indicate how patients should move around the clinic, and allowing pre-ordering of x-rays (21). The National Department of Health has outlined guidelines that assist clinics with patient batching and has begun rolling out the Ideal Clinic initiative which includes scheduled patient visits (22,23).

In-depth interviews with patients exiting selected health facilities revealed that overall attitudes for partner notification of STIs were positive. The most favoured method of notification was patient-referral, although the use of partner notification slips and provider referral were also considered acceptable for most participants. In the case of provider referral, participants often wanted to be involved in the notification process in some way, for example by coming to the clinic with their partner or warning them about an incoming phone call. Overall, participants expressed concern about the use of phone or SMS for both patient and provider-based referral, while preferences for the use of EPT were highly mixed.

Preferences varied by type of partner. In-person notification was strongly favoured for long-term or serious partners, and informants thought long-term partners would be more likely to respond positively to EPT than other types of partners. Conversely, the

use of SMS, phone-based, or provider referral was often linked to casual or short-term partners. These trends are likely due to feelings of trust and responsibility toward long-term partners (participants discussed the needs to communicate openly in serious relationships), coupled with the fact that casual or short-term partners may be challenging to reach for logistical reasons (participants may not have their contact information or they may live far away).

Across notification types, several themes emerged as factors affecting willingness to notify or be notified using a particular method. The first was the feeling that a certain method would be more or less likely to be taken seriously and therefore acted upon. Face-to-face notification was viewed as a way for partners to see one another's reactions, convey a sense of seriousness, and assess whether a partner is being truthful or not. For some, provider referral was also a way of way of communicating the serious nature of the topic at hand. Participants worried that other forms of notification (particularly SMS and phone-based notification) would not be taken seriously and that partners would think the notification was a joke.

Another common topic of discussion was the need for confidentiality. It was a major barrier to the use of SMS and phone-based notification for many participants. It was also discussed, although much less frequently, within the context of partner notification slips and provider referral.

Finally, patients also identified a need for adequate educational information during the notification process. This was seen as a benefit of face-to-face notification and partner notification slips. In the case of face-to-face notification, there was a sense that proper notification requires an in-depth discussion that would be challenging to have with a partner via other means (for example, SMS). In the case of partner notification slips, the perception that the slip would include all the necessary information about what someone may be infected with and what next steps should be taken were considered a benefit. Conversely, a potential lack of information was viewed as a barrier to use of EPT. People wanted information about medication and potential confirmation of their diagnosis.

In thinking specifically about the design of partner notification slips, participants expressed a range of opinions with several clear recommendations. Slips may benefit from a physical design that can be folded into a smaller size. The front side of any folded form should be very simple and clearly state that the individual should visit a clinic as quickly as possible because he or she may have been exposed to a “sexually transmitted infection” (much like the language used in notification slip 1). Inner leaves could be designed to contain additional information for those types of individuals who appreciate details about symptoms, care, treatment, screening, and condom use. The use of diagnostic codes should be avoided, or incorporated into the design in a subtle way, so they can be referenced by providers but not seen as distracting or confusing for partners/patients.

Taken together, these themes point to several important considerations for future interventions. First, the type of partner being targeted should be considered when identifying an appropriate method of notification. What works for long-term partners may not be effective with casual partners and vice versa. Second, certain methods are thought to better convey a sense of seriousness that may affect care-seeking behaviour. If using methods that were perceived to be less serious, additional work may need to be undertaken to convey a sense of seriousness and validity (for example, provide verification that a phone call or SMS-based message from a provider has indeed come from a valid provider). Finally, every effort needs to be made to ensure confidentiality, and extra care may need to be taken to ensure patients of this fact.

Strengths and Limitations

This study had several strengths and limitations. The primary strengths of the study include the mixed methods approach, which allowed exploration of multiple aspects of STI care, including quality of care, infrastructure challenges, care pathway bottlenecks, and patient preferences. The use of SPs further minimized reporting bias in our ability to assess the quality of health service provision.

The central limitation to this study is that Clinical Sentinel Surveillance sites may not be completely representative of all public sector health facilities. While CSS sites were intended to represent public

sector health facilities, they are not a random sample. Therefore, since our sample was among CSS sites, these results may not be completely representative of all public sector health facilities.

While SP encounters can minimize bias, they have some limitations as a data collection method. First was the concern that the providers may identify one of our SPs as an actor, leading clinicians to alter their care practices. Due to ethical concerns of deception, we consented all providers in advance, so they knew that an SP may present to their clinic but they did not know when this would happen. Furthermore, SP actors had to refuse certain clinical services (HIV testing, physical genital examinations, urine testing). The previous national evaluation found that physical examinations were only offered in 10% of female visits and 21% of male visits, so we did not anticipate a large challenge in this area. We did, however, find a marked increase in the proportion of providers requesting physical examination (45% of male visits and 56% of female visits), though our SPs were generally able to decline the examination without difficulty. Overall, nine out of 195 encounters (4.6%) stopped early due to provider detection of the SP.

Finally, data collection required SPs to report the services that had been offered to them. Recall bias may have occurred; however, this is unlikely because SPs were trained to remember all essential data elements, and they reported services immediately after completing the clinical encounter. Finally, the simulated patient encounters reported here only assess visits where the SP presented with MUS or VDS, and STI service provision may have differed for other STI syndromes.

For in-depth interviews and clinic flow mapping, these activities occurred at one urban clinic, one rural clinic, and one clinic in a coastal area and are not designed to be generalizable of South Africa at large. However, the common themes and barriers to care expressed by respondents may be helpful for guiding future policy and guideline decisions around STI care.

Dissemination and Next Steps

Evaluation results were shared with the National Department of Health in January 2015. Results were then disseminated during meetings with key

stakeholders in each province between February and March 2015. Participants to each of the meetings included a National Department of Health STI Sub-Directorate representative, an I-TECH trainer and research team lead, the Provincial STI Coordinator, Provincial HIV Coordinator, Regional Training Center Manager and trainers, District and Sub-District level managers, managers from each of the clinics who participated in the survey, and partner organizations involved in STI and HIV prevention services within the province. In addition to results dissemination, each meeting included a session in which participants were engaged to trouble shoot gaps noted during the evaluation and an update on the 2015 STI National Guidelines. Results were internationally presented at the 2015 AIDS Meeting in Vancouver, Canada.

Conclusions

This evaluation of STI services across South Africa revealed gaps in provision of comprehensive STI care, specifically related to condom distribution and correct medication provision for gonorrhoea clearance. Additionally, statistically significant differences between males and females existed related to HIV test recommendation and partner notification slip provi-

sion or counselling. Structural barriers to STI service delivery included clinic layout, limited staffing, and full consultation plus laboratory testing only being offered as needed. Patients reported a partner notification preference of face-to-face from the patient to the partner, particularly for long-term or serious partners. Concerns exist on the part of patients related to notification via phone and SMS.

These results indicate a need for availability of appropriate medications, as well as awareness of current comprehensive STI guidelines, and continued motivation to provide condoms as well as prevention messaging. Integrated care remains a challenge, particularly related to male medical circumcision and family planning counselling for patients presenting with STIs. Significant differences were noted between care provided for males and females which highlights a need for continued awareness of gender concerns and reduced stigma. Partner notification methods should take into account partner type and consider confidentiality concerns and provision of sufficient patient follow-up and education.

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| Appendices

- A. Health Facility Assessment
- B. Standardized Female Vaginal Discharge Syndrome Case
- C. Standardized Male Urethritis Syndrome Case
- D. Simulated Patient Tool
- E. Medication Slip
- F. Provider Information Slip
- G. In-Depth Interview Guide
- H. Clinic Flow Mapping Guide
- I. Clinic Flow Mapping Note Taking Templates
- J. Clinic Flow Map

Appendix A: Health Facility Assessment

| Facility Survey A National Evaluation of Sexually Transmitted Infection (STI) Services in Public Sector Health Facilities in South Africa <i>Script: "Hello, my name is ... As you know, we are collecting information for the National Department of Health on delivery of STI services. I have several questions about your facility, and I would like to see different areas of the facility as we talk."</i> | | | | | |
|--|--|---|---------------------------|----------------------|--------|
| Date _____ Interviewer ID [][][][] Facility ID [][][] Type of facility: PHC [] CHC [] | | | | | |
| No. | Question | Coding <i>[fill in the blank or circle the appropriate answer]</i> | | | |
| PART 1 : FACILITY INFORMATION | | | | | |
| F101 | How many clients on average does the facility serve each day? | Number of clients: [][][][] OR 88 = Don't Know | | | |
| F102 | How many people are in the catchment area served by this facility? | [] , [][][] , [][][] OR 88 = Don't Know | | | |
| PART 2: HUMAN RESOURCES | | | | | |
| F201 | How many staff members in the following categories are employed at your facility? | | Full Time | Part Time | Vacant |
| | | Medical doctor | | | |
| | | Clinical officer | | | |
| | | Professional nurse | | | |
| | | Enrolled nurse | | | |
| | | Nursing assistant | | | |
| | | Pharmacy technologist | | | |
| | | Data manager | | | |
| | Data clerk | | | | |
| F202 | What are the 3 most difficult problems you have in delivering quality care related to sexually transmitted infections? <i>[Allow respondent to free-list and select the top 3 indicated]</i> | 0 = Staff shortages 1 = Lack of medications/drugs 2 = Lack of supplies (Specify): 3 = Lack of training 4 = Lack of time to do job 5 = People not coming to clinic / accepting care 6 = Inadequate patient transportation 7 = Demoralized staff 8 = Security 9 = Political interference/corruption 10 = Too many patients 11 = Inconsistent water/electricity 77 = Other | | | |
| F203 | Can you please list any STI trainings that your <i>clinical</i> staff have attended in the last 12 months? | Training | Organization (NDOH, etc.) | # Providers attended | |
| | | | | | |
| | | | | | |
| | | | | | |

| PART 3: INFRASTRUCTURE AND SUPPLIES | | | | |
|-------------------------------------|---|---|---------------------------------|----------|
| F301 | How many clinical examination rooms are in this facility? <i>[Ask to see an examination room]</i> | Number of rooms: [][] | | |
| F302 | Check to see whether any of the following are available: | Not available | Reported available but not seen | Observed |
| | Means of visual privacy | 0 | 1 | 2 |
| | Means of auditory privacy | 0 | 1 | 2 |
| | Medical gloves | 0 | 1 | 2 |
| | Examination couch | 0 | 1 | 2 |
| | Paper roll / couch covers | 0 | 1 | 2 |
| | Examination light | 0 | 1 | 2 |
| | Examination torch | 0 | 1 | 2 |
| | Clinical thermometer | 0 | 1 | 2 |
| | Clean water and soap | 0 | 1 | 2 |
| | Small speculum | 0 | 1 | 2 |
| | Medium speculum | 0 | 1 | 2 |
| | Large speculum | 0 | 1 | 2 |
| | STI treatment flow charts posted | 0 | 1 | 2 |
| PART 4: STI SERVICES | | | | |
| F401 | What days and hours are STI services available? | 0 = All clinic hours 1 = Select days (Specify): 77 = Other (Specify): | | |
| F402 | Are patients required to disclose their health concern at registration ? | 0 = No 1 = Yes | | |
| F403 | Which health professional conducts HIV testing ? | 0 = The clinician conducting the patient exam 1 = Another clinician designated for HIV testing 2 = A community health worker or counsellor | | |
| F404 | Which clients are counselled about medical male circumcision? | 0 = All men 1 = Only men in a specific age range: _____ 2 = Only sexually active men 3 = Other (Specify): | | |
| F405 | Is medical male circumcision offered at this clinic? | 0 = No 1 = Yes → Skip to F407 | | |
| F406 | If no, Where are clients referred for medical male circumcision? | | | |
| F407 | Which clients are offered condoms ? | 0 = Every client 1 = Only sexually active clients 2 = Only adult clients 3 = Only those who request them 4 = Only those presenting with HIV/STIs 77 = Other (Specify): | | |

| | | | | |
|---|---|--|--------------------------|------------------------|
| F408 | In the last 6 months, have there been any stock outs of condoms ? | 0 = Never 1 = Rarely 2 = Sometimes 3 = Often | | |
| F409 | Do you have a condom model for condom demonstrations ? | 0 = No 1 = Yes, but not seen 2 = Yes, observed | | |
| F410 | Do you have access to sterilization for specula or other supplies? | 0 = No 1 = Yes, on-site 2 = Yes, off-site | | |
| F411 | Can you show me where you keep partner notification slips ? | 0 = None available 1 = Available in area other than exam room 2 = Available in exam room | | |
| F412 | What languages are partner notification slips available in? <i>[confirm visually & tick all that apply]</i> | 0 = English 77 = Other (Specify): | | |
| F413 | Are any client education documents available for teaching and counselling in any of the following areas? | No | Seen in English | Seen in local language |
| | HIV testing | 0 | 1 | 2 |
| | Partner testing | 0 | 1 | 2 |
| | Safer sex / condoms | 0 | 1 | 2 |
| | Male medical circumcision | 0 | 1 | 2 |
| | Family planning | 0 | 1 | 2 |
| | Sexual violence or rape | 0 | 1 | 2 |
| | Disclosure of HIV status to sex partner | 0 | 1 | 2 |
| | Partner notification of STIs | 0 | 1 | 2 |
| F414 | Do you have a tracking method to determine whether patients returned for all injections for syphilis treatment? | 0 = None 1 = Reported but not seen 2 = Observed | | |
| PART 5: GUIDELINES AND PROTOCOLS | | | | |
| F501 | Does the facility have current national guidelines and/or documents? | Not available | Available but not recent | Observed and recent |
| | Essential Drug List (EDL) Book (2008) | 0 | 1 | 2 |
| | Comprehensive Management and Control of STIs (2008) | 0 | 1 | 2 |
| | Any other resource with STI guidelines | 0 | 1 | 2 |
| F502 | Do you have an in-house policy for breach of patient confidentiality in your facility? | 0 = No 1 = Informal / Reported but not seen 2 = Observed | | |
| F503 | Do you have an in-house policy for management and referral of sexual violence or rape in your facility? | 0 = No 1 = Informal / Reported but not seen 2 = Observed | | |
| F504 | How frequently do you hold meetings with referral services in your community? | 0 = Never 1 = About once a year 2 = Every few months 3 = Monthly | | |

| | | | | |
|--|--|--|------------------------|-----------|
| F505 | Which types of referral services are available to your STI clients? <i>[Select all that apply]</i> | <input type="checkbox"/> HIV support groups <input type="checkbox"/> Other support groups (Specify): <input type="checkbox"/> Violence or abuse care <input type="checkbox"/> Individual counselling <input type="checkbox"/> = Other (Specify): <input type="checkbox"/> None of the above | | |
| PART 6: MONITORING AND EVALUATION | | | | |
| F601 | Which of the following tools are used to monitor performance? | Not used | Reported but not seen | Observed |
| | Stock registers for drugs | 0 | 1 | 2 |
| | Stock registers for supplies | 0 | 1 | 2 |
| | Patient satisfaction surveys | 0 | 1 | 2 |
| | District Health Information System | 0 | 1 | 2 |
| | District STI Quality of Care Assessment Tool (DISCA) | 0 | 1 | 2 |
| | Staff training register | 0 | 1 | 2 |
| | Antenatal HIV and Syphilis Survey | 0 | 1 | 2 |
| F602 | Do you conduct formal training in filling out registers and reporting? | 0 = No 1 = Yes | | |
| F603 | Are reports of STI care routinely sent to the Ministry of Health? | 0 = No → Skip to F607 1 = Yes | | |
| F604 | How is the report sent there? | 0 = Registers are collected and taken off-site 1 = Reports or tally sheets are sent via mail 2 = Reports or tally sheets are hand-delivered 3 = Electronically submitted | | |
| F605 | How frequently is the report sent? | 0 = Monthly 1 = Quarterly 2 = Annually | | |
| F606 | What are the challenges with data reporting? | | | |
| F607 | How often is data presented to and discussed with staff? | 0 = Never 1 = About once a year 2 = Every few months 3 = Monthly | | |
| F608 | How often is data utilized at the clinic to make decisions (modify planning / targets) | 0 = Never 1 = About once a year 2 = Every few months 3 = Monthly | | |
| PART 7: PHARMACY/MEDICATIONS <i>[Respondent may need to consult with a pharmacist or check for stock outs. Ask to see pharmacy or wherever medications are stored]</i> | | | | |
| F701 | Which medications are currently in stock? | Never available | Currently out of stock | Available |
| | PO Ciprofloxacin | 0 | 1 | 2 |
| | PO Cefixime | 0 | 1 | 2 |
| | PO Doxycycline | 0 | 1 | 2 |

Appendix B: Female Vaginal Discharge Syndrome Case

Case Background Information

| | |
|------------------------------|--|
| PRESENTING SYMPTOMS: | Vaginal Discharge for past 4 days |
| ACTUAL DIAGNOSIS: | Vaginal Discharge Syndrome |
| CLINICAL CONSULTANT: | Suzanne Jed, MSN, FNP-BC |
| CASE AUTHORS: | Tamara Owens, MEd Suzanne Jed, MSN, FNP-BC Erushka Pillay Marcia Weaver, PhD Pam Kohler, PhD |
| PATIENT NAME: | Each SP will use birth name for authenticity of case portrayal |
| PATIENT DEMOGRAPHICS: | Age: 20-63 years old Sex: Female Race: As actual Height: Average Weight: Average |

MATERIALS and EQUIPMENT NEEDED:

- ID Card
- Watch
- Cell phone

TERMINOLOGY

- Case Writing Notes (CWN) – These notes are inserted throughout the case as directives on how to write future versions of the case. CWNs are intended for the case authors, not the SPs.

PROFILE:

The patient is a 20- to 63-year-old female who has come to the clinic because of a vaginal discharge which she has been experiencing for the past four days.

CASE GOAL

The goal of this case is to assess the knowledge and skills of a healthcare provider related to Vaginal Discharge Syndrome.

CASE EVALUATION OBJECTIVES

1. Demonstrate appropriate diagnosis and treatment of Vaginal Discharge Syndrome
2. Demonstrate knowledge and skill regarding issuance of appropriate partner notification slips and recommendation of condom use
3. Demonstrate knowledge of importance of testing for HIV when an STI is diagnosed

CASE SUMMARY

You are a 20- to 63-year-old female patient who is coming to the clinic with a complaint of vaginal discharge for the past four days. This is the first time you have been to this clinic.

Your challenge as the standardized patient (SP) is two-fold:

1. To appropriately and accurately respond to questions related to the symptoms and medical history of this case;
2. To accurately recall the encounter during the debriefing session;
3. To collect materials provided during the visit and turn them over to the coordinator.

PRESENTATION AND EMOTIONAL TONE

Present in a fairly relaxed state. You are walking and sitting normally. You can point to your vaginal area when describing your discharge

Dress in a manner that would be considered appropriate, conservative, and similar to others in the area. Do NOT dress in a way that may be thought of as normal for a sex provider.

You are well groomed.

Responding to questions

You are responsive and answer all of the healthcare provider questions when asked. When the healthcare provider asks questions regarding sex or STIs, you should act somewhat uncomfortable with the topic but not extremely so.

Changes in Demeanour during the Encounter

At the beginning of the encounter, you should present in a fairly relaxed state. You are walking and sitting normally.

During the middle of the encounter when presented with questions regarding sex, condom use, or STIs respond in a hesitant manner, somewhat uncomfortable with the topic but willing to respond. You are not shy about having multiple partners and do not think it is a problem but do not become argumentative about it. You are not uncomfortable discussing HIV testing. If discussed, you agree it is a good idea to know your HIV status and that of your partners.

At the end of the encounter, you should present grateful for a diagnosis and medication.

SP OPENING STATEMENT

CWN: The response for each case version will vary based on the typical terms used by lay people AND what is most comfortable for the specific SP portraying the role.

When asked by the healthcare provider (nurse, doctor, etc.), “Why are you at the clinic today” or “how can we help you”, your response should be “I have noticed a liquid down there”. Remember, at each clinic visit you must respond the same way each time.

If the healthcare provider says, “Tell me more about it” or “Can you tell me what has been going on?” Your response should be, “It is watery, a little yellowish.”

HISTORY OF THE PRESENT ILLNESS

You have experienced a vaginal discharge for the past four days. The discharge is watery and a little yellowish. It is not itchy. Sex is not painful. It does not smell bad. Prior to four days ago you did not have any problems. You have never experienced a discharge like this before.

Associated Symptoms:

- No abdominal/stomach pain
- No nausea, vomiting, diarrhoea or constipation
- You have not noticed a rash anywhere
- No pain on urination or frequent urination

-
- No blood in urine
 - You have not had a fever or chills
 - You do not have a cough or night sweats
 - No vaginal bleeding
 - No vaginal itching
 - No pain with intercourse
 - No vaginal burning
 - No sore throat

Your current concerns are:

You feel the liquid is uncomfortable and you are concerned your sex partner will notice it and question your commitment to the relationship. You would like to get it treated as soon as possible.

PAST MEDICAL HISTORY**Overall Health:**

Your last doctor visit was approximately one year ago. The visit was for a bad cough. You were treated with medication and it went away. You are otherwise healthy, without any other symptoms.

You had all of the normal childhood diseases and vaccinations. You have no known drug allergies

CWN: The response inserted into the case regarding vaccinations should note that older SPs will not know if they have had vaccinations. The younger SPs will.

Prior Illness

No prior illnesses, including TB.

HIV/AIDS screening

CWN: The response inserted into the case version will depend on the age of the SP.

- Childbearing SPs: If you have children under the age of five, you were tested for HIV at delivery and tested negative.
- Post childbearing SPs: If your children are older, you were tested one year ago and tested negative.

STI Screening

CWN: The response inserted into the case version will vary by SP.

You have not been treated for any previous STIs. You do not know if any of your partners have ever had any STIs or tested positive for HIV.

Allergies

None

Past Hospitalizations;

You have never been hospitalized or had any surgeries.

MEDICATIONS**Prescription drugs**

You are currently not on any medications.

Over the counter (OTC) drugs, herbal or traditional medications

None

Illicit/street drugs

None

MENSTRUAL HISTORY

CWN: The response inserted into the case version will depend on the age of the SP.

Premenopausal:

You started your period at age 12. All of your menses have been normal. You get your period every 28-30 days. It lasts for four to five days. The flow is not too heavy or too light and has remained the same. You use tampons, two to three per day. You get cramps with your period but not a lot of pain. You are on your menses today. It is the second day and a heavy flow. You currently are not taking any contraceptives.

Postmenopausal:

Your last period was 15 years ago. During the menopausal phase you experienced irregular periods, hot flashes, mood changes, fatigue, and weight gain. It lasted for two years and finally ended when you were 48 years old.

SEXUAL HISTORY

CWN: The response for each case version will vary based on the specific SP portraying the role. **The basic sexual history for this patient should include:**

- A main partner: The main partner may be a husband or not. The use of condoms with the main partner can vary.
- Second Partner: The sex of the partner can vary, as well as the use of condoms.
- Non-traditional sex experience: The use of sex toys will vary for each case version.

Please note that in some societies, women expect something material from a relationship. The material/tangible something may come in the form of occasional gifts, money, clothing, etc. The SP should be consulted to put into appropriate context.

Also, vary the known status of the HIV status of the partners, as well as the actual status (some positive and some negative)

You currently have a husband to whom you are married. He travels frequently. In the past two months, you have had sex with one other man. When you had sex, you did not use a condom with your husband but you did with the other man. He is someone you have known since you were a young girl. He did not pay you money or provide you with any other items for having sex with him. You do not use any sex toys with the partners. You do not tell the health care provider about the other man unless you are specifically asked how many sex partners you have or how many partner notification slips you need.

If asked, you do not know the HIV status of the other man. Your husband told you he was HIV negative. The other man told you he was recently treated for STIs.

Family Planning

You are currently not using any form of birth control (shot, IUCD, or pill).

PATIENT'S LIFESTYLE/HABITS

CWN: The response for each case version will vary based on the specific SP portraying the role. Please note that tea and coffee is a preferred caffeine drink. If asked, the SP must be able to detail the last three months of activities.

Alcohol

You drink beer once in a while, but never more than one or two per day.

Tobacco

You have never smoked.

Caffeine

You drink a cup of tea two to three times per day on occasion.

Diet

You eat a normal diet for the area (pap, meat, potato, etc.).

Exercise

You do not exercise.

Activities/hobbies

You enjoy spending time with your family and friends. Over the last three months, you have had a basic routine.

You have not gone swimming.

Stress

Money is lacking and a stressor.

FAMILY MEDICAL HISTORY

CWN: The response for each case version will vary based on the specific SP portraying the role. Burden of diseases and death in South Africa are due to car accidents, heart attack, diabetes, stroke, and hypertension-related illness.

SPs should make up the names for all family members, siblings, children, and partners.

Parents:

You and your mom are close and you talk to both parents on a regular basis. Your mother is 17 years older than you. Your father is 20 years older than you. Your parents are currently healthy with no medical problems other than “they are getting older”

Siblings:

You have one brother and one sister. Both are currently healthy with no medical problems

Children:

You have three children, ages appropriate for your own age. They are all healthy and in school/doing well.

Paternal grandparents:

Deceased; died of old age.

Maternal grandparents:

Deceased: died of old age.

PERSONAL HISTORY

CWN: The response for each case version will vary based on the specific SP portraying the role.

Birth date

- Your birth date should be similar to your actual age but not the same.

Birth place

- Your birth place should be near your actual birth place but not the same.

Living arrangements

You live at home with your husband and children. You have a large circle of friends and enjoy an active social life.

Education

You have at least an 8th grade education.

Religion

Christian

PHYSICAL EXAMINATION

If the health care provider follows the appropriate algorithm, they may request a physical examination.

Real Physical Findings

- There are no physical examination findings that are present at this visit.
- Vital Signs
- If vital signs are requested, allow them to take your temperature, weigh you, and check your blood pressure and pulse, as long as you do not find these to be invasive.

Abdomen Exam

If an abdominal exam is performed, do not complain of pain when the health provider pushes down (touches) on your lower abdomen. Do not hold your abdomen too tightly (guard) or complain of pain when the health provider lets go after pushing down (rebound tenderness). If, however, the healthcare provider does cause you pain, please state that is the case.

Genital Exam

CWN: The response each SP gives to decline a genital exam must feel comfortable to them and be reasonably realistic of an excuse for not allowing the healthcare provider to examine them. The examples for declining the exam are:

- Does not feel comfortable with a male healthcare provider performing the exam
- Is in a hurry to get to work or another urgent matter
- Currently on menses

If a genital exam is requested, politely decline stating you need to attend to an urgent matter and ask if you can return at another time for the pap exam. If the provider continues to request the exam, gently refuse and request if there is any medication you can take for your symptoms.

Test / Medication

- **HIV screening**
 - The health provider should advise for HIV screening. Politely decline or state you will return for HIV testing.
- **Urine Sample**
 - Please note that you may be asked to provide a urine sample. State that you cannot produce one at the moment. If the healthcare provider is persistent, politely decline.
- **Blood Draw**
 - Please do NOT allow blood to be drawn.
- **Medication**
 - If medication is dispensed and you are expected to take it in the office, you may politely decline and state you will take at a different time. DO NOT ingest any medication if provided in the office.

PATIENT RESPONSE TO SPECIFIC INTERVIEWING QUESTIONS

CWN: The response for each case version will vary based on the specific SP portraying the role.

- How long have you had the discharge?
SP response: "Four days."

-
- Can you describe the discharge?
SP response: "It's watery, a little yellowish."
 - Have you experienced any symptoms with the discharge?
SP response: "Like what?"

The healthcare provider should provide examples of the symptoms such as itching, burning, bleeding, etc. After the examples, you should respond with, "I have not experienced any symptoms. It is not itchy and doesn't smell bad."

- Have you noticed a rash, lesions in the vaginal area?
SP response: "No."
- Have you experienced any abdominal pains?
SP response: "No."
- Are you currently taking any medication?
SP response: "No."
- Have you taken any medication in the past?
SP response: "No."
- Are you allergic to any medications?
SP response: "No."
- Have you noticed having a fever?
SP response: "No."
- Have you had any medical problems in your past?
SP response: "No."
- Have you had sex in the last three months?
SP response: "Yes."
- How many partners have you had in the last three months?
SP response: "Two."
- What is the sex of your partners?
SP response: "Male."
- Did you use a condom with your partners?
SP response: "Sometimes."

If the healthcare provider asks you to explain, you tell them that you have a main partner whom you have never used a condom. With your other partners you used condoms.

- Is there any possibility that you may be pregnant?
SP response: "No."
- When was your last period?
SP response: "It started yesterday."
- Have you noticed any symptoms such as nausea, diarrhoea, or constipation?
SP response: "No."
- Are you married?
SP response: "Yes." (This response will vary based on the SP.)

- How long have you been married?
SP response: "Five years." (This response will vary based on the SP.)
- Are you currently sexually active?
SP response: "Yes."
- Do you use condoms with your husband?
SP response: "No."
- Do you have children?
SP response: "Yes." (This response will vary based on SP)
- How many sexual partners do you have?

SP response: "Two." This is a closed-ended question, so for your response only give the number of partners. Also, you should hesitate giving the response. You are a married woman having sex outside the marriage, which make you feel slightly shy in responding but not ashamed.
- Have you been screened for HIV/AIDS before?
SP response: "Yes."
- Have you had TB before?
SP response: "No."
- Have you been screened for TB before?
SP response: "No."
- Have you been tested for STI before?
SP response: "No."

AT THE END OF THE ENCOUNTER

After the healthcare worker has completed the examination, you should do the following:

1. State to them that "I am the unannounced SP".
2. Hand them the letter.
3. Do not provide feedback to the healthcare provider. The letter will re-explain the project. If the healthcare provider has questions, they should direct them to the facility manager.
4. Ask them to complete the medication form.
5. Place all forms, slips, and medication in the envelope.
6. Thank them for their time and leave the facility.

DEBRIEFING THE ENCOUNTER

Following the encounter, you will be met by an I-TECH staff member for debriefing. I-TECH staff will record the information on a form called the SP Encounter Data Recording Form. Below are the questions you will be asked. Please provide accurate information on your experience.

1. Was your healthcare worker (HCW) a male or a female :
2. Was your HCW a nurse, a doctor, or other? Yes ☐ No ☐
 - A Nurse can be identified by a nurse uniform.
 - A doctor can be identified by a white coat.
3. Were you offered a genital physical examination? Yes ☐ No ☐
4. Were you offered HIV testing? Yes ☐ No ☐

5. Were you counselled about safer sex? Yes ☐ No ☐

6. Were you counselled about talking to your sexual partner about STIs? Yes ☐ No ☐

7. Felt judged negatively by the care provider? Yes ☐ No ☐

☐ Strongly agree

☐ Agree

☐ Neither agree nor disagree

☐ Disagree

☐ Strongly disagree

8. Felt the care provider treated you with respect and understanding?

☐ Strongly agree

☐ Agree

☐ Neither agree nor disagree

☐ Disagree

☐ Strongly disagree

9. Males only:

Did the provider discuss male circumcision? ☐ Asked about MMC

☐ Recommended MMC

☐ Did not discuss MMC

10.

Females only:

Did the provider discuss family planning? ☐ Asked about FP

☐ Recommended FP

☐ Did not discuss FP

11. Did you feel that the provider knew you were a simulated patient? Yes ☐ No ☐

- If yes, please describe:

Please deposit any/all prescriptions, medications, condoms, and partner notification slips in the envelope.

Appendix C: Male Urethritis Syndrome Case

Case Background Information

| | |
|-----------------------|--|
| PRESENTING SYMPTOMS: | Pain on urination for 3 days |
| ACTUAL DIAGNOSIS: | Male Urethritis Syndrome |
| CLINICAL CONSULTANT: | Suzanne Jed, MSN, FNP-BC |
| CASE AUTHORS: | Tamara Owens, MEd Suzanne Jed, MSN, FNP-BC Erushka Pillay Marcia Weaver, PhD Pam Kohler, PhD |
| PATIENT NAME: | Each SP will use birth name for authenticity of case portrayal |
| PATIENT DEMOGRAPHICS: | Age: 20-60 Years old Sex: Male Race: As actual Height: Average Weight: Average |

MATERIALS and EQUIPMENT NEEDED:

- ID Card
- Watch
- Cell Phone

TERMINOLOGY

- Case Writing Notes (CWN) – These notes are inserted throughout the case as directives on how to write future versions of the case. CWNs are intended for the case authors, not the SPs.

PROFILE:

The patient is a 20- to 60-year-old male who has come to the clinic because he has been experiencing pain on urination for the past three days.

CASE GOAL

The goal of this case is to assess the knowledge, skills, and behaviours of a healthcare provider related to urethritis syndrome.

CASE EVALUATION OBJECTIVES

1. Demonstrate appropriate diagnosis and treatment of urethritis syndrome.
2. Demonstrate knowledge and skill regarding issuance of appropriate partner notification slips and recommendation of condom use.
3. Demonstrate knowledge of importance of testing for HIV when an STI is diagnosed.

CASE SUMMARY

You are a 20- to 60-year-old male patient who is coming to the clinic complaining of pain on urination for the past three days. This is the first time you have been to this clinic.

Your challenge as the standardized patient is threefold:

1. To appropriately and accurately respond to questions related to the symptoms and medical history of this case;
2. To accurately recall the encounter during the debriefing session; and,
3. To collect materials provided during the visit and turn them over to the coordinator.

PRESENTATION AND EMOTIONAL TONE

Present in a fairly relaxed state. You are walking and sitting normally. You are not in pain and have no noticeable discomfort.

Dress in a manner that would be considered appropriate, conservative, and similar to others in the area. Avoid extremely nice clothing or jewellery or any other items that make you memorable. DO NOT dress in a way that may be thought of as normal for a sex worker.

You are well groomed.

Responding to questions

You are responsive and answer all of the healthcare provider questions when asked. When the healthcare provider asks questions regarding sex, you are proud of your sexual encounters. If asked if you have sex with men, you are quick to respond that you do not but you are not insulted. When asked about previous STIs, you are quick to respond that you have never had any previously. You are proud of having tested for HIV a year ago and having a negative HIV status. You are not shy about not using condoms.

Changes in Demeanour during the Encounter

At the beginning of the encounter, you should present in a fairly relaxed state. You are walking and sitting normally.

At the end of the encounter, you should present grateful for a diagnosis and medication and eager to move on to your next activity for the day.

SP OPENING STATEMENT

CWN: The response for each case version will vary based on the typical terms used by lay people AND what is most comfortable for the specific SP portraying the role.

When asked by the healthcare provider (nurse, doctor, etc), “why you are at the clinic today” or “how can we help you”, your response should be “I feel burning when I urinate”. Respond in a way that is most comfortable for you. Remember, at each clinic visit you must respond the say way each time.

If the healthcare provider says, “Tell me more about it” or “Can you tell me what has been going on?” Your response should be, “it happens every time I urinate”

HISTORY OF THE PRESENT ILLNESS

You have are experiencing burning when you urinate for the past three days. The burning sensation occurs every time you urinate. You have noticed a urethral discharge (liquid from your penis). The discharge is yellowish, thick and sticky. You do not feel like you need to urinate more than normal. Prior to three days ago you did not have any problems. You have never experienced a discharge from your penis before.

Associated Symptoms:

- No trouble swallowing or sore throat
- No nausea, vomiting, diarrhoea or constipation
- No abdominal pain
- You have not noticed a rash anywhere
- You have not noticed a fever or chills

-
- You do not have a cough or night sweats
 - No urethral bleeding
 - No urethral itching
 - No pain with intercourse
 - No blood in urine
 - You do not feel like you have to drink all of the time

Your current concerns are:

You are most concerned about getting treatment so that you no longer have this feeling every time you urinate.

PAST MEDICAL HISTORY**Overall Health:**

Your last doctor visit was one year ago for HIV testing during a campaign. You tested negative. You rarely go to the doctor. You are otherwise healthy, without any symptoms.

You were last tested for HIV one year ago and it was negative. You have not been treated for any previous STIs. You do not know if any of your partners have ever had any STIs or tested positive for HIV.

You had all of the normal childhood diseases and vaccinations. You have no known drug allergies

CWN: The response inserted into the case regarding vaccinations should note that older SPs will not know if they have had vaccinations. The younger SPs will. The HIV status of the SP partners can vary (some positive and some negative).

Circumcision: If asked if you were circumcised, you respond that you are non-circumcised.

Prior Illness

No prior illness, including TB.

HIV/AIDS screening

CWN: The response inserted into the case version will depend on the age of the SP.

You were tested one year ago during a campaign. You tested negative.

STI Screening

CWN: The response inserted into the case version will depend on the age of the SP.

You have not been treated for any previous STIs. You do not know if any of your partners have ever had any STIs or tested positive for HIV.

Allergies

None

Past Hospitalizations;

You have never been hospitalized or had any surgeries.

MEDICATIONS**Prescription drugs**

You are currently not on any medications.

Over the counter (OTC) drugs or traditional/herbal remedies

None

Illicit/street drugs

None

SEXUAL HISTORY

CWN: The response for each case version will vary based on the SP portraying the role.

The basic sexual history for this patient should include:

- A main partner: The main partner may be a wife or not. The use of condoms with the main partner can vary.
- Additional Partners: Each SP should have additional partners. The number of partners can vary. The sex of the partner can vary, as well as the use of condoms.
- Non-traditional sex experience: The use of sex toys will vary for each case version.

You are sexually active. Three weeks ago you ended one relationship with a previous girlfriend. As of two weeks ago, you have a new girlfriend with whom you have had vaginal sex. You have never had sex with a male. You are not currently using condoms because you don't like the way they feel. You did not use condoms with your previous girlfriend either. You do not know if your current partner is using contraception. You don't think she is hoping to get pregnant.

You do not tell the health care provider you have two partners unless you are specifically asked how many sex partners you have or how many partner notification slips you need.

If asked, you do not know the HIV status of the additional partners. Your current girlfriend has told you she is HIV negative. None of your partners have told you they were recently treated for STIs.

Please note that in some societies, women expect something material from a relationship. The material/tangible something may come in the form of occasional gifts, money, clothing, etc. The male SP should be consulted to put this into the appropriate context.

Also, vary the known status of the HIV status of the partners.

PATIENT'S LIFESTYLE/HABITS

CWN: The response for each case version will vary based on the specific SP portraying the role. Please note that tea and coffee is a preferred caffeine drink.

Alcohol

You drink beer on the weekends with your friends.

Tobacco

You have never smoked.

Caffeine

You drink a cup of tea on occasion.

Diet

You eat a normal diet for the area (Pap, meat, potatoes, etc.).

Exercise

You do not exercise.

Activities/hobbies

You like to play soccer, watch TV, and spend time with friends and family. You have not gone swimming. Over the last three months, your activities have been routine, nothing unusual.

Stress

Your work is somewhat stressful.

FAMILY MEDICAL HISTORY

CWN: The response for each case version will vary based on the specific SP portraying the role. Burden of diseases and death in South Africa are due to car accidents, heart attack, diabetes, stroke, and hypertension-related illness. SPs will need to create names for parents, siblings, children, and partners.

Parents:

You and your mom are close and you talk to both parents on a regular basis. Your mother is 20 years older than you. Your father is 25 years older than you. Your mother has high blood pressure and your father is deceased (dead). He died in a car accident several years ago.

Siblings

You have one brother and one sister. Both are currently healthy with no medical problems.

Children

You have one child who lives with the mom's family. This is a child from a previous relationship. You see the child on occasion.

Paternal grandparents

Deceased: Died of old age.

Maternal grandparents

Deceased: Died of old age.

There is no one in your family with diabetes. You don't know if anyone had heart problems or not. No family history of cancer.

PERSONAL HISTORY

CWN: The response for each case version will vary based on the specific SP portraying the role.

Birth date

- Your birth date should be similar to your actual age but not the same.

Birth Place

- Your birth place should be near your actual birth place but not the same.

Living arrangements

You live at home with your family. You have a large circle of friends and enjoy an active social life.

Education

You have at least an 8th grade education.

Religion

Christian

PHYSICAL EXAMINATION

If the healthcare provider follows the appropriate algorithm, they will ask to conduct a physical exam including a genital exam.

Real Physical Findings

- There are no physical examination findings that are present at this visit.

Vital Signs

- If vital signs are requested, allow them to take your temperature, weigh you, and check your blood pressure and pulse, as long as you do not find these to be invasive.

Abdomen Exam

If an abdominal exam is performed, do not complain of pain unless the medical provider is actually hurting you.

Genital Exam

CWN: The response each SP gives to decline a genital exam must feel comfortable to them and be reasonably realistic of an excuse for not allowing the healthcare provider to examine them. The examples for declining the exam are:

- Does not feel comfortable with a female healthcare provider performing the exam
- Is in a hurry to get to work or another urgent matter

If a genital exam is requested, politely decline, stating that you need to attend to an urgent matter and ask if you can return at another time for the genital exam. If the provider continues to request the exam, gently refuse and request if there is any medication you can take for your symptoms.

Test / Medication

- HIV screening
 - The healthcare provider should advise for HIV screening. You may decline or state you will return for HIV testing.
- Urine Sample
 - Please note that you may be asked to provide a urine sample. State that you cannot produce a sample at the moment. If the healthcare provider is persistent, politely decline.
- Blood Draw
 - Please DO NOT allow blood to be drawn.
- Medication
 - If medication is dispensed and you are expected to take it in the office, you may politely decline and state you will take at a different time. DO NOT ingest the medication if provided in the office.

PATIENT RESPONSE TO INTERVIEWING QUESTIONS

CWN: The response for each case version will vary based on the specific SP portraying the role.

- How long have you had the burning sensation?
SP response: "Three days"
- Have you noticed a discharge (liquid from your penis)?
SP response: "Yes"
- Can you describe the discharge (liquid)?
SP response: "It is yellowish, thick, and sticky."
- Have you experienced any other symptoms with the burning sensation
SP response: "Like what?"

The healthcare provider should provide examples of the symptoms such as itching, burning, bleeding, etc. After the examples, you should respond with "I have not experienced any symptoms."

- Have you noticed a rash or lesions in the genital area?
SP response: "No"
- Have you experienced any abdominal pains?
SP response: "No"
- Are you currently taking any medication?
SP response: "No"

-
- Have you taken any medication in the past?
SP response: "No"
 - Are you allergic to any medications?
SP response: "No"
 - Have you noticed having a fever?
SP response: "No"
 - Have you had any medical problems in your past?
SP response: "No"
 - Have you had sex in the last three months?
SP response: "Yes"
 - How many partners have you had in the last three months?
SP response: "Two" (this number will vary based on SP)
 - What is the sex of your partners?
SP response: "Female"
 - Did you use a condom with your partners?
SP response: "No"

If the healthcare provider asks you to explain, you tell them that you have never used a condom with your girlfriends.
 - Have you noticed any symptoms such as nausea, diarrhoea, or constipation?
SP response: "No"
 - Are you married?
SP response: "No"
 - Are you currently sexually active?
SP response: "yes"
 - Do you use condoms with your girlfriend?
SP response: "No"
 - Do you have children?
SP response: "Yes" (This response will vary based on SP)
 - How many sexual partners do you have?
SP response: "Two". This is a closed ended question, so for your response only give the number of partners.
 - Have you been screened for HIV/AIDS before?
SP response: "Yes"
 - Have you had TB before?
SP response: "No"
 - Have you been screened for TB before?
SP response: "No"
 - Have you been tested for STI before?
SP response: "No"

AT THE END OF THE ENCOUNTER

After the healthcare worker has completed the examination, you should do the following:

1. State to them that “I am the unannounced SP”.
2. Hand them the letter.
3. Do not provide feedback to the healthcare provider. The letter will re-explain the project. If the healthcare provider has questions, they should direct them to the facility manager.
4. Ask them to complete the medication form.
5. Place all forms, slips, and medication in the envelope.
6. Thank them for their time and leave the facility.

DEBRIEFING THE ENCOUNTER

Following the encounter, you will be met by an I-TECH staff member for debriefing. The I-TECH staff will record the information on a form called the SP Encounter Data Recording Form. Below are the questions you will be asked. Please provide accurate information on your experience.

1. Was your healthcare worker (HCW) a male or a female :
2. Was your HCW a nurse, a doctor, or other? Yes ☐ No ☐
3. A Nurse can be identified by a nurse uniform.
 - A doctor can be identified by a white coat.
4. Were you offered a genital physical examination? Yes ☐ No ☐
5. Were you offered HIV testing? Yes ☐ No ☐
6. Were you counselled about safer sex? Yes ☐ No ☐
7. Were you counselled about talking to your sexual partner about STIs? Yes ☐ No ☐
8. Felt judged negatively by the care provider?
 - ☐ Strongly agree
 - ☐ Agree
 - ☐ Neither agree nor disagree
 - ☐ Disagree
 - ☐ Strongly disagree
9. Felt the care provider treated you with respect and understanding?
 - ☐ Strongly agree
 - ☐ Agree
 - ☐ Neither agree nor disagree
 - ☐ Disagree
 - ☐ Strongly disagree

10. Males only:

Did the provider discuss male circumcision?

☐ Asked about MMC

☐ Recommended MMC

☐ Did not discuss MMC

Did the provider discuss family planning?

☐ Asked about FP

☐ Recommended FP

☐ Did not discuss FP

11. Did you feel that the provider knew you were a simulated patient? Yes ☐ No ☐

- If yes, please describe:

Please deposit any/all prescriptions, medications, condoms, and partner notification slips in the envelope.

Appendix D: Simulated Patient Tool

Date: Day [] [] / Month [] [] / Year [] [] [] []

Facility ID: [] [] [] Actor ID: [] []

Time presented for care:

Time of exit/completion of care:

1. Were you offered a genital physical examination? Yes ☐ No ☐

1. Were you offered HIV testing? Yes ☐ No ☐

1. Were you counselled about safer sex? Yes ☐ No ☐

1. Were you counselled about talking to your sexual partner about STIs? Yes ☐ No ☐

1. Felt judged negatively by the care provider?

☐ Strongly agree

☐ Agree

☐ Neither agree nor disagree

☐ Disagree

☐ Strongly disagree

1. Felt the care provider treated you with respect and understanding?

☐ Strongly agree

☐ Agree

☐ Neither agree nor disagree

☐ Disagree

☐ Strongly disagree

1. Males only:

Did the provider discuss male circumcision?

☐ Asked about MMC

☐ Recommended MMC

☐ Did not discuss MMC

Females only:

Did the provider discuss family planning?

☐ Asked about FP

☐ Recommended FP

☐ Did not discuss FP

2. Did you feel that the provider knew you were a simulated patient? Yes ☐ No ☐

• If yes, please describe:

3. Please deposit any/all prescriptions, medications, condoms, and partner notification slips in the envelope. [] Initials

Field Coordinator Check:

Field Coordinator ID/Initials [][][][]/[][][]

M&E Office Only:

Data Entry Date: [][]/[][]/[][][][] dd/mm/yyyy Staff ID/Initials: [][][][]/[][][][]

Data Verification Date: [][]/[][]/[][][][] dd/mm/yyyy Staff ID/Initials: [][][][]/[][][][]

Appendix E: Medication Slip

Medication Slip

Date: _____

Record #: _____

Clinic ID: _____

SP ID: _____

Thank you for the visit.

Please tell me what medication you would prescribe for me today.

Please write clearly and neatly.

Please Do Not Sign Or Stamp This Form

| Drug or treatment name | Dose | Oral, IM or IV? | Frequency (times/day or week) | Duration (number of days or weeks) |
|------------------------|------|-----------------|-------------------------------|------------------------------------|
| | | | | |
| | | | | |
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| | | | | |

To maintain confidentiality for the study, please do NOT sign or stamp this form.

Appendix F: Provider Information Sheet

A National Evaluation of Sexually Transmitted Infection (STI) Services in Public Health Sector Facilities in South Africa

Provider Information Sheet

Thank you for participating in a simulated patient visit. This visit will help us to better understand challenges in delivering high-quality care for patients with sexually transmitted infections (STIs). I-TECH is conducting this evaluation of STI care at clinics throughout South Africa with support from the National Department of Health, the Provincial Departments of Health, and other District officials.

The patient actor who visited your health facility today is collecting data for the evaluation. As explained during the consent process, no information about any individual provider/visit will ever be shared with a clinic supervisor or other officials. We have not recorded your name as part of this visit record.

This visit is separate from, and will not contribute any information to your performance review. It is not necessary or appropriate to ask the patient actor for feedback on his/her visit to your facility today, as they are not trained to do this.

Thank you for your participation. Please contact us if you have any questions.

In case of any questions, please contact these people at the I-TECH-South Africa office:

Makati (Gladys) Mema

Program Coordinator, gmema@itech-southafrica.org, office: 012 433-0100

Erushka Pillay

Program Manager, epillay@itech-southafrica.org, office: 012 433-0100

Appendix G: Client In-Depth Interview Guide

Client In-Depth Interview Guide

A National Evaluation of Sexually Transmitted Infection (STI) Services in Public Sector Health Facilities in South Africa

Total Interview Time: _____ 30 minutes to 1 hour

Total Participant Time required: _____ 30 minutes to 1 hour

The purpose of this interview is to learn more about how men and women in South Africa seek care and share information with their partners about diagnoses of sexually transmitted infections.

Section I. Introduction

"Hello, my name is _____.

We would like to thank you for agreeing to participate in this interview. You have been asked to join us here because you are between the ages of 18 and 30 and were visiting the clinic. We will ask you questions about preferences for partner notification. No one in the study team knows anything about your personal health status, and you do not need to disclose whether you have ever had an STI. We will use your feedback to make improvements to the national STI program."

I. Background Information

1. What is your sex or gender?
2. How old are you?

II. Knowledge of STIs

"Let's begin by discussing sexually transmitted infections in general".

1. What is an STI and how would you describe it your own words?"
2. What are the symptoms of STIs?

If respondent does not know what an STI is or are not familiar with symptoms of an STI, explain: Sexually transmitted infections (STIs) are usually spread through sex— vaginal, oral, or anal. Symptoms can include pain during urination or sex, unusual discharge from the vagina or penis, or bumps around the mouth or genitals. However, **many people with STIs have no symptoms at all.**

III. Partner notification preferences

"Now I am going to ask you a series of questions about what is referred to as 'partner notification'. When I say 'partner', I mean **anyone with whom you have had sex in the last two months**. Please remember, we are asking you to imagine this scenario. We are not asking about your actual personal history. To begin, I would like you to imagine that you were just diagnosed with an STI..."

1. If you were diagnosed with an STI, how would you feel about telling your sexual partner?

[If respondent strongly supports or rejects idea, probe for more detail]

Optional Probes:

- Why would you NOT inform your sexual partner?
- How is this different for men and for women?
- How is this different for a husband/wife compared to a casual partner?

-
1. If you were to notify a sexual partner to tell that person that he or she may have been exposed to a STI and should go to a clinic for testing, how would you want to inform them?

Optional Probes:

- How would you feel about telling him or her in person? Why is that?
 - How would you feel about calling him or her on the phone? Why is that?
 - How would you feel about sending him or her a text message (SMS)? Why is that?
 - How would you feel about giving a written notification slip from a healthcare worker? Why?
- How is this different for different types of partners?

1. How would you feel about having a healthcare worker contact your partner to tell them to go to a clinic to get tested for an STI? How would you want them to do this?

Optional Probes:

- How would you feel if a healthcare worker called your partner or partners on the phone? Why is that?
- How would you feel if they used text message (SMS)? Why is that?
- How is this different for different types of partners?

1. If you were diagnosed with an STI, how would you feel about bringing treatment to your partner from the clinic?

[After yes/no answer, probe for more detailed explanation]

Optional Probes:

- Do you think they would take the treatment? Why or why not?
- Is there anything that might make them more likely to take the treatment? What would that be?
- How is this different for different types of partners?

1. Of all the notification options we've just discussed, which would you prefer to use if you had to notify someone you had had sex with in the last two months? Why?

"Now I would like you to imagine that someone you had sex with in the last two months was just diagnosed with a sexually transmitted infection (STI)..."

1. If your partner was diagnosed with an STI, how would you like to find out? Why?

1. If a sexual partner was going to inform you that they had an STI, how would you want them to do that? Why?

Optional Probes:

- How would you feel if he or she told you in person? Why is that?
- How would you feel if he or she called you on the phone? Why is that?
- How would you feel if he or she sent you a text message (SMS)? Why is that?
- How would you feel if someone informed you using a written notification slip from a healthcare worker? Why is that?
- How would this be different for different types of partners?

1. How would you feel about having a healthcare worker contact you to tell you to go to a clinic to get tested for an STI? How would you want them to do this?

Optional Probes:

- How would you feel if a healthcare worker called you on the phone? Why is that?
- How would you feel if a healthcare worker used text message (SMS)? Why is that?
- How is this different for different types of partners?

-
1. How would you feel if your partner had an STI and brought you medication? Would you be willing to take it? Why or why not?

Optional Probes:

- What factors would make you more likely to take the medicine?
- What factors would make you less likely to take the medicine?

1. Would you be more or less likely to seek HIV testing if your partner brought you medication for a possible STI? Why?
1. Of all the notification options we've discussed, which way would you prefer to be notified? Why?

Optional Probes:

- Which method would make you most likely to return to a clinic for testing? Why?

IV. Perception of Notification Slips

"I am going to show you two examples of a partner notification slips. If someone was diagnosed with an STI, this is the type of form a health professional would give to that person to share with his or her sexual partners."

1. What do you like about these forms? Why?
1. What do you dislike about these forms? Why?
1. Now that you've seen two different forms, please describe what you would prefer a partner notification form look like. Why?

V. Any other comment

1. Are there any final thoughts you'd like to share about how to improve partner notification in South Africa?

End of Session

"Now we have come to the end of our interview. Thank you for your participation! Your participation will help us understand how to provide the best services in your community."

Appendix H: Clinic Flow Mapping Guide

Clinic Flow Mapping Guide, Stage One:

A National Evaluation of Sexually Transmitted Infection (STI) Services in Public Sector Health Facilities in South Africa

Background Information:

Position in clinic: _____

Duration of employment in current clinic: _____

Interview:

By the end of this conversation, you should be able to build a diagram of the exact process a client experiences from start to finish. You may draw the visual map on a blank piece of paper.

1. I am a patient entering the clinic presenting with symptoms of an STI, for example MUS and VDS:
 - a. Where do I go first?
 - b. What happens here?
 - c. Who do I talk to (e.g., registration, triage, etc.)?
 - d. How long does this take?
 - e. How are my records stored and retrieved?
 - f. What type of identification number is used?
2. Then where do I go (e.g., waiting area)?
 - a. What happens here?
 - b. Who do I talk to (e.g., registration, triage, etc.)?
 - c. What services am I offered?
 - d. Refer to questions 4d-h if relevant.
 - e. How much time do I spend here?
3. Where do I go next?

*If the answer is to a nurse or provider, skip to question 4.

*If the answer is somewhere other than to a nurse or provider, repeat questions 2a-3.
4. Which provider or nurse do I see first?
 - a. Where is that located?
 - b. What questions am I asked?
 - c. Am I given any physical exam? What kind?
 - d. Are blood work, tests, or other assessments done? What kind?
 - e. Where do I go to get these tests or assessments (include waiting area)?
 - f. Who administers them?
 - g. How long does this take?
 - h. If I consent to Provider Initiated HIV Counselling and Testing (PICT), where do I go (including waiting area)?
 - i. What steps are involved in this process?
 - ii. How long does this take?
 - iii. Who is responsible for performing PICT?
 - iv. Where do I go next?

-
- i. If I request Voluntary HIV Counselling and Testing (VCT), where do I go (including waiting area)?
 - i. What steps are involved in this process?
 - ii. How long does this take?
 - iii. Who is responsible for performing VCT?
 - iv. Where do I go next?
 - j. If I consent to a rapid syphilis test where do I go (including waiting area)?
 - i. What steps are involved in this process?
 - ii. How long does this take?
 - iii. Who is responsible for giving me a rapid syphilis test?
 - iv. Where do I go next?
 5. If I need medication, where do I receive it?
 - a. Who teaches me about the medicine?
 - b. Where is the medication dispensed?
 6. Do I see any other providers or nurses during my visit?
 - a. If yes, identify where the provider or nurse fits into the map and repeat question 4 for each.
 7. Am I offered any referrals to other services?
 - a. What are these referrals for?
 - b. Where do I go?
 8. Who is the last person I see before I leave the clinic?
 9. Have we missed any steps in the care process that should be included in this map?

Clinic Flow Mapping Guide, Stage Two:

A National Evaluation of Sexually Transmitted Infection (STI) Services in Public Sector Health Facilities in South Africa

Background Information:

Position in clinic: _____

Duration of employment in current clinic: _____

Interview:

Please take a moment to look at the maps provided. These maps are meant to represent each step in the patient care process from the moment a patient with the symptoms of VDS/MUS arrives at the clinic to the time they leave.

1. Please begin by looking at each step in the clinic flow map provided.
 - a. Do you see anything that looks incorrect or that needs to be changed?
 - b. Do you see any steps that are missing and should be added?
 - c. Are there any additional pathways along which patients can move that are not included on this map?
2. Once you feel the map accurately reflects the patient care process, please go back to the first step in the diagram. Think about the variables that affect patient flow from this step to the next.
 - a. What factors or resources might limit or prevent patient movement from this stage to the next?
 - i. What interventions targeting these factors could be made to improve patient flow?
 - ii. Indicate the potential importance of each intervention using the following scale:
 1. Somewhat important
 2. Important
 3. Very important
 - iii. In each case, please explain why you selected the ranking you did.
 - b. What factors or resources are necessary for patients to move from this stage to the next?
 - i. Which of these factors would you want to increase or improve in order to speed up patient movement from this step to the next (i.e., “de-bottleneck”)?
 - ii. How would you propose doing so?
 - iii. Indicate the potential importance of each intervention using the following scale:
 1. Somewhat important
 2. Important
 3. Very important
 - iv. In each case, please explain why you selected the ranking you did.
 - c. Looking at the wait times shown for each step in the process, which of these times are the most concerning?
 - i. Please mark each time as:
 1. Appropriate duration
 2. Somewhat longer than necessary
 3. Far longer than necessary
 - ii. What can be done to reduce the wait times for those that are longer than the appropriate duration or those you have identified as concerning?
 - d. Are there any additional comments or questions you would like to discuss?

Appendix I: Clinic Flow Mapping Note Taking Templates

Note Tracking Form | **Expanded Mapping Notes**

A National Evaluation of Sexually Transmitted Infection (STI) Services
in Public Sector Facilities in South Africa

First/Facility Manager Interview

| | |
|----------------------|-------------------------|
| Basic Details | |
| Date: | Participant ID: |
| Interviewer/RA Name: | Position in Clinic: |
| Site: | Duration of Employment: |

Section 1

1. Title of Step:

Where:

Arrive from:

Time spent in this stage:

Depart to:

Narrative description (what happens during this step): [Include as much relevant detail here as possible here.
Write notes in complete narrative form.]

| | |
|--|--|
| What provider do they see/who do they interact with? | |
| What does that person do? | |
| What services are provided? | |

2. Title of Step:

Where:

Arrive from:

Time spent in this stage:

Depart to:

Narrative description (what happens during this step): [Include as much relevant detail here as possible here. Write notes in complete narrative form.]

| | |
|--|--|
| What provider do they see/who do they interact with? | |
| What does that person do? | |
| What services are provided? | |

[Copy and insert the above steps as many times as needed.]

Section 2

| Miscellaneous Questions | |
|--|--|
| Where does patient receive medication? | |
| If I consent to Provider Initiated HIV Counselling and Testing (PICT), where do I go to receive it (including waiting area)? | |
| If I request Voluntary HIV Counselling and Testing (VCT), where do I go to receive it (including waiting area)? | |
| If I consent to a rapid Syphilis test where do I go (including waiting area)? | |

Section 3

Additonal notes:

Note Tracking Form | Expanded Mapping Notes

A National Evaluation of Sexually Transmitted Infection (STI) Services
in Public Sector Facilities in South Africa

Second/Validation Mapping Interview

| Basic Details | |
|----------------------|-------------------------|
| Date: | Participant ID: |
| Interviewer/RA Name: | Position in Clinic: |
| Site: | Duration of Employment: |

Section 1

3. Title of Step:

Notes: [Include as much relevant detail here as possible— any description of the process, providers seen, and services received. Write notes in complete narrative form.]

Differences or changes identified by informant: [Note any differences between second and first interview—flow process, services provided, providers seen, etc.—or any changes to this step identified during second interview.]

Wait time assessment (appropriate duration, somewhat longer than necessary, far longer than necessary, something else):

Explanation of wait time assessment: [Describe why interviewee selected the assessment they did (appropriate duration, somewhat longer than necessary, something else, etc.).]

Ways to reduce wait times (for those identified as somewhat or far longer than necessary):

1a. Movement From Step 1 To Step 2:

| Factors preventing flow from Step 1 to Step 2: | Potential interventions to improve flow (for those where need is identified by participant): | Perceived importance (somewhat important, important, very important), including explanation of why: |
|--|--|---|
| | | |

| Factors facilitating flow from Step 1 to Step 2 (if different than those listed in table above): | Potential interventions/ways to increase flow further (for those where need is identified by participant): | Perceived importance (somewhat important, important, very important), including explanation of why: |
|--|--|---|
| | | |

4. Title of Step:

Notes: [Include as much relevant detail here as possible— any description of the process, providers seen, and services received. Write notes in complete narrative form.]

Differences or changes identified by informant: [Note any differences between second and first interview, or any changes to this step identified during second interview]

Wait time assessment (appropriate duration, somewhat longer than necessary, far longer than necessary, something else):

Explanation of wait time assessment: [Describe why interviewee selected the assessment they did (appropriate duration, somewhat longer than necessary, something else, etc.).]

Ways to reduce wait times (for those identified as somewhat or far longer than necessary):

2a. Movement From Step 2 To Step 3:

| Factors preventing flow from Step 1 to Step 2: | Potential interventions to improve flow (for those where need is identified by participant): | Perceived importance (somewhat important, important, very important), including explanation of why: |
|--|--|---|
| | | |

| Factors facilitating flow from Step 1 to Step 2 (if different than those listed in table above): | Potential interventions/ways to increase flow further (for those where need is identified by participant): | Perceived importance (somewhat important, important, very important), including explanation of why: |
|--|--|---|
| | | |

5. Title of Step:

Notes: [Include as much relevant detail here as possible— any description of the process, providers seen, and services received. Write notes in complete narrative form.]

Differences or changes identified by informant: [Note any differences between second and first interview, or any changes to this step identified during second interview]

Wait time assessment (appropriate duration, somewhat longer than necessary, far longer than necessary, something else):

Explanation of wait time assessment: [Describe why interviewee selected the assessment they did (appropriate duration, somewhat longer than necessary, something else, etc.).]

Ways to reduce wait times (for those identified as somewhat or far longer than necessary):

[Copy and insert the above steps as many times as needed.]

Section 2

Overall summary of flow/process changes: [Outline any changes made to overall flow/process. Were any new steps added? Were any new pathways added? Were any steps removed, etc.?.]

Notes: [Use this space to share any additional notes that are relevant and/or interesting but are not sufficiently captured above.]



correctional services

Department:
Correctional Services
REPUBLIC OF SOUTH AFRICA