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Final Report

Assessment of the Management of Sexually Transmitted Diseases in Ghana

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Executive summary

Although STDs have caused significant morbidity and mortality for years it is only with the advent of the human immunodeficiency virus (HIV) that STD control has received higher priority in both developed and developing countries. With its link to HIV /AIDS, STDs will continue to remain an urgent public health problem.

Proper diagnosis and treatment, counseling on prevention, condom use and partner referral are important components of STD case management. WHO Prevention Indicator 6 (PI6) measures the proportion of individuals who present with specific STDs in health facilities, who are assessed and treated in an appropriate way (according to national standards). WHO Prevention Indicator 7 (PI7) measures the proportion of individuals seeking STD care in health facilities who have received appropriate advice on condom use and on partner notification. These are the indicators measured in this study.

In Ghana, little information exists on the quality of management of STD cases in both the private and public sectors, however, anecdotal information from many countries suggests that women seek care primarily through the public health care system, while men tend to consult private physicians or go directly to pharmacies. Therefore, this study aimed to evaluate the proportion of people receiving correct treatment in public health facilities, private clinics and pharmacies. Not only will these data assist MOH programme planners in targeting the content of training programmes for health professionals and assess adherence to the current guidelines, they will create a baseline against which future studies can be compared to determine changes in the quality of STD care.

The national guidelines for STD case management in Ghana are based on the syndromic approach, and antibiotic sensitivity studies are conducted in Ghana on an ongoing basis to ensure that algorithms are appropriate to local conditions. The objective of syndromic management, treatment by disease symptom complex rather than by microbiological aetiology, is to provide prompt and effective treatment in one visit, in order to prevent further spread of the infections.

The three STD syndromes assessed in this cross-sectional descriptive study were urethral discharge in men, vaginal discharge in women and genital ulcer disease in both men and women,

at first presentation to health services. The data was gathered through observation of the client-provider encounter, interviews of Health Care Providers (HCP) in public and private sector facilities and simulations of vaginal and urethral discharge syndromes by mystery shoppers in pharmacies and chemical shops.

In the 241 client-provider encounters, 40 (78.4%) cases of male urethral discharge syndrome, 182 (95.8%) cases of vaginal discharge syndrome and 9 (17.6%)cases of genital ulcer disease in males and 9 (4.7%) in females were observed. Syndromic diagnoses were made in 135 cases, aetiologic diagnoses in 110 cases. In 6 cases a non-specific diagnoses was made.

Of those who made a syndromic diagnosis, an adequate history was taken in 11 (8.1%) of consultations. 68 (50.4%) of such examinations were adequate, and 73 (54.1%) of treatment given for the diagnoses made by the provider were adequate. For vaginal discharge syndrome, the questions required to adequately complete the risk assessment were asked in 2/ 41 (4.9%) of encounters observed. Of those presenting with a vaginal discharge and lower abdominal pain, only 33/102 (32.4%) were diagnosed as having a pelvic inflammatory disease.

Of those who made an aetiological diagnosis, an adequate history was taken in 17 (16.7%) and adequate examination in 60 (58.8%) and adequate treatment was provided in 48 (47.1%) of cases.

Overall, the number of providers taking an adequate history, doing an adequate examination and providing adequate treatment were 10 thus P16 was 4.1%. Only 63 (26.1%) educated their clients on condom use and 120 (49.8%) advised partner notification. The number of providers giving education on both condom use and partner notification was 56 thus P17 was 23.3% and only 8 (3.3%)carried out all activities (P16&7) adequately.

203 STD providers from the public sector and 70 from the private sector were interviewed. 76 (37.4%) of the public providers and 4 (5.7%) of the private providers used syndromic diagnoses in the management of their STD cases, and 4 (4.4%) of the public providers and 10 (14.3 %) of the private providers were using the aetiological diagnosis. The remainder used a combination of methods. 191(94.1%) of public and 70 (l00%) of private providers reported that they took an adequate history, when given the appropriate prompts by the interviewer, and 140 (69%) of the public providers and 49 (70%) of the private providers reported that they performed an adequate

examination. However, when appropriateness of prescribed therapy was assessed, P16 was 1.1% compared to a P17 of 89.4%. Major constraints reported by providers include high cost of drugs and irregular supplies of drugs. Some of the drugs recommended in the National Guidelines, e.g. Ciprofloxacin and Doxycycline, were mentioned as drugs to which providers had limited access as well as lack of relevant literature.

In the pharmacy survey 317 simulations comprising 166 (52.4%) male simulations and 151(47.6) female simulations were done. 81/269(30.1%) of the attendants took an adequate history, 25/256 (9.8%) provided adequate treatment for the syndromes presented, 25/269 (9.3%) educated the shoppers on condom use and 59/269 (21.9%) advised on partner notification. The modified P16 was 8.2% and P17 was 8.9%. Only 7 (2.7%) performed all activities adequately (PI6&7).

Thus most providers are not managing the STD client satisfactorily and P16 & P17 are universally low. In addition, providers are not following management guidelines and this could adversely impact on STD and HIV transmission.

It is hoped that these data will provide information that is valuable for policy formulation in STD training and in updating management guideline. It is also recommended that (re) training be done to cover the entire country and that monitoring and supervision of providers be strengthened. In addition, the essential drug list and drug supply system should be reviewed periodically and formative research on the stigma associated with the management of STD be done urgently. An epidemiological assessment of risk based on identification of pathogens should be done to improve the diagnosis of cervicitis.

List of Abbreviations

AR	Asjamto Region
BV	Bacterial vaginosis
CA	*Candida albacans*
CT	*Chlamydia trachomatis*
DR	Doctor
Eff	Effectiveness
FHI	Family Health International
Freq	Frequency
GAR	Greater Accra
GPA	Global Programme on AIDS
HCP	Health Care Providers
HCF	Health Care Facilities
HIV/AIDS	Human Immune Virus /Acquired Immunodeficiency Syndrome
IMPACT	Implementing AIDS Prevention and Control
MA	Medical Assistants
MOH	Ministry Of Health
NA	Not applicable
NG	*Neisseria gonorrhoeae*
NR	Northern Region
NYD	Not Yet Diagnosed
PI6	Prevention Indicator 6
PI7	Prevention Indicator 7
PID	Pelvic Inflammatory Disease
PRV	Private
PUB	Public
Q	Question
RPR	Rapid Plasma Reagin
STDs	Sexually Transmitted Diseases
TV	*Trichomonas vaginalis*
UTI	Urinary Tract Infections
VDRL	Venereal Disease Research Laboratory
WHO	World Health Organisation

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1 INTRODUCTION

1.1 Global burden of Sexually Transmitted Diseases (STDs)

Worldwide improvements in sanitation and hygiene, housing, the development of antimicrobials and vaccines has greatly reduced infectious disease morbidity in industrialised countries. However there is a growing concern about the persistence, emergence or re-emergence of many other infectious diseases. Sexually transmitted diseases figure prominently among these emerging infectious diseases. The number of microbial pathogens identified as the causes of STD and the morbidity attributable to STDs, relative to that caused by other infectious diseases have continued to increase though out the 20th century. The World Health Organisation estimates that the global incidence in 1995 of new cases of selected curable STDs- Gonorrhoea, Chlamydia, Syphilis and Trichomoniasis was 333 million. Other recent analysis show that STDs collectively rank among the five most important causes of healthy productive life lost in developing countries.[1] In addition, in developing countries, both the prevalence and incidence of STDs are still very high with STDs making it the second cause of healthy life lost in women of 15-49 years of aged after maternal morbidity and mortality[2]

Although STDs cause significant morbidity and mortality for years it is only with the advent of the human immunodeficiency virus (HIV) that STD control has been receiving higher priority in both developed and developing countries. With continued changes in socio-economic factors, population explosion and demographic transitions, war and rural to urban migration, STDs will continue to remain an urgent public health problem.

1.2 STDs in Ghana

In Ghana, routine data available to the Ministry of Health indicates that STDs represent a significant cause of morbidity, especially among women. However the reporting format for STD's is poor (CD1 forms) and the actual prevalence in the country has not been systematically documented[3]. In a developing nation like ours, the importance of STD has been compounded by its link to HIV/AIDS. A person infected with an STD is between two to five times more likely to

[1] Over M, Piot P. HIV infection and sexually transmitted diseases. In DT Jameson, Mosely WH Measham AR, Badadilla JL, eds. Disease Control Priorities in Developing countries, New York; Oxford University Press, 1993; 445-529

[2] World Development report 1993: in vesting in health. The World Bank. New York Oxford Press 1993

[3] Organisation of female Prostitution in Ghana and CIDA-AIDS project intervention programme. February 2000.

contract HIV if exposed[4]. This link was confirmed in Mwanza, Tanzania where a community randomisation trial of strengthened syndromic management of STD was associated with a 42 percent reduction in HIV incidence over a two-year period.[5]

The importance of STD in promoting HIV transmission and the potential effectiveness of STD control in preventing sexual transmission of HIV coupled with the rising number of cases in Ghana, has led the MOH to adopt STD control as one of the primary strategies of the National AIDS Control Program, as outlined in the Medium Term Plan II.

1.3 Management of STDs

The determinants of STD epidemiology are multiple and can be categorized as the physiological microenvironment, the behavioural/personal environment and the socio-cultural macro environment. Thus STD management or control has to be multi faceted. Traditionally, STD control efforts have focused on diagnosis and treatment in the clinic setting. However, issues regarding sex are often shrouded in secrecy and the stigma associated with STDs means that an infected person may be reluctant to seek services in the clinics. Increasing evidence shows that in some settings, a large proportion of patients seek care elsewhere such as from traditional healers, pharmacists, friends or in the market place.[6] STD control has also not been successful because clinics are often unavailable or inaccessible. Providers are not adequately trained or updated and sometimes the correct drugs are unavailable, or when prescribed taken incompletely or incorrectly. Privacy is sometimes absent in clinics and providers lack the skills to counsel adequately. According to the Piot-Fransen Model, of the people who are aware they have an STD, a small percentage are worried enough to seek care and of these, only a very small percentage actually end up getting adequate treatment, comply with the treatment and end up getting cured[7]. Thus For STD management to be effective, it must include the following elements[8]:

- Patients must know they are infected
- Good services and drugs must be available

[4] Wasserheit JN. Epidemiologic synergy: interrelations ships between HIV and other STDs. Sexually Transmitted. Diseases 1992; 19:61-77

[5] Grosskurth H, Mosha F, Todd J et al. Impact of improved treatment of sexually transmitted disease on HIV infection in rural Tanzania: randomised control trial. Lancet 1995; 346: 530-536

[6] Control of Sexually transmitted diseases- A handbook for the design and management of programs – AIDSCAP/Family Health International/ USAID

[7] Mayaud P, Hawkes S, Mabey D. Advances in control of STDs in developing countries. Lancet 1998 **351** (Sup III): 29-32

[8] Control of Sexually transmitted diseases- A handbook for the design and management of programs – AIDSCAP/Family Health International/ USAID

- Patients must seek care promptly
- The correct diagnosis has to be made and the appropriate treatment prescribed.
- Drugs must be used correctly
- Instructions about sexual activity during treatment must be followed
- Patients must refer all their partners

Thus although STD control has now expanded to include other vital areas such as provision of information and education interventions through both clinic setting and community based programs, provision and promotion of condom use, and social marketing of these as well as conscious efforts to change people's attitudes and practices towards the barrier methods, prompt and effective treatment of STDs is a corner stone of STD control[9].

1.4 Purpose of this study

Little information exists as to the quality of management of STD cases in both the private and public sectors. This study was designed to fill the information gap on the quality of STD care. Traditionally, the aetiological and clinical forms of diagnoses have been used to manage STDs in our public health facilities. However in 1997, the syndromic management approach was introduced. Anecdotal information from many countries including Ghana suggested that women seek care primarily through the public health care system, while men tended to go to private physicians or directly to pharmacies. Therefore, this study aimed to establish a standard for appropriate diagnosis and treatment of STDs and evaluate the proportion of people receiving the correct treatment in all settings: i.e. public health facilities, private physicians and pharmacies. In addition to proper diagnosis and treatment, this study evaluated the counselling of clients on prevention of STDs, condom use and partner referral that are important pieces of STD case management.

This survey also provides baseline information on the two prevention indicators (PI6&7) recommended by the World Health Organization's Global Programme on AIDS (WHO/GPA) for assessment of STD case management. This information is meant to assist MOH programme planners in targeting the content of training programs for health professionals, and to create a

[9] Indicators and the measurements of STD case management in developing countries. Tobi J Saidel et al and the STD PI 6&7 working group. AIDS 1998, **12** (suppl 2): S57 - S65

baseline against which future studies can be compared to determine changes in the quality of STD care.

1.5 Objectives of the study

The objectives of this study were:

- To provide information on the current practices of providers in our health facilities on STD case management (based on the syndromic approach and appropriate national standards)

- To provide information on current practices of pharmacists when they encounter customers who are seeking treatment for STDs.

- To provide information to the Ministry of Health that will help plan and prepare training materials for STD providers and pharmacists.

2 METHODOLOGY

2.1 Study Design

The study was a cross-sectional descriptive study designed to collect information on the management of three sexually transmitted disease (STD) syndromes, namely:

- Urethral discharge in men,
- Vaginal discharge in women and
- Genital ulcer disease in both men and women.

The data was gathered using different tools administered to Health Care Providers (HCPs) in:

- Public Sector Facilities,
- Private Sector Facilities and
- Pharmacies and Chemical shops

The measurement of indicators for public sector physicians were based on the performance of a defined set of activities which were deemed to be essential components of adequate case management as determined by the Ministry of Health's STD programme. Two methods were

used to collect data on quality of STD management provided by public Health Care Providers (HCPs). HCP's were observed during consultations with patients. If a patient presented with any of the symptoms of STD's then a questionnaire was filled. The results of all the observations combined were used to calculate PI6 and PI7 for the public sector HCP's. Subsequent to the observations, all HCP's in that facility who usually see STD cases were interviewed to determine reported practices (both spontaneous and prompted). The interviews were to complement the observations, thus providing more information on current practices.

Observation of private sector physicians with their patients was not feasible, therefore only the interview method was used with this group of HCP's. Thus only the history and treatment were used to calculate PI6 and this we have referred to as a modified PI6. The PI7 was also calculated.

The performance of the pharmacies was assessed using mystery shoppers who simulated customers with STD's. Females simulated the vaginal discharge syndrome whereas males the urethral discharge syndrome. After each "consultation" a standard questionnaire was immediately filled once the shopper had left the shop premise. Again a modified PI6 and a PI 7 were calculated. Training and field work were carried out between July and October 2000.

2.2 Study Population and Sampling Methodology

The country was stratified to reflect the 3 main ecological areas namely the coastal belt, the middle forest belt and the northern savannah areas. The three regions that were purposively selected to represent these areas were the Greater-Accra, Ashanti and Northern Regions respectively. These were also selected to represent the different types of districts in the country i.e. metropolis which tend to be urban, municipals which are often medium sized districts with populations more than 90,000 and regular districts which are often rural. In all, two metropolis, two municipalities and thirty- five regular district were initially selected. A list of all public and private health facilities were provided by the Regional Health Administrations and a list of pharmacies and chemical shops were obtained from the Regional Pharmacy Council.

2.2.1 Public Sector

A total of 250 observations were to be conducted. The sample size required was calculated to measure a 15% increase from 30% at baseline to 45% at follow-up with a 90% confidence interval of ± 10 percentage points and 80% power to detect a difference. A design effect of 2 was

assumed because of the likelihood of multiple observations for some health care providers (HCP's) and the fact that not all observations would be independent.

The only inclusion criterion for health care facilities (HCF) was that they see at least 5 STD patients per week. In the selected districts, all HCF's were enumerated to determine their eligibility. Systematic random sampling using randomly generated numbers was then done within each area until the required numbers of facilities were selected. Where the numbers of facilities available from metropolis/municipality fell short of the required, the needed numbers were taken from the regular districts. Thus 20 HCF's were selected from the metropolis, 10 HCF's from the municipalities and 35 HCF's from the regular districts (see table 1). Out of each sampled HCF, a minimum of three and a maximum of five STD cases were to be observed. After the required number of observations had been achieved or three days had expired (which ever came first) the providers being observed as well as any other providers who tended to see STD cases were interviewed. Table 1 shows the minimum number of interviews expected in the various districts.

Table 1: Planned distribution of health facilities for observations and interviews

Region	Number	Metropolis	Municipality	Districts	Total
Greater Accra	Facilities	17	3	5	25
	Observations	21	4	7	32
	Interviews	65	11	20	96
Ashanti	Facilities	5	-	20	25
	Observations	8	-	16	32
	Interviews	20	-	76	96
Northern	Facilities	-	3	12	15
	Observations	-	4	17	21
	Interviews	-	12	46	58

After all the HCFs had been visited, it was obvious that the numbers required had not been achieved. Thus the study was then extended into other regions in the country. In these other 7 regions, one regular district each was visited in upper west and central regions, two each in Volta and Western regions and three each in upper East, Brong Ahafo, Eastern Regions. In these extra regions, only regional hospitals and district hospitals in large fairly urban towns were visited. Observation and interviews of the other providers were carried out in exactly the same manner as in the original regions and done by the same trained personnel.

2.2.2 Private Sector

Private sector HCPs were selected from a sampling frame of private physicians in the same towns where HCFs from the public sector were being observed and interviewed. A sample of 67 private HCFs were randomly selected. At the time the subjects were selected, two alternate subjects were also selected in the case that the HCF originally chosen could not be interviewed due to any of the following: 1) could not be located, 2) refused to participate, 3) didn't treat STD patients. A minimum of 85 interviews were to be conducted in 67 facilities. These were spread over the various regions. Table 2 has the details

Table 2: Planned distribution of private health facilities for interviews

Region	Number	Metropolis	Municipality	Districts	Total
Greater Accra	Facilities	40	10	3	53
	Interviews	50	13	4	67
Ashanti	Facilities	10	-	2	12
	Interviews	13	-	3	16
Northern	Facilities	-	2	-	2
	Interviews	-	2	-	2

2.2.3 Pharmacies

A total of 250 pharmacies and chemical shops were randomly selected (table 3). The sample size for each syndrome was based on the ability to detect an increase in the proportion of pharmacists who provide an "effective" treatment for the symptoms presented, according to standards agreed upon in advance by the Ministry of Health STD programme. The sample size assumed a baseline proportion of 30% with the ability to detect a 15% increase to 45% with a 90% confidence level of ± 10 percentage points and 80% power to detect a difference. There was to be only one simulation per pharmacy/ chemical shop and no design effect was assumed. Pharmacies/ chemical shops were selected from a sampling frame of all such facilities in the same towns and districts where physician observations and interviews were taking place. Male mystery shoppers were to conduct 125 urethritis simulations with different male pharmacists or shop attendants. Female mystery shoppers were to conduct 125 vaginal discharge simulations with different female pharmacists or shop attendants. Female simulators however conducted simulations with male attendants if in a particular area all the shops selected had only male shop attendants. In towns with five pharmacies or less, all pharmacies were part of the sample. The remaining pharmacies were selected by systematic random sample from the rest of the towns. In the event

that a pharmacy could not be located or a pharmacist or shop attendants of the right gender was not present, the interviewers randomly selected another pharmacy in the same town.

Table 3: Planned distribution of pharmacies for mystery shoppers' survey

Regions	Metropolis	Municipality	Districts	Total
Greater Accra	62	20	20	102
Ashanti	20	-	80	100
Northern	-	20	28	48
Total	82	40	128	250

2.3 Development of tools, interviewers selection and training

The WHO[10] protocol was adapted for use for the study. The pharmacist study was also based on the same protocol, but with substantial modifications since pharmacists do not examine patients and they were not aware that they were being evaluated. Facilitator's meetings were held to review each protocol, agree on definitions and meanings and adapt to local needs. These tools were further adapted during a five day residential training held for the three regional teams. Each team was headed by an HIV/STD co-ordinator. Teams consisted of two clinical nurses except for Northern region that had four and, one male and one female for the mystery shopping. Participants were selected by the HIV/STD co-ordinators in consultation with their Regional Directors of Health Services. During training the entire team was taken through the rational for the study and the objectives.

After this the team broke-up into two groups, one for the clinical observations and interviews and the other for the mystery shoppers. Within each group, the tools were discussed extensively. Each participant was made to role-play the situation while other participants critiqued. The different scenarios that could possibly arise during "consultation" in the pharmacies/ chemical shops were discussed until consensus on how questions should be answered to imply an STD was done. Other areas covered included interviewers roles and responsibilities, interviewing techniques, supervisor's roles and responsibilities. A pre-test was carried out at the polyclinic and the gynaecological out patient department of the Korle-bu teaching hospital. Simulations were carried out in 7 pharmacies located directly opposite the Korle-bu teaching hospital. They were thus not included in the final sampling.

2.4 Data collection

Data collection began one week after training. The period prior to that was used to locate some of the private facilities and pharmacies/ chemical shops as well as to send letters to all clinics selected to inform them about the impending study and to solicit their consent as well as confirm their eligibility for enumeration. During the first week of data collection, the study team visited all the regions to ensure that the data collection was going on smoothly. The completed instruments were checked during these monitoring visits and any arising problems discussed with the study team. The Regional Supervisor also had scheduled visits with data collectors and continuously interacted with them throughout the data collection period. Data collection lasted about four weeks for the mystery shoppers and eleven weeks for the clinical observations and interviews for both the public and private sector.

2.5 Data Management

Data collected was coded using a coding manual that was developed (see annex 1) and doubly entered using the Epi-info 6.04B software[11]. Internal consistency checks were done for range as part of data cleaning. Data was analysed also using Epi info and SPSS-PC.

2.5.1 Outcome Measure Definitions and Coding:

The prevention indicator number six (PI6) was determined for the three separate syndromes. An adapted version of PI6 was measured in the pharmacy survey for two of the syndromes, urethral discharge in male patients and vaginal discharge in female patients. The WHO prevention indicators 6 and 7 were calculated as shown below:

2.5.2 PI6&7 Definitions

PI 6

Number of individuals presenting with specific STDs in health facilities who are assessed and treated in an appropriate way (according to national standards)

Number of individuals presenting with specific STDs in health care facilities

[10] World Health Organisation (1994). Evaluation of a National AIDS Program: A Methods Package, Prevention of HIV infection. WHO/GPA/TCO/SEF/94.1, Geneva, Switzerland.

[11] Dean AG, Dean JA, Coulombier D, Burton AH, Brendel KA, Smith DC, Dicker RC, Sullivan KM and Fagan RF (1996). Epi Info Version 6.04B, A word processing, database and statistics program for public health on IBM-compatible microcomputers. Centre for Disease Control and Prevention (CDC), Atlanta, Georgia.

PI 7

Number of individuals seeking STD care in health facilities who have received appropriate advice on condom use and on partner notification

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Number of individuals presenting with specific STDs in health care facilities

2.5.3 Coding of Observation Variable guidelines

For the history to be evaluated as adequate all questions in the tool (see annex 2) had to be asked by the observer. Examination with full exposure of genitals (from naval to knee) including a thorough examination of genitals for vaginal discharge was also accepted as adequate. Speculum examinations done were noted but not required for the examination to be evaluated as adequate. The following guidelines were used to evaluate the drugs given to the clients seen by the providers. If no laboratory tests was done or requested and no laboratory results were pending, then treatment was expected to be syndromic or clinical thus treatment was deemed adequate if:

- Urethral discharge was treated as *Neisseria gonorrhoeae* and *Chlamydia trachomatis* infections
- Genital ulcer disease was treated as Syphilis and Chancroid
- Genital herpes were not given drugs but to be kept dry and clean
- Granuloma inguinalis and, Genital Warts were to be treated using local national guidelines or the WHO guidelines where appropriate.
- Pelvic inflammatory disease was to be treated using the syndromic management algorithms.
- Vaginal discharge was more complex. If a diagnosis of vaginitis was made then treatment for vaginitis was accepted but if a diagnosis of vaginal discharge (syndrome) or cervicitis were made and the risk assessment using the age and marital status were positive then treatment had to cover *N. gonorrhoeae* and *C. trachomatis* infections. In such instances, drugs for candidiasis and vaginitis were noted but not used to determine the appropriateness of the treatment, thus if drugs were given for treatment of these latter conditions alone then treatment was deemed ineffective.
- If two syndromes were presented then treatment had to be adequate for both.

After each drug was coded individually using this criteria, the entire treatment was then collectively evaluated using both the National and WHO guidelines as being either:

- Effective syndromic treatment
- Effective aetiologic treatment
- Ineffective treatment for the syndrome presented.

Other drugs acknowledged by British National Formulary and the Mims Africa to be effective but not recommended by WHO or the National guidelines were noted as such and included as effective treatment.

2.5.4 Coding of Interview Variable guidelines

Interviews were coded using the same criteria above. The coding manual used can be found in annex1.

2.5.5 Coding of Mystery Shopper Pharmacy guidelines

Pharmacists do not examine patients and thus are expected to treat using the syndromic form or clinical mode of management thus a direct PI 6 could not be calculated. In this study, the adequacy of their treatment was evaluated as to whether it met the criteria provided in both the national and WHO guidelines. Thus vaginal discharge is to be treated as a cervicitis. Since very specific symptoms were presented by the client (i.e. a thick smelly vaginal discharge) and questions asked by the attendant were to be answered to imply a cervicitis), any treatment for vaginitis or candidiasis was evaluated as inappropriate or ineffective. The list of acceptable alternatives was provided by the national STD programme.

2.6 Limitations

Inasmuch as direct observation captures a more complete picture of provider-client interaction, the diagnostic thought process of the provider is difficult to assess, and the presence of an observer could alter the behaviour of the provider. No observations were done in private health facilities so their practices are not captured in this study. Interviews with providers may yield information on knowledge but may not necessarily reflect practice; secondly such information may be incomplete if providers have difficulty in visualising abstractly what they do with in a real case scenario. In this study we did not review patient record nor conduct exit interviews, which could have provided additional information on the management of STD in these health facilities. We also did not use simulated clients for the observation of the practice of providers as there were ethical issues relating to that. We did not enquire if respondents had received training in the syndromic management of STDs thus we are unable to provide information of performance of those trained against those untrained, however, these limitations do not however render the

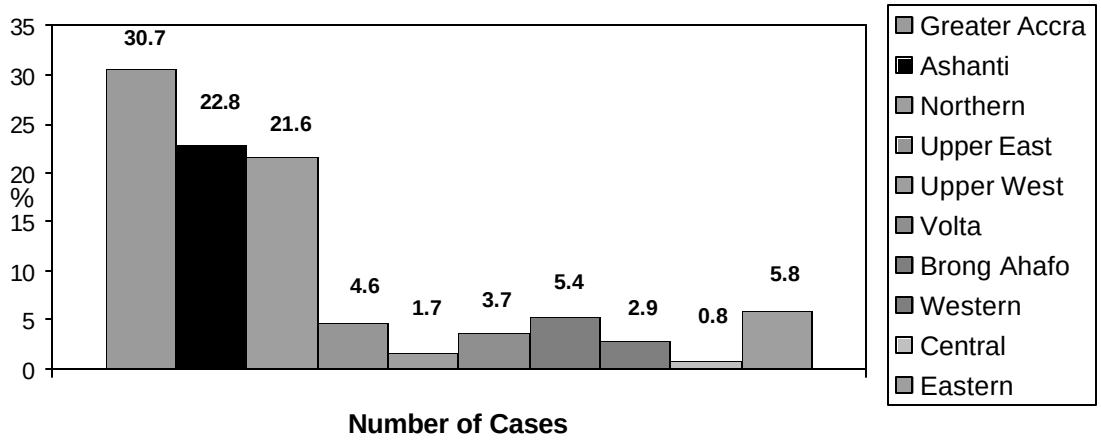
findings or conclusions of the study invalid since the tools we used in this particular study complement each other to provide adequate data for drawing conclusions.

3 FINDINGS

3.1 Observation of Providers in Public Facilities

Observations of providers in the public facilities took almost 11weeks to complete. In all 241 cases of STD were observed. The number of cases seen per region is shown in Figure1.

Figure 1: Number of Cases observed per Region



Most of the observations were in Greater Accra Region since that had many more facilities. Apart from the initial three regions in which all districts with facilities seeing more than 5 STD cases per week were selected, only the very large facilities in the other additional regions were visited, i.e. mainly the regional hospitals and any large district hospitals in the urban districts.

3.1.1 General characteristics

Prescribers

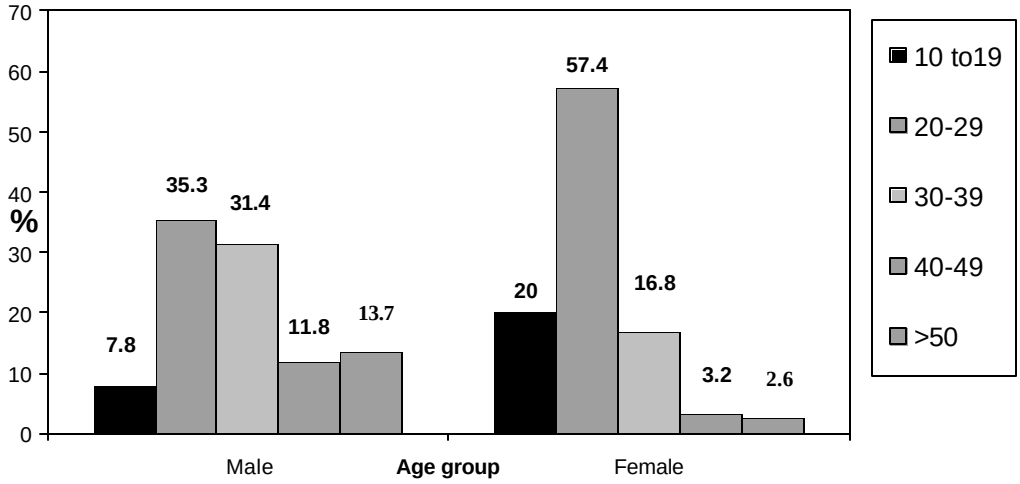
Doctors saw the majority of the cases [113 (46.9%)] and a substantial number were seen by Medical Assistants [100 (41.5%)] and [26 (10.8%)] were seen by nurses. One hundred and fifty seven (65.4%) of the providers were male and 83 (34.6%) were female. Fifty-three (22%) of clients were male and 188(78%) were female. Men constituted less than a third of the cases of STD seen at the public facilities.

Clients

One hundred and eighteen (49%) of the clients were married and 106 (44%) were single. In 17 (7%) of cases, the marital status was not ascertained. Figure 2 shows the summary of the age of

the clients who visited the public facilities. The ages ranged from 10 –79 years and the median age for males was 32 years and for females was 25 years.

Figure 2: Age Group of Client Observed at the Clinics



3.1.2 History and Examination

Compla ints that clients presented for care are indicated in Table 4. Multiple responses were recorded.

Table 4: Complaints Presented by Patients at the Clinics

Complaints	Male		Female	
	Freq	%	Freq	%
Urethral discharge	40	78.4	-	-
Vaginal discharge	-	-	182	95.8
Genital ulcer	9	17.6	9	4.7
Inguinal Swelling	2	3.9	-	-
Painful Micturition	37	72.5	47	24.7
Lower Abdominal pain	9	17.6	106	55.8
Other complaints	6	11.8	99	52.1

Most of the female clients presented with a vaginal discharge. Other complaints presented included itching of the vulva, rashes in the genital area, vaginal warts and frequency of micturition. Providers were observed as they took a history and the relevant questions asked are indicated in table 5. For clients presenting with a vaginal discharge, the questions required for to adequately complete the risk assessment were asked in 14/182 (7.7%) encounters observed.

Table 5: Questions Asked by Providers during History Taking

Questions Asked. N n (%)	**Pelvic Inflammatory Disease**	**Vaginal discharge**	**Urethral discharge**	**Genital Ulcer Disease**	**Cervicitis**	**Vaginitis**	**Scrotal Swelling**	**Syphilis**	**Gonorrhea**	**Candidiasis**	**Sexually Transmitted Disease**	**Trachomonasis**	**Urinary Tract Infection**	**Vaginal Warts**	**Not Yet Diagnosed**	**Total**
	46	**41**	**25**	**11**	**12**	**41**	**2**	2	**11**	**27**	**4**	**5**	**10**	2	**1**	**241**
Nature of symptoms	45 (18.7)	41 (17.0)	25 (10.4)	11 (4.6)	12 (5.0)	41 (17.0)	2 (0.8)	2 (0.8)	11 (4.6)	27 (11.2)	4 (1.7)	5 (2.1)	10 (4.1)	2 (0.8)	1 (0.4)	239 (99.2)
onset/duration of symptom(s)	45 (18.7)	41 (17.0)	25 (10.4)	11 (4.6)	12 (5.0)	41 (17.0)	2 (0.8)	2 (0.8)	10 (4.1)	26 (10.8)	4 (1.7)	5 (2.1)	10 (4.1)	2 (0.8)	1 (0.4)	237 (98.3%)
History of recent sexual contact(s)	25 (10.4)	27 (11.2)	22 (9.1)	8 (3.3)	10 (4.1)	31 (12.9)	2 (0.8)	2 (0.8)	6 (2.5)	11 (4.6)	3 (1.2)	3 (1.2)	4 (1.7)	1 (0.4)	1 (0.4)	156 (64.7%)
Symptoms of partner(s)	7 (2.9)	13 (5.4)	15 (6.2)	4 (1.7)	6 (2.5)	16 (6.6)	1 (0.4)	1 (0.4)	5 (2.1)	9 (3.7)	1 (0.4)	1 (0.5)	3 (1.2)	1 (0.4)	1 (0.4)	84 (34.9%)
Number of partner(s) in the last year	7 (2.9)	6 (2.5)	13 (5.4)	2 (0.8)	7 (2.9)	9 (3.7)	0	2 (0.8)	3 (1.2)	4 (1.7)	0	2 (0.2)	0	0	1 (0.4)	56 (23.2%)
Partner(s) change in the last 3 months	9 (3.7)	8 (3.3)	13 (5.4)	2 (0.8)	6 (2.5)	12 (5.0)	0	1 (0.4)	5 (2.1)	3 (1.2)	0	2 (0.2)	1 (0.40	0	1 (0.4)	63 (26.1%)

N= total number of patient diagnosed with the condition

The interviewers were asked to observe closely as the provider examined the client. Table 6 shows information filled on the steps that providers took in examining their clients.

Table 6: Steps Taken by the Providers During Examination of Their Patients

STEPS TAKEN DURING EXAMINATION OF CLIENTS	Male		Female	
	Freq (n)	%	Freq (n)	%
Genitals fully exposed (from naval to knee) with female patient lying down	33 (53)	62.3	123 (188)	65.4
Examination gloves used	24 (53)	45.3	106 (188)	56.4
External genitalia thoroughly examined for discharge and lesions?				
1.Circumcised (men)	30 (40)	75	-	-
2. Uncircumcised (men)	1 (13)	7.7	-	-
3. Labia separated and inspected (women)	-	-	110 (188)	58.5
Adequate light source used during the Speculum examination (women)	-	-	11 (188)	5.9
Bimanual examination performed (women)	-	-	11 (188)	5.9

3.1.3 Laboratory

Observers took a note of what laboratory tests were taken or requested for. Other tests requested include urine and stool routine examinations and full blood counts. Responses are found in Table 7.

Table 7: Laboratory Tests Taken or Requested for by Providers

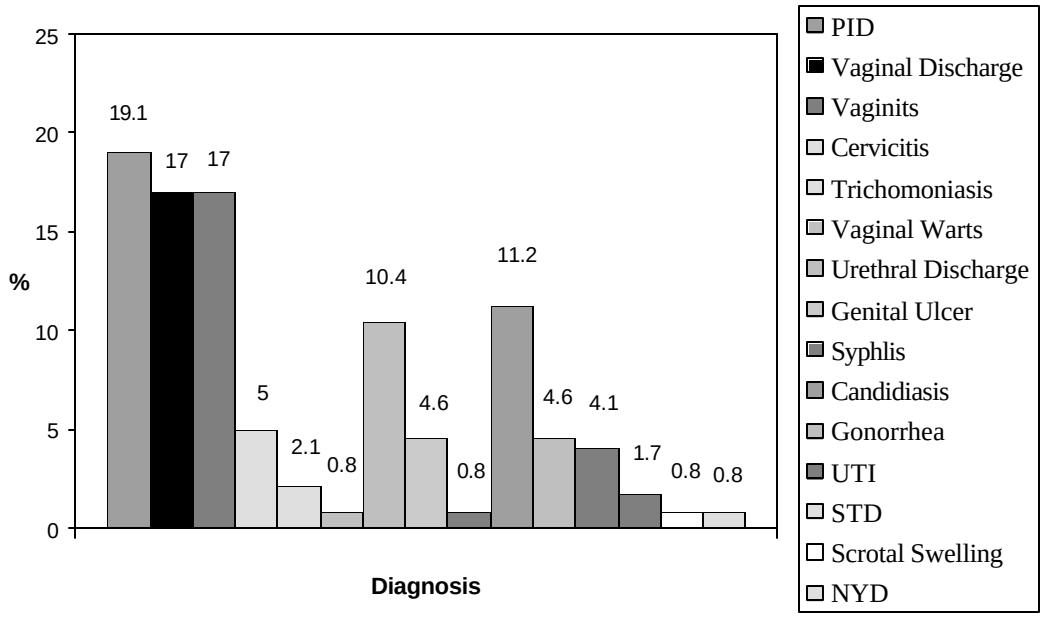
LAB TESTS	Yes	
	Freq (n)	%
Specimen for gram stain	31 (222)	14
Gram stain results available on day consultation	13 (31)	41.9
Specimen for wet smear taken	58 (222)	26.1
Wet smear result available on day of consultation	24 (58)	41.4
Specimen for RPR/VDRL obtained /requested	5 (18)	27.8
RPR/VDRL Result available on day of consultation	2 (5)	40
Other laboratory tests requested	42 (241)	17.4

In most cases, laboratory tests were neither requested for nor taken and diagnoses were expected to be syndromic or clinical. In the instance when laboratory tests were either requested or samples taken (total of 89), only 39 (41.5%) had their results available on the day of consultation. The other laboratory tests requested for were routine urine and stool examinations and full blood counts.

3.1.4 Diagnoses

The diagnoses made by the providers were indicated on the patient's cards after the consultation was over. A syndromic diagnoses was made in 125 cases, an aeitiological diagnoses in 102 and non-specific diagnosis in 6 instances. Of those diagnosed as a vaginal discharge syndrome, the risk assessment was done in only 2/41 (4.9%). Figure 3 gives a summary of these.

Figure 3: Diagnosis of Clients made by Providers



Of the providers who requested some laboratory tests, 37/ 89(41.6%) of providers had their laboratory test results before the diagnosis was made however 50/89 (56.2%) did not have the results of laboratory tests requested before diagnoses was made.

3.1.5 Treatment

The lists of drugs used for the treatment of urethral discharge are indicated in table 8. In most instances at least three of these drugs were prescribed. Drugs that were potentially not efficacious were noted as negative (-ve) and those considered as efficacious were noted as positive (+ve). The organisms these drugs were evaluated against were *Neisseria gonorrhoea* (NG), *Chlamydia*

trachomatis (CT), *Trichomonas vaginalis* (TV)) and *Candida albacans* (CA). Anaerobes responsible for Bacterial vaginosis were coded as (BV).

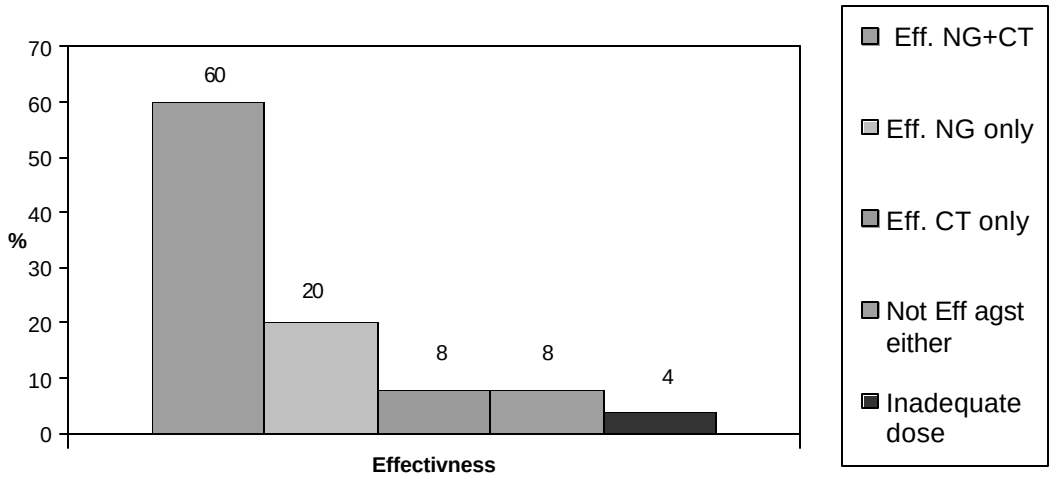
Table 8: Drugs used for the treatment of Urethral Discharge and their potential efficacy against *N. gonorrhoeae* (NG) and *C. trachomatis* (CT)

DRUGS	Potential efficacy		Freq (n=25)	%
	NG	CT		
Ceftriaxone	+ve	-ve	2	8.0
Ciproflo xacin	+ ve	-ve	19	76.0
Co-Trimoxazole	-ve	-ve	1	4.0
Doxycycline	-ve	+ve	14	56.0
Erythromycin	-ve	+ve	1	4.0
Oxytetracycline	-ve	+ve	4	16
Metronidazole	-ve	-ve	11	44.0
Potassium citrate	-ve	-ve	4	16.0
*Spectinomycin	-ve	-ve	1	4.0

* Although spectinomycin is recommended by WHO it is not recommended in our guidelines as pockets of resistance exist. It was thus regarded as potentially not effective.

Figure 4 shows the evaluation of treatment given to clients diagnosed with urethral discharge against *Neisseria gonorrhoea* and *Chlamydia trachomatis.*

Figure 4: Evaluation of potential efficacy of treatment given to patients diagnosed with urethral discharge against *N. gonorrhoeae* and *C. trachomatis*



Inadequate doses were noted for only drugs acceptable by either the National or WHO recommendations but given in less than the recommended doses stipulated. Any drug not recommended was evaluated as not effective regardless of the dosage. The lists of drugs given to patients presenting with a vaginal discharge and pelvic inflammatory disease are found in Table 9.

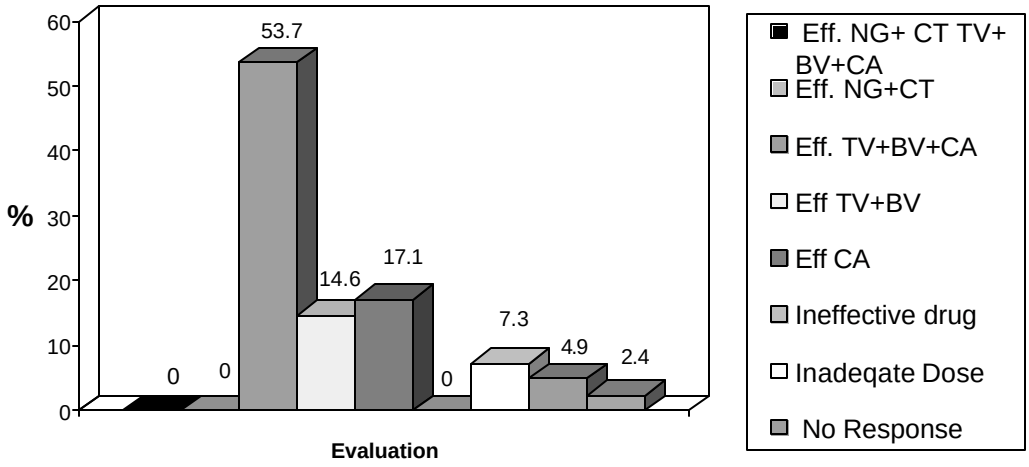
Table 9: Drugs Given to Clients Diagnosed with Vaginitis, Vaginal Discharge or Pelvic Inflammatory Disease

DRUGS	Potential Effectiveness				Vaginitis		Vaginal Discharge		Pelvic Inflammatory Disease	
	NG	CT	TV	CA	Freq	%	Freq	%	Freq	%
Amoxycillin	-ve	-ve	-ve	-ve	1	2.4	1	2.4	5	10.8
Ampicillin with cloxacillin	-ve	-ve	-ve	-ve	1	2.4	-	-	1	2.2
Ceftriaxone	-ve	-ve	-ve	-ve	-	-	3	7.3	1	2.2
Cephalexin	+ve	-ve	-ve	-ve	-		-	-	1	2.2
Ciprofloxacin	+ve	-ve	-ve	-ve	9	21.9	24	58.5	20	43
Clotrimaxole	-ve	-ve	-ve	+ve	24	58.5	26	63.4	8	17.4
Co-Trimoxazole	-ve	-ve	-ve	-ve	2	4.8	-	-	3	6.5
Fluconazole	-ve	-ve	-ve	+ve	-	-	1	2.4	-	-
Doxycycline	-ve	+ve	-ve	-ve	30	73.2	23	56.1	16	35
Erythromycin	-ve	-ve	-ve	+ve	1	2.4	-	-	2	4.3
Gentain Violet Paint	-ve	-ve	-ve	+ve	-	-	-	-	1	2.2
Gentamycin	-ve	-ve	-ve	-ve	-	-	-	-	3	6.5
Econazole	-ve	-ve	-ve	-ve	-	-	2	4.8	-	-
Ketoconazole	-ve	-ve	-ve	+ve	1	2.4		-	-	-
Lincomycin	-ve	-ve	-ve	-ve	-	-	-	-	1	2.2
Metronidazole	-ve	-ve	-ve	-ve	31	75.6	36	87.8	36	78.3
Miconazole	-ve	-ve	-ve	+ve	1	2.4	1	2.4	-	-
Nalidixic Acid	-ve	-ve	-ve	-ve	1	2.4		-	-	
Nystatin	-ve	-ve	-ve	+ve	8	19.5	1	2.4	1	2.2
Oxytetracycline	-ve	+ve	-ve	-ve	7	17.1	5	12.2	10	21.7
Pefloxacin	+ve	-ve	-ve	-ve	-	-	-	-	-	
Potassium Citrate	-ve	-ve	+ve	-ve	-	-	1	2.4	-	-
Procain Penicillin	-ve	-ve	-ve	-ve	-	-	-	-	3	6.5
Wokadin	-ve	-ve	-ve	+ve	-	-	1	2.4	2	4.3
Others*					2	4.8	1	2.4	-	-

*The other drugs were those whose generic names could not be found

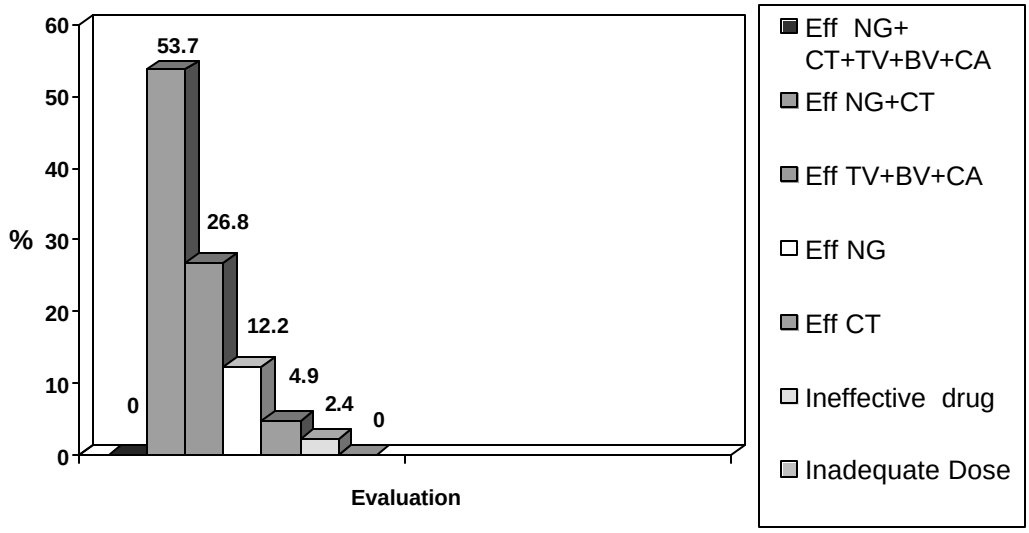
The effectiveness of drugs given to patients diagnosed with vaginitis are indicated in Figure 5

Figure 5: Evaluation of treatment given to clients diagnosed with vaginitis against some organisms



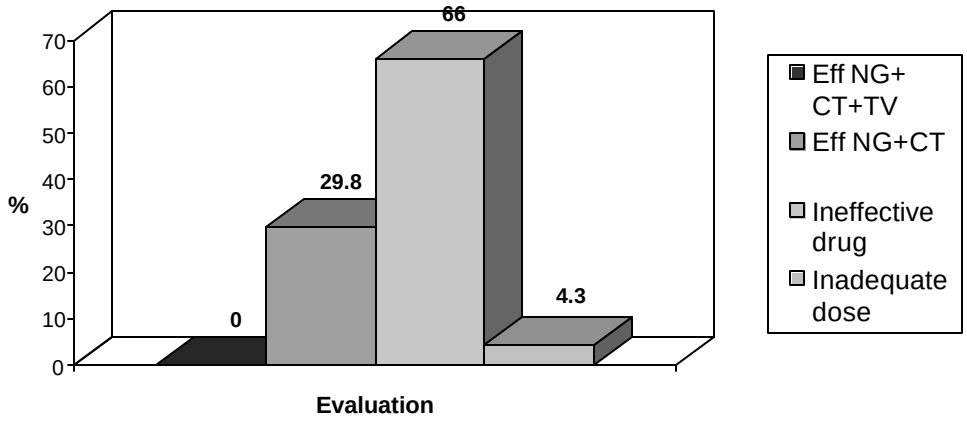
Clients diagnosed as vaginal discharge also had the treatment given evaluated against the common organisms. Figure 6 shows this.

Figure 6: Evaluation of Treatment given to Clients diagnosed with Vaginal Discharge against some Organisms



Clients diagnosed as Pelvic Inflammatory Disease also had the treatment given evaluated against the common organisms. Figure 7 shows this.

Figure 7: Evaluation of Treatment Given to Clients Diagnosed with Pelvic Inflammatory Disease against Some Organisms



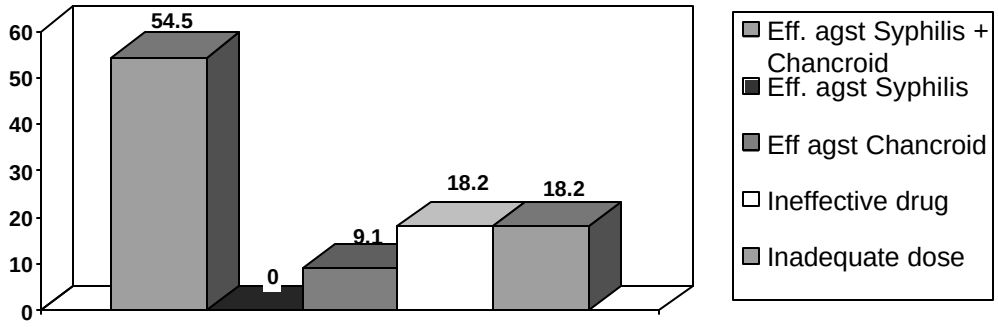
The same kind of assessment was carried out for clients presenting with Genital Ulcer disease. The lists of drugs used are indicated in table 10. Ceftriaxone that is potentially effective against chancroid and is listed in the National Guideline was not used at all.

Table 10: Drugs Given to Clients Diagnosed with a Genital Ulcer and Their Potential Effectiveness Against Syphilis and Chancroid

DRUGS	Potential Effectiveness		Freq (n=11)	%
	Syphilis	Chancroid		
Ampicillin with cloxacillin	-ve	-ve	1	9.1
Benzanthine penicillin	+ve	-ve	6	54.5
Bethnovate cream	-ve	-ve	7	63.6
Ciprofloxacin	-ve	+ve	7	63.6
Clindamycin	-ve	-ve	1	9.1
Clotrimazole	-ve	-ve	2	18.2
Erythromycin	+ve	+ve	1	9.1
Metronidazole	-ve	-ve	3	27.3
Nystatin	-ve	-ve	1	9.1
Oxytetracycline	+ve	-ve	2	18.27.3
Wokadine (Wockhardt)	-ve	-ve	1	29.1
Other			1	9.1

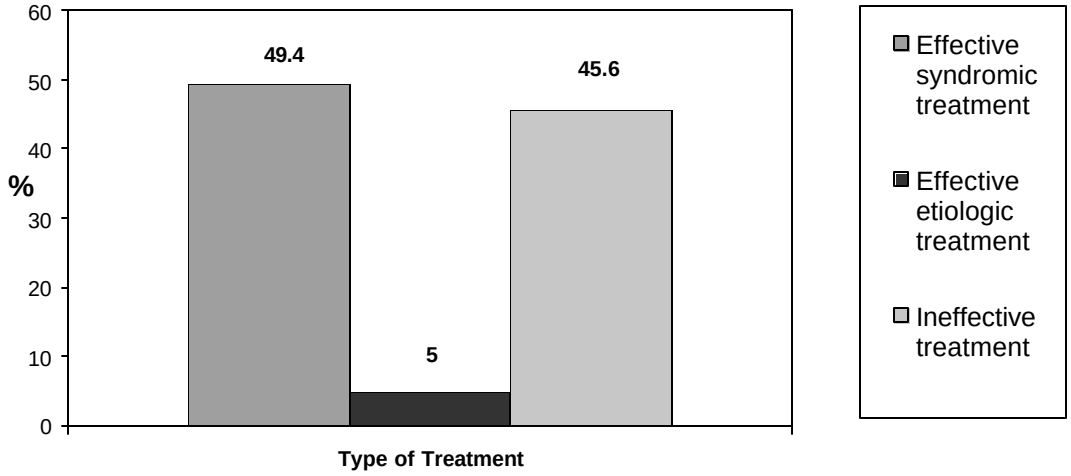
The drugs given to these clients diagnosed as Genital ulcers were assessed to determine their effectiveness against syphilis and chancroid. Figure 8 shows this.

Figure 8: Evaluation of Treatment Given to Clients Diagnosed with Genital Ulcer Disease



Drugs given were verified against the patients presenting symptoms, the diagnosis of the provider and laboratory test requested as well as whether or not the results were available before treatment. Based on this treatment given was evaluated and Figure 9 shows the findings.

Figure 9: Type of Treatment



3.1.6 Education and counselling

As part of the STD management providers are to counsel clients on certain issues pertaining to STD/HIV prevention. Table 11 shows the findings.

Table 11: Instructions/education given to patients

INSTRUCTION/EDUCATION GIVEN	Yes	
	Freq (n=241)	%
Importance of completing the full course of treatment	174	72.3
Educate on AIDS/HIV prevention	63	26.1
Promote condom for STD/HIV prevention	63	26.1
Counselling for HIV/STD prevention	41	17.0
Condoms provided/ sold to patient	15	6.2
Instruction on condom use offered	28	11.6
Partner referral/ treatment	127	52.7
Privacy maintained during consulting	204	84.6

3.1.7 PI 6&7

Using the national and WHO guidelines, providers were evaluated as to the adequacy of the consultation and management of the clients. Results are indicated in figure 10. Only the initial three regions are presented, as sample sizes in the other seven were too small for statistical significance.

Figure 10: Evaluation of Consultations per Region

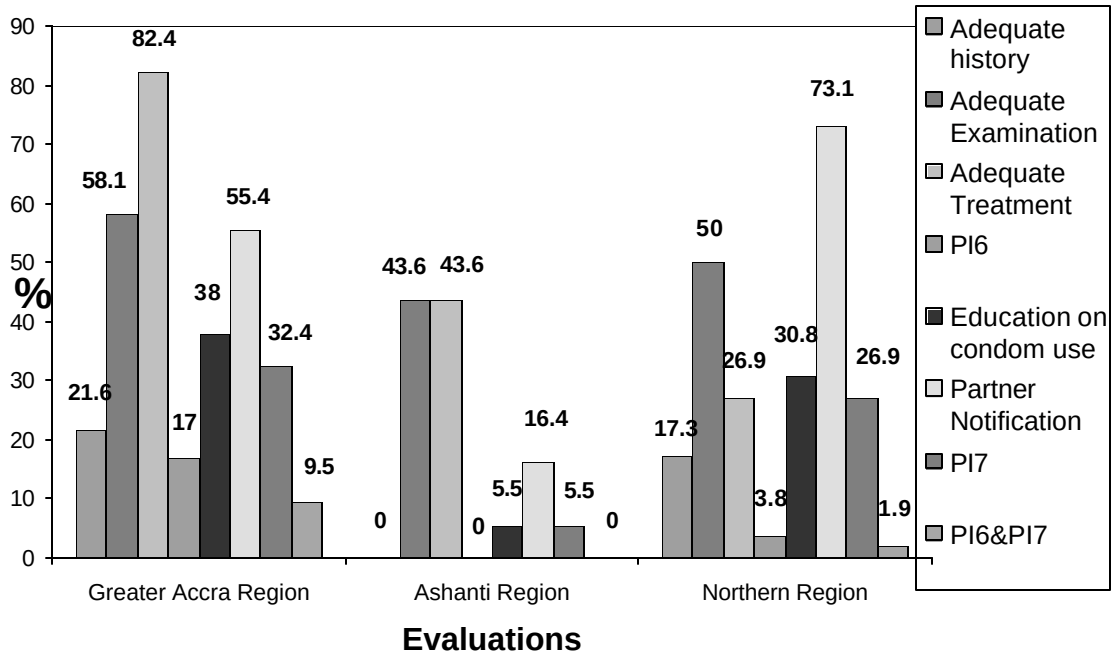
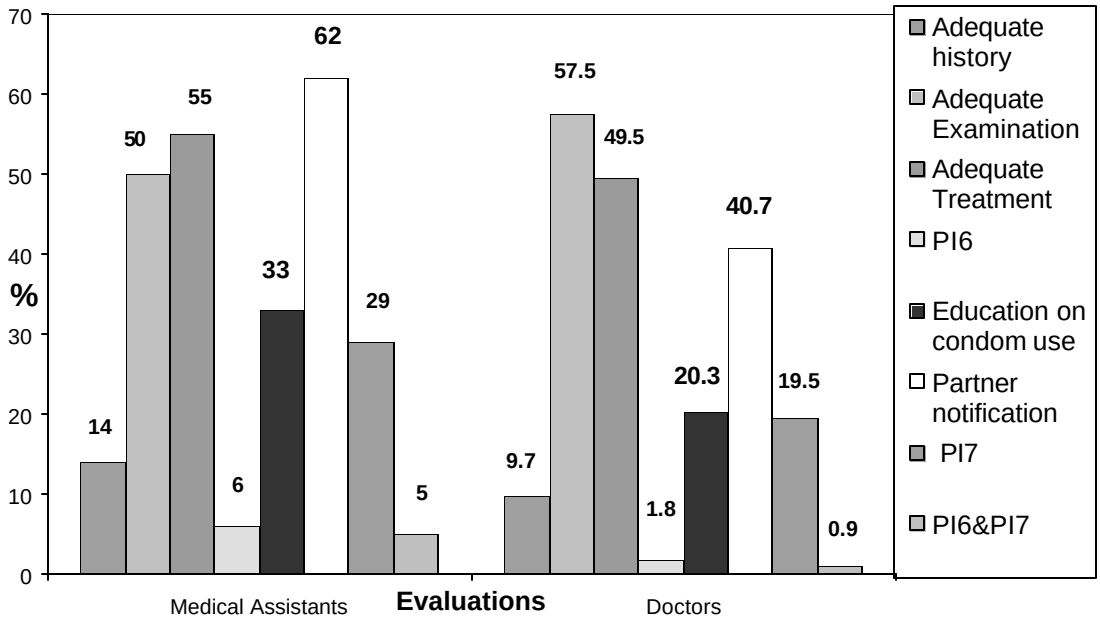


Figure 11 shows the evaluation of the performance of Medical Assistants and Doctors. From Available records, many more Medical Assistants have been trained in the syndromic management.

Figure 11: Evaluation of Consultations by Medical Assistants and Doctors



The entire consultation was evaluated for the country and results are indicated in Figure 12. Of those who made a syndromic diagnosis, an adequate history was taken in 11 (8.1%) of consultations. Sixty-eight (50.4%) of such examinations were adequate, and 73 (54.1%) of treatments given were adequate. One hundred and two people presented with a complaint of a vaginal discharge and lower abdominal pain, but only 33/ 102 (32.4%) were diagnosed as having a pelvic inflammatory disease. For those diagnosed with a vaginal discharge syndrome, the questions required for to adequately complete the risk assessment were asked in 2/ 41 (4.9%) of encounters observed. The PI6 for those who made a syndromic diagnosis was 8 (5.9%) and PI7 was 29 (21.5%).

Of those who made an aetiological diagnosis, an adequate history was taken in 17 (16.7%) and adequate examination in 60 (58.8%) and adequate treatment was provided in 48 (47.1%) of cases. The PI 6 for those who made an aetiologic diagnosis was 8 (7.8%), PI7 was 28 (27.5%) and PI 6&7 was 7 (6.9).

Thus **overall:**

The number of providers taking an adequate history, doing an adequate examination and providing adequate treatment = 10.

Thus **PI6** = 8/241 = **4.1 %**

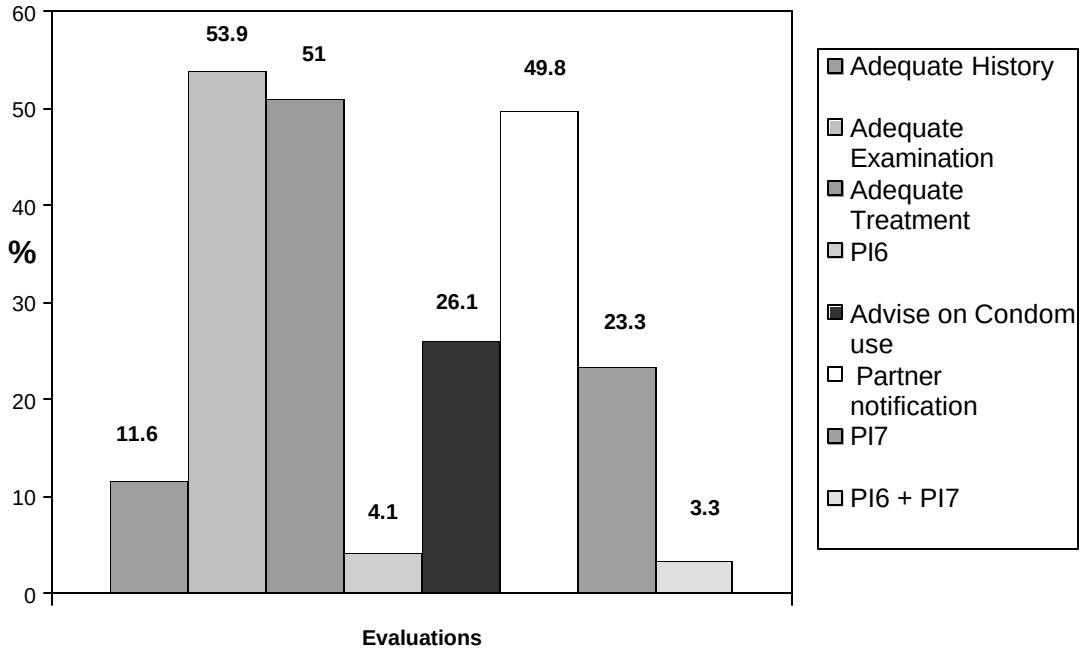
Number of providers giving education on condom use and partner notification = 56.

Thus **PI 7**= 56/241 = **23.3%**

Number of providers providing all requirements **(PI6+PI7)** = 8

Thus 8/241=**3.3%**

Figure 12: Evaluation of All Consultations



3.2 Response of Interviews with Providers in Public and Private Facilities

3.2.1 General Characteristics

203 providers in public facilities (PUB) and 70 providers in private facilities (PRV) were interviewed. Interviews began on the 14th of August and ended on the 6th of October thus lasted 31 days. Table 12 has the details. In all 53 districts in the 10 regions were visited for public sector interviews while 11 districts were visited for the private sector interviews with the largest number from Greater Accra. No private sector interviews were held in the 7 additional regions. In the public sector 137 (68.2%) of the providers were male while 64 (31.8%) were female. In the private sector 59 (86.8%) were male and 9 (13.2%) were female. In the public institutions 109 (53.7%) were Doctors, 76 (37.4%) were Medical assistants and 18 (8.9%) were nurses. In the private institutions however, 64 (91.4%) were Doctors, 5 (7.1%0 were nurses and only 1 (1.4%) a medical assistant. Providers who were doctors were asked to indicate their speciality. These included General Practitioners, Venerologists, Obstetric and Gynaecologists. In both sectors the other specialties mentioned were physician specialists, cardiologists, anaesthetists, haematologists, paediatricians, psychiatrists, surgeons and public health physicians.

Table 12: Number of Providers per Region and District

REGION	Public		Private	
	Freq	%	Freq	%
Greater Accra	69	34.3	53	75.7
Ashanti	57	28.1	15	21.4
Northern	26	12.8	2	2.9
Upper East	6	3.0	-	-
Upper west	3	1.5	-	-
Volta	9	4.4	-	-
Brong Ahafo	10	4.9	-	-
Western	6	3.0	-	-
Central	4	2.0	-	-
Eastern	13	6.4	-	-
Total	203	100	70	100

The number of STD cases seen in the last week and the last month are indicated in Tables 13 and 14 respectively.

Table 13: Average Number of STD Cases Seen at the Clinic Visited in the Last Week

Average number of cases seen by Provider	Public		Private	
	Male	Female	Male	Female
1-5	92	143	42	44
>5	4	17	0	3

Table 14: Average Number of Cases Seen in the Last Month at Clinics Noted

Average number of cases seen by Provider	Public		Private	
	Male	Female	Male	Female
1-5	148	82	57	42
>5	25	122	6	22

3.2.2 History and Examination

Providers were asked what routine questions they asked STD patients. Their responses are indicated in Table 15. Providers were asked if they performed physical examinations on their patients as a routine. 166 (81.8%) of providers in the public facilities and 61 (87.1%) of providers in the private facilities said they performed physical examinations as a routine. Table 16 indicates the steps they take. Few providers, 37 (18.2%) from the public sector and 9(12.9%) from the private sector do not routinely examine male patients and were therefore coded as not applicable (NA).

Table 15: Routine questions providers ask their STD clients

QUESTIONS ASKED	Yes		Prompted yes	
	PUBLIC % (n= 203)	PRIVATE % (n=70)	PUBLIC % (n= 203)	PRIVATE % (n=70)
Present symptoms	93.6	92.9	13	5
Onset/duration of symptoms	77.3	82.9	46	12
Recent sexual contacts	76.8	85.7	36	10

Table 16: Steps Taken When Examining a Male STD Client

EXAMINATION PROCEDURE FOR PATIENTS	Yes		Prompted Yes		NA	
	PUBLIC % (n=203)	PRIVATE % (n=70)	PUBLIC % (n=203)	PRIVATE % (n=70)	PUBLIC % (n=203)	PRIVATE % (n=70)
Undresses with genitals fully exposed	77.3	77.1	22.7	10	0	9
Examined for Urethral discharge	75.4	81.4	5.9	4.3	37	9
Foreskins retracted & Genitals examined	20.7	24.3	52.7	52.9	37	9

Providers were also asked if they routinely performed a physical examination on female STD patients. 172 (84.7%) of the providers in the public facilities and 61 (87.1%) of providers in the private facilities said they did this as a routine. 31 public and 9 private providers did not routinely examine female clients and were therefore coded as not applicable (NA) see Table 17.

Table 17: Steps taken when examining of a female STD client

STEPS TAKEN	Yes		Prompted Yes		Not Applicable	
	PUBLIC % (n=203)	PRIVATE % (n=70)	PUBLIC % (n=203)	PRIVATE % (n=70)	PUBLIC % (n=203)	PRIVATE % (n=70)
Genitals fully exposed	72.9	78.6	11.8	8.6	15.3	12.9
Patient lie down	72.4	77.1	12.3	10.0	0	12.9
Vulva and Labia examined	74.9	80.0	8.9	5.7	15.3	12.9
Examined for vaginal discharge	80.8	84.3	2.5	2.9	15.3	12.9
Speculum exam done	17.2	44.3	18.7	11.4	15.3	12.9
Bimanual exam done	39.9	52.9	15.3	12.9	15.3	12.9

Providers were asked which of the following equipment was available in their clinics – the responses are recorded in Table 18.

Table 18: Equipment available at the facilities

EQUIPMENT	YES	
	PUBLIC % (n=203)	PRIVATE % (n=70)
Examination table	99.0	100
Bi valve vaginal speculum	48.3	92.9
Examination light	39.4	81.4
Examination Gloves	96.1	100

Providers were asked what type of diagnosis they based their treatment on. Multiple responses were recorded Figure 13 and 14. Providers said that sometimes depending on the situation the other methods were used.

Figure 13: Type of Diagnosis used by Public Providers

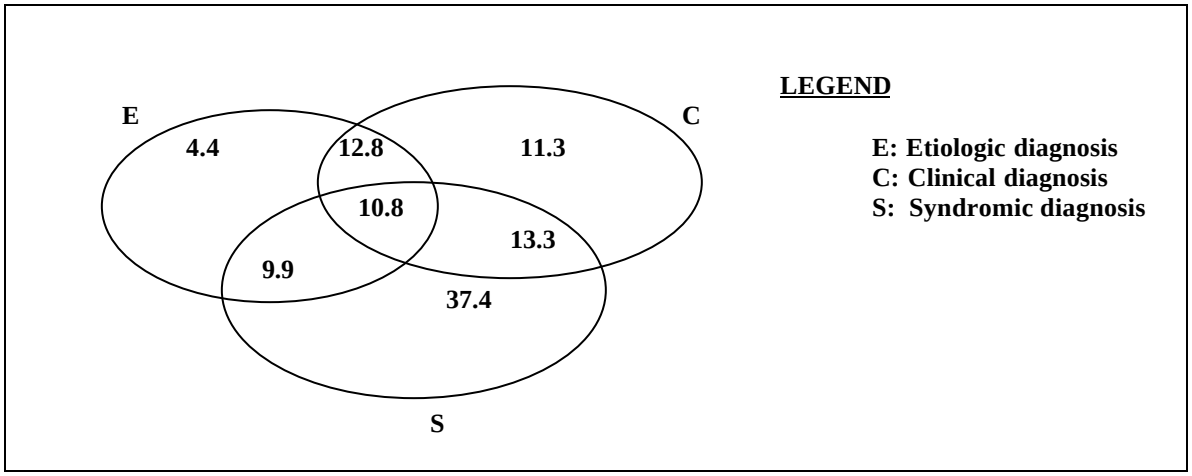
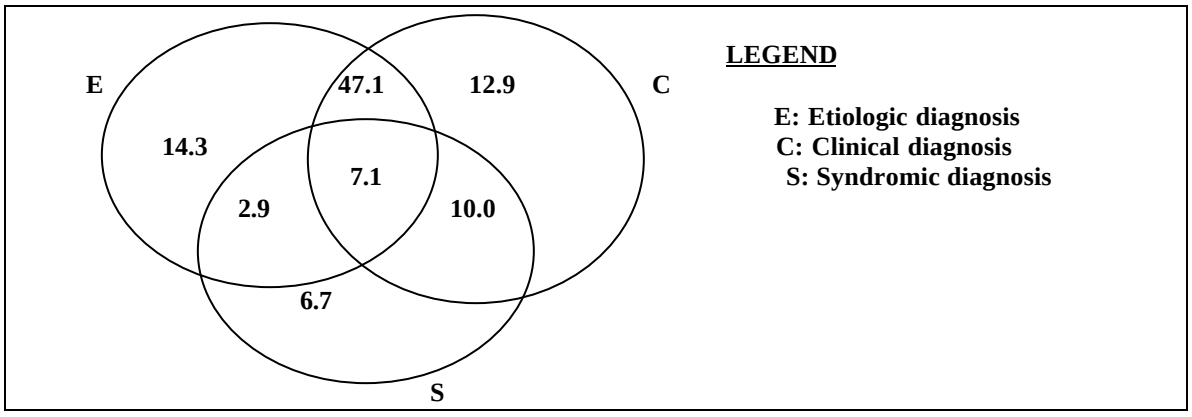


Figure 14: Type of Diagnosis use by Private Providers



Most [145 (71.4%)] of the providers in the public facilities used the syndromic approach however among the private providers only 18 (25.7%) use the syndromic approach.

3.2.3 Laboratory availability and use

Of the public facilities 184 (91.1%) had microscopes in their clinics compared to 52 (74.3%) in the private facilities. Laboratory tests done most frequently in these clinics are shown in Table 19. This question was not applicable to those who did not have laboratory facilities in their clinics.

Table 19: Laboratory Tests Performed in the Clinics

TESTS DONE	Yes		Not Applicable	
	PUBLIC % (n=203)	PRIVATE % (n=70)	PUBLIC % (n=203)	PRIVATE % (n=70)
Wet mount microscopy	48.3	44.3	8.9	25.7
Gram stains	58.1	51.4	8.9	25.7
VDRL/RPR tests	37.3	23.2	8.9	26.1

Providers were asked whether they took laboratory samples themselves, or if clients were sent to the laboratory. 38 (20.4%) of providers in the public facilities and 26 (41.3%) of providers in the private facilities took the samples themselves while 112 (55.2%) of the providers in the public facilities and 61 (87.1%) of providers in the private facilities sent either the samples or the patients themselves to the laboratories. Public sector providers often did not take the samples themselves. The tests requested most often in the past month are found in Table 20.

Table 20: Tests Most Often Requested for in the Last Month

TESTS REQUESTED FOR	Yes		NA	
	PUBLIC % (n=203)	PRIVATE % (n=70)	PUBLIC % (n=203)	PRIVATE % (n=70)
VDRL/RPR	10.3	28.6	44.8	12.9
Culture (swab/urine)	46.3	70.0	44.8	12.9
HIV tests	19.2	38.6	44.8	12.9
Gram Stains	14.3	24.3	44.8	12.9

3.2.4 Treatment

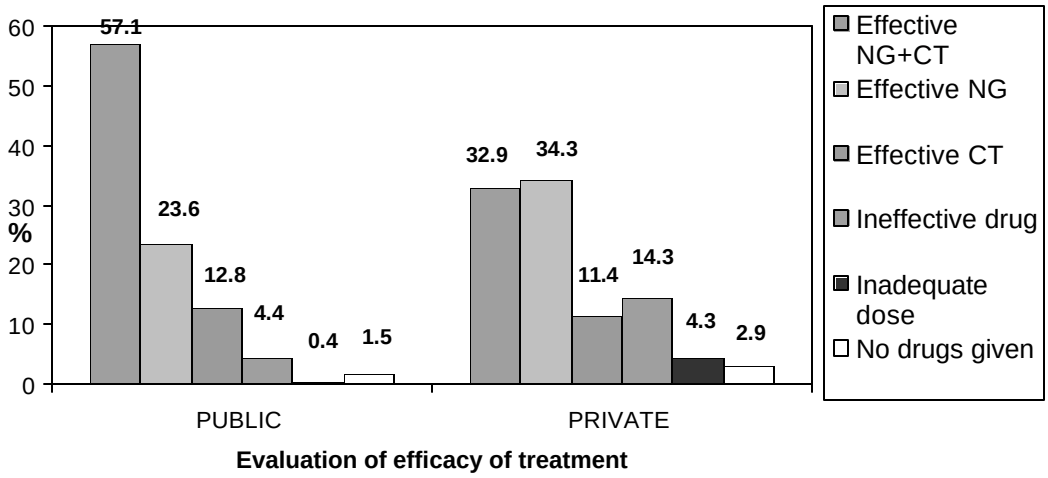
Providers were asked what their first choice of treatment for some conditions would be in the absence of a definitive diagnosis. Their responses for treating a male patient with urethral discharge are indicated in Table 21. Some providers were using drugs that were ineffective against the two organisms *N. gonorrhoea*e and *C. trachomatis*. Very few private providers used drugs against chlamydial infection and so many treated for only gonorrhoea.

Table 21: First choice drugs for treatment of urethral discharge and their potential effectiveness against *N.Gonorrhoeae* (NG) and *C. trachomatis* (CT)

DRUGS	Potential Effectiveness		PUPLIC (n=203)		PRIVATE (n=70)		TOTAL (n=273)	
	NG	CT	Freq	%	Freq	%	Freq	%
Amoxycillin/Co-Amoxiclav	-ve	-ve	9	4.4	7	10.0	16	5.9
Azithromycin	+ve	+ve	1	0.5	1	1.42	2	0.7
Benzanthine Penicillin	-ve	-ve	1	0.5	-	0.0	1	0.4
Cefadroxil	-ve	-ve	-	0.0	1	1.4	1	0.4
Ceftriaxone	+ve	-ve	21	10.3	6	8.6	27	9.9
Cefuroxime	+ve	-ve	5	2.5	1	1.4	6	2.2
Cephalexin	+ve	-ve	2	1.0	-	0.0	2	0.7
Chloramphenicol	-ve	-ve	1	0.5	2	2.9	3	1.1
Ciprofloxacin	+ve	-ve	142	70	30	42.9	172	63
Co-Trimoxazole	-ve	-ve	13	6.4	9	12.9	22	8.1
Crystalline penicillin	-ve	-ve	1	0.5	-	0.0	1	0.4
Doxycycline	-ve	+ve	99	48.8	18	25.7	117	42.9
Erythromycin	-ve	+ve	12	5.9	4	5.71	16	5.9
Fluconazole	-ve	-ve	1	0.5	-	0.0	1	0.4
Gentamycin	-ve	-ve	2	1.0	4	5.7	6	2.7
Ketoconazole	-ve	-ve	1	1.0	-	0.0	1	0.4
Metronidazole	-ve	-ve	67	33.0	16	22.9	83	30.4
Nalidixic Acid	-ve	-ve	1	1.0	-	0.0	1	0.4
Nitrofurantoin	-ve	-ve	1	0.5	2	2.9	3	1.1
Norfloxacin	+ve	-ve	7	3.4	6	8.6	13	4.8
Ofloxacin	+ve	-ve	-	0.0	2	2.9	2	0.7
Oxytetracycline	-ve	+ve	54	26.6	18	25.7	72	26.4
Pefloxacin	-ve	-ve	1	0.5	-	0.0	1	0.4
Penicillin	-ve	-ve	-	0.0	1	1.4	1	0.4
Potassium citrate	-ve	-ve	12	5.9	-	0.0	12	4.4
Probenicid	-ve	-ve	-	0.0	1	1.4	1	0.4
Procaine Penicillin	-ve	-ve	8	3.9	8	11.4	16	5.9
Spectinomycin	-ve	-ve	13	6.4	15	21.4	18	6.6

Figure 15 indicates the evaluation of the treatment mentioned for clients with a urethral discharge against *Neisseria Gonorrhoeae* (NG) and *Chlamydia trachomatis* (CT).

Figure 15: Evaluation of First Choice Treatment given to Clients with Urethral Discharge



The types of drugs mentioned as first choice treatment for female patients presenting with a vaginal discharge are shown in Table 22.

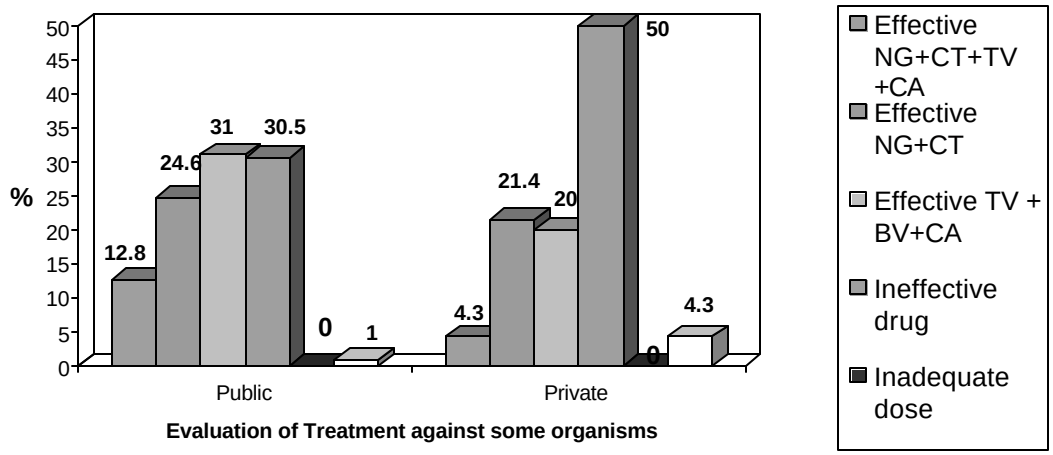
Table 22: Potential Effectiveness of First Choice Drugs used for Clients with a Vaginal Discharge against Selected Organisms

DRUGS	Potential Effectiveness				PUBLIC (n=203)		PRIVATE (n=70)		TOTAL (n=273)	
	NG	CT	TV/BV	CA	Freq	%	Freq	%	Freq	%
Amoxycillin/Ampicillin/Ampicillin with Cloxacillin/co-Amoxiclav	-ve	-ve	-ve	-ve	12	5.9	9	12.8	21	7.7
Azithromycin	+ve	+ve	-ve	-ve	1	0.5	-	0.0	1	0.4
Ceftriaxone	+ve	-ve	-ve	-ve	12	5.9	2	2.9	14	5.1
Cefuroxime	+ve	-ve	-ve	-ve	2	1.0	-	0.0	3	1.0
Ciprofloxin	+ve	-ve	-ve	-ve	106	52.2	26	37.1	132	48.3
Clindamycin	-ve	-ve	-ve	-ve	1	0.49	-	0.0	1	0.4
Clotrimazole	-ve	-ve	-ve	+ve	34	16.7	7	10.0	41	15.0
Co- Trimoxazole	-ve	-ve	-ve	-ve	5	1.0	3	4.3	8	2.9
Doxycycline	-ve	+ve	-ve	-ve	83	40.9	17	24.3	100	36.6
Econazole Cream	-ve	-ve	-ve	+ve	-	1.5	1	1.4	1	0.4
Econazole vaginal pessary	-ve	-ve	-ve	+ve	1	0.5	-	0.0	1	0.4
Erythromycin	-ve	+ve	-ve	-ve	10	4.9	5	7.1	15	5.5
Fluconazole	-ve	-ve	-ve	+ve	3	1.47	1	1.4	4	1.5
Gentamycin	-ve	-ve	-ve	-ve	1	0.5	3	4.3	4	1.5
Isoconazole nitrate vaginal pessary	-ve	-ve	-ve	+ve	-	0.0	1	1.4	1	0.4
Itraconazole	-ve	-ve	-ve	+ve	1	0.0	-	0.0	1	0.4
Ketoconazole	-ve	-ve	-ve	+ve	5	2.5	2	2.9	7	2.6
Metronidazole	-ve	-ve	+ve	-ve	168	82.7	46	65.7	214	78.3
Miconazole vaginal pessary	-ve	-ve	-ve	+ve	1	0.5	-	0.0	1	0.4
Miconazole vaginal pessary	-ve	-ve	-ve	+ve	56	27.6	13	18.6	69	25.3
Nitrofurantoin	-ve	-ve	-ve	-ve	-	0.0	1	1.4	1	0.4
Norfloxacin	+ve	-ve	-ve	-ve	2	1.0	2	2.9	4	1.5
Nystatin	-ve	-ve	-ve	+ve	18	8.9	4	5.7	22	8.1
Ofloxacin	+ve	ve	-ve	-ve	-	0.0	2	2.9	2	0.7
Oxytetracycline	-ve	+ve	-ve	-ve	-	0.0	19	27.5	68	24.9
Penicillin	-ve	-ve	-ve	-ve	-	0.0	1	1.4	1	0.4
Potassium citrate	-ve	-ve	-ve	-ve	3	1.5	-	0.0	3	1.1
Procaine penicillin	-ve	-ve	-ve	-ve	3	0.0	6	8.6	9	3.3
Spectinomycin	-ve	-ve	-ve	-ve	2	0.5	8	11.4	10	3.6
Sulphadimidine	-ve	-ve	-ve	-ve	-	0.0	1	1.4	1	0.4
Wokadine (workhardt)	-ve	-ve	-ve	-ve	5	2.5	-	0.0	5	1.8
*Others					1	0.5	3	4.3	4	1.8

* Others – represent drugs for which generic names could not be found.

Figure 16 indicates the effectiveness of treatment providers would give female patients presenting with a vaginal discharge against *Neisseria gonorrhoeae* (NG) and *Chlamydia trachomatis* (CT), *Trichomonas vaginalis* (TV), bacterial vaginosis (BV) and *Candida albacans* (CA).

Figure 16: Evaluation of first Choice Treatment given to Clients with Vaginal Discharge



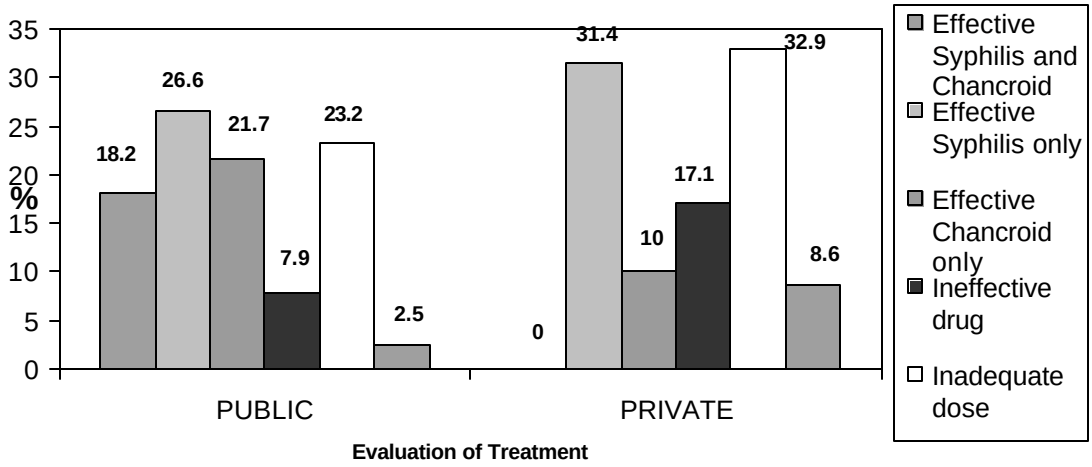
No response was coded for which had no drugs indicated for the conditions under consideration Providers were also asked what their first choice treatment would be for a male patient presenting with a genital ulcer. The drugs mentioned are listed in Table 23. Others represent drugs for which generic names could not be found.

Table 23: Drugs Mentioned for Treating a Male Patient with Genital Ulcer Disease and Their Potential Effectiveness Against Syphilis and Chancroid

DRUGS	Potential effectiveness		PUBLIC (n=203)		PRIVATE (n=70)		TOTAL (n=273)	
	Syphilis	Chancroid	Freq	%	Freq	%	Freq	%
Acyclovir cream/ Acyclovir	-ve	-ve	4	2.0	6	8.6	10	3.7
Amoxycillin/Ampicillin/Ampicloxacillin	-ve	-ve	9	4.0	6	8.6	15	5.5
Benzanthine penicillin	+ve	-ve	69	33.9	9	12.85	79	28.9
Ceftriazone	-ve	+ve	13	6.4	-	0.0	13	4.8
Cefuroxime	-ve	-ve	2	0.9	-	0.0	2	0.7
Cephalexin	-ve	-ve	3	1.4	-	0.0	3	1.2
Chloramphenicol	-ve	-ve	2	0.9	1	1.4	3	1.2
Ciprofloxacin	-ve	+ve	70	34.5	7	10.0	77	28.2
Clindamycin	-ve	-ve	1	0.5	-	0.0	1	0.4
Clotrimazole	-ve	-ve	1	0.5	1	1.4	2	0.7
Cloxacillin	-ve	-ve	3	1.5	-	0.0	3	1.2
Co- Trimoxazole	-ve	-ve	2	0.9	4	5.7	6	2.2
Crystalline penicillin	-ve	-ve	3	1.5	1	1.4	4	1.5
Doxycycline	+ve	-ve	42	20.7	7	10.0	49	17.5
Erythromycin	+ve	+ve	21	9.3	3	4.3	24	8.8
Eusol dressing	-ve	-ve	1	0.5	1	1.4	2	0.7
Fluconazole	-ve	-ve	1	0.4	-	0.0	1	0.4
Gentamycin	-ve	-ve	1	0.5	4	5.7	5	1.8
Gentian Violet paint	-ve	-ve	1	0.5	1	1.4	1	0.4
Iodine ointment	-ve	-ve	1	0.5	-	0.0	1	0.4
Ketoconazole	-ve	-ve	3	1.5	-	0.0	4	1.5
Metronidazole	-ve	-ve	27	13.5	12	12.1	39	14.3
Miconazole	-ve	-ve	3	1.5	3	4.2	6	2.2
Mupirocin 2% cream	-ve	-ve	1	0.49	-	0.0	1	0.4
Norfloxacin	+ve	-ve	2	0.9	-	0.0	2	0.7
Oxytetraxycline	+ve	-ve	41	20.2	1	1.4	65	23.8
Penicillin ointment	-ve	-ve	-	0.0	1	1.4	1	0.4
Potassium citrate	-ve	-ve	2	0.9	1	1.4	2	0.7
Povidine Iodine	-ve	-ve	-	0.0	1	1.4	1	0.4
Procaine penicillin	+ve	-ve	50	24.6	23	32.9	73	26.7
Sodium Fucidate ointment.	-ve	-ve	-	0.0	-	0.0	1	0.4
Spectinomycin	-ve	-ve	3	1.5	3	4.2	6	2.2
Streptomycin	-ve	-ve	-	0.0	2	2.9	2	0.7
Wokadine (workhardt)	-ve	-ve	-	0.0	1	1.4	1	0.4
Zinc ointment	-ve	-ve	-	0.0	1	1.4	1	0.4
*Others			1	0.5	1	1.4	2	0.7

The effectiveness of the drugs used in a male client presenting with a genital ulcer against syphilis and chancroid are found in Figure 17.

Figure 17: Evaluation of First choice Treatment given to Male Clients with Genital Ulcers



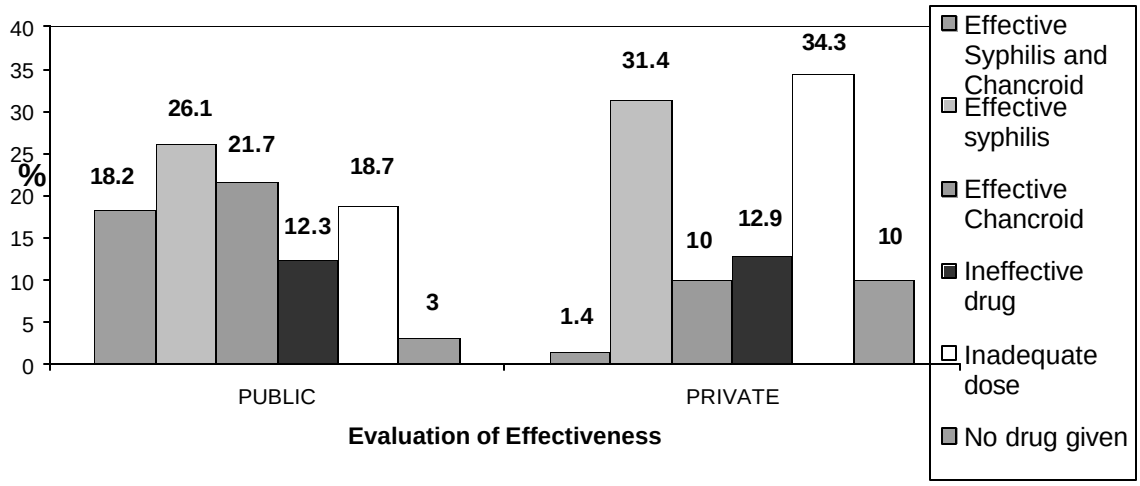
Providers were also asked what their first choice treatment would be for a female patient presenting with a genital ulcer. Their responses are indicated in Table 24.

Table 24: Evaluation of Treatment for Females with Genital Ulcer and Their Potential Effectiveness Against Syphilis and Chancroid

DRUGS	Potential Effectiveness		Public (n=203)		Private (n=70)		Total N=273)	
	Syphilis	Chancroid	Freq	%	Freq	%	Freq	%
Acyclovir	-ve	-ve	1	0.5	5	7.1	6	2.2
Amoxycillin/Co-Amoxiclav	-ve	-ve	12	5.9	8	11.4	20	7.3
Azithromycin Cream	-ve	-ve	1	0.5	-	0.0	1	0.4
Benzanthine penicillin	+ve	-ve	66	32.5	8	11.4	74	27.1
Ceftriaxone	-ve	+ve	15	57.4	-	0.0	15	5.5
Cefuroxime	-ve	-ve	2	1.0	-	0.0	2	0.7
Cephalexin	-ve	-ve	4	2.0	-	0.0	4	1.5
Chloramphenicol	-ve	-ve	2	1.0	1	1.4	3	1.1
Ciprofloxacin	-ve	+ve	73	36.0	8	11.4	81	29.7
Clotrimazole	-ve	-ve	5	2.5	-	0.0	5	1.8
Clotrimazole cream	-ve	-ve	1	0.5	-	0.0	1	0.4
Cloxacillin	-ve	-ve	4	2.0	1	1.4	5	1.8
Co-Trimoxazole	-ve	-ve	4	2.0	4	5.7	8	2.9
Crystalline penicillin	+ve	-ve	1	0.5	1	1.4	2	0.7
Dexamethasone	-ve	-ve	-	0.0	1	1.4	1	0.4
Doxycycline	+ve	-ve	44	21.7	8	11.4	52	19.1
Erythromycin	+ve	+ve	20	9.9	4	5.7	24	8.8
Eusol dressing	-ve	-ve	1	0.5	1	1.4	2	0.7
Fluconazole	-ve	-ve	1	0.5	-	0.0	1	0.4
Furacillin	-ve	-ve	-	0.0	1	1.4	1	0.4
GentainViolet paint	-ve	-ve	-	0.0	1	1.4	1	0.4
Gentamycin	-ve	-ve	1	0.5	3	4.3	4	1.5
Iodine based cream	-ve	-ve	2	1.0	-	0.0	2	0.7
Ketoconazole	-ve	-ve	3	1.5	1	1.4	4	1.5
Metronidazole	-ve	-ve	45	22.2	20	28.6	65	23.8
Miconazole	-ve	-ve	13	6.4	5	7.1	18	6.5
Mupirocin 2% cream	-ve	-ve	1	0.5	-	0.0	1	0.4
Norfloxacin	-ve	-ve	2	1.0	-	0.0	2	0.7
Oxytetracycline	+ve	-ve	41	20.2	20	28.6	61	22.3
Pefloxacin	-ve	-ve	-	0.0	1	1.4	1	0.4
Penicillin	+ve	-ve	1	0.5	-	0.0	1	0.4
Penicillin ointment	-ve	-ve	-	0.0	1	1.4	1	0.4
Potassium citrate	-ve	-ve	3	1.5	-	0.0	3	1.1
Povidine ointment	-ve	-ve	-	0.0	1	1.4	1	0.4
Procaine penicillin	+ve	-ve	40	19.5	24	34.3	64	23.4
Sodium Fucidate ointment	-ve	-ve	1	0.5	-	0.0	1	0.4
Spectinomycin	-ve	-ve	3	1.5	2	2.8	5	1.8
Streptomycin	-ve	-ve	-	0.0	1	1.4	1	0.4
Wokadine (Workhardt)	-ve	-ve	1	0.5	1	1.4	2	0.7
Other			1	0.5	1	1.4	2	0.7

The drugs given were assessed to determine their effectiveness against syphilis and chancroid and results presented in Figure 18.

Figure 18: Evaluation of First Choice Treatment given to Female Clients with Genital Ulcer



Providers were asked to mention their first choice of treatment for some specific conditions in the absence of a definitive diagnoses. Table 25 shows the results for drugs given for gonorrhoea.

Table 25: First Choice drugs for Treatment of Gonorrhoea

DRUGS	Potential Effectiveness	PUBLIC (n=203)		PRIVATE (n=273)		TOTAL (n=273)	
	NG	Freq.	%	Freq.	%	Freq.	%
Amoxycillin/Co-Amoxiclav	-ve	3	1.5	-	0.0	3	1.1
Azithromycin	+ve	-	0.0	1	1.4	1	0.4
Aztreonam	-ve	-	0.0	1	1.4	1	0.4
Benzanthine penicillin	-ve	8	0.9	-	0.0	8	3.0
Ceftriaxone	+ve	32	15.8	12	17.1	44	16.1
Cefuroxime	+ve	6	3.0	1	1.4	7	2.6
Cephalexin	-ve	1	0.5	-	0.0	1	0.4
Ciprofloxacin	+ve	97	47.8	23	32.9	120	43.8
Doxycycline	-ve	4	2.0	2	2.9	6	2.2
Erythromycin	-ve	1	0.5	-	0.0	1	0.4
Fluconazole	-ve	1	0.5	-	0.0	1	0.4
Gentamycin	-ve	-	0.0	1	1.4	1	0.4
Metronidazole	-ve	1	0.5	1	1.4	2	0.7
Norfloxacin	+ve	5	2.5	-	0.0	6	2.2
Ofloxacin	+ve	-	0.0	2	2.9	2	0.7
Oxytetracycline	-ve	5	2.5	-	0.0	5	1.8
Penicillin	-ve	-	0.0	1	1.4	1	0.4
Procaine penicillin	-ve	19	9.4	8	11.4	27	9.9
Spectinomycin	-ve	20	9.9	16	22.9	36	13.2

Table 26 is a summary of whether the first choice of treatment for gonorrhoea mentioned by the providers is recommended either by the national or WHO program or not.

Table 26: Appropriateness of Drugs Mentioned for Treatment of Gonorrhoea

APPROPRIATENESS OF TREATMENT	PUBLIC		PRIVATE		TOTAL	
	Freq	%	Freq	%	Freq	%
Fits National recommendation only.	-	-	-	-	-	-
Fits WHO recommendation only.	20	9.9	16	22.9	36	13.2
Fits both National and WHO	129	63.5	35	50.0		
Other effective treatment	8	3.9	4	5.7	12	4.4
Inadequate dose	-	-	1	1.4	1.0	0.4
Ineffective treatment	45	22.2	14	20.0	59	21.6
Uncertain efficacy	1	0.5	-	-	1	0.4
Total	203	100	70	100	273	100

Table 27 has the list of drugs mentioned as first choice treatment for non-gonococcal urethritis in the absence of a definitive diagnoses.

Table 27: First Choice Drugs Used for the Treatment of Non-gonococcal Urethritis and Their Potential Effectiveness Against *C. trachomatis*

DRUGS	Potential Effectiveness	PUBLIC (n=203)		PRIVATE (n=70)		TOTAL (n=273)	
	CT	Freq.	%	Freq.	%	Freq.	%
Amoxycillin/ Ampicloxacillin/ Co-Amoxiclav	-ve	10	4.9	7	10.0	17	6.2
Azithromycin	-ve	-	0.0	1	1.4	1	0.4
Azitromycin	+ve	-	0.0	2	2.9	2	0.7
Benzanthine penicillin	-ve	2	1.0	-	0.0	2	0.7
Ceftriaxone	-ve	5	2.5	-	0.0	5	1.8
Cefuroxime	-ve	4	1.7	-	0.0	4	1.5
Cephalexin	-ve	1	0.5	-	0.0	1	0.4
Ciprofloxacin	-ve	54	26.6	8	11.4	62	22.7
Clindamycin	-ve	1	0.5	-	0.0	1	0.4
Co-Trimoxazole	-ve	14	6.9	2	2.9	15	5.5
Doxycycline	+ve	35	17.2	16	22.8	51	18.6
Erythromycin	+ve	10	5.0	2	2.9	12	4.4
Furadantin	-ve	1	0.5	1	1.4	2	0.7
Gentamycin	-ve	2	1.0	-	0.0	2	0.7
Ketoconazole	-ve	1	0.5	-	0.0	2	0.7
Metronidazole	-ve	15	7.4	1	1.4	16	5.9
Nalidixic acid	-ve	1	0.5	1	1.4	2	0.7
Norfloxacin	-ve	2	1.0	-	0.0	2	0.7
Oxytetracycline	+ve	32	15.7	24	34.2	56	20.5
Penicillin	-ve	-	0.0	1	1.4	1	0.4
Potassium citrate	-ve	-	0.0	1	1.4	1	0.4
Procaine penicillin	-ve	6	3.0	2	2.9	8	2.9
Spectinomycin	-ve	4	1.7	-	0.0	4	1.5

Table 28 indicates appropriateness of the first choice of treatment for non- Gonococcal Urethritis with respect to available guideline.

Table 28: Appropriateness of Drugs used for Non–gonococcal Infections (Presumptive Diagnosis of Chlamydial Infection)

APPROPRIATENESS OF TREATMENT	PUBLIC		PRIVATE		TOTAL	
	Freq	%	Freq	%	Freq	%
Fits National recommendation only.	35	17.5	16	23.2	51	19.0
Fits WHO recommendation only	-	-	-	-	-	-
Fits both National and WHO	41	20.5	26	37.7	67	24.9
Other effective treatment	-	-	3	4.3	3	1.1
Inadequate dose	1	0.5	-	-	1	0.4
Ineffective treatment	123	61.5	23	33.3	146	54.3
Uncertain efficacy	-	-	1	1.4	1	0.4
Total	200	100	69	100	269	100

Table 29 indicates the first choice treatment mentioned by providers for the treatment of syphilis in the absence of a definitive diagnoses.

Table 29: First Choice Drugs Used in the Management of Syphilis and Their Potential Effectiveness Against *Treponema pallidum*

DRUGS	Potential Effectiveness	PUBLIC (n=203)		PRIVATE (n=70)		TOTAL (n=273)	
	Syphilis	Freq.	%	Freq.	%	Freq.	%
Amoxycillin/ Co-Amoxiclov	-ve	3	1.5	1	1.4	4	1.5
Benzanthine penicillin	+ve	82	40.3	16	22.1	98	35.8
Ceftrtixone	-ve	5	2.5	1	1.4	6	2.2
Cefuroxime	-ve	4	2.0	-	0.0	4	1.5
Ciprofloxacin	-ve	13	6.4	-	0.0	13	4.8
Cloxacillin	-ve	1	0.5	-	0.0	1	0.4
Co-Trimoxazole	-ve	-	0.0	1	1.4	1	0.4
Crystalline penicillin	+ve	4	2.0	2	2.9	6	2.2
Dexamethasone	-ve	-	0.0	1	1.4	1	0.4
Doxycycline	+ve	10	5.0	1	1.4	11	0.4
Erythromycin	+ve	1	0.5	-	0.0	1	0.4
Gentamycin	-ve	-	0.0	1	1.4	1	0.4
Norfloxacin	-ve	1	0.5	-	0.0	1	0.4
Oxytetracycline	+ve	4	2.0	4	5.7	8	2.9
Penicillin	-ve	11	5.4	6	8.6	17	6.2
Procaine penicillin	+ve	53	26.1	29	41.4	82	30.0
Spectinomycin	-ve	1	0.5	1	1.4	2	0.7

Table 30 indicates the appropriateness of the first choice treatment mentioned for syphilis.

Table 30: Appropriateness of Drugs Used as First Choice in the Treatment of Syphilis

APPROPRIATENESS OF TREATMENT	PUBLIC		PRIVATE		TOTAL	
	Freq	%	Freq	%	Freq	%
Fits National recommendation.	30	15.5	18	28.1	48	18.7
Fits WHO recommendation.	-	-	-	-	-	-
Fits both	85	44	16	25.0	101	39.3
Other effective treatment	1	0.5	1	1.6	2	0.8
Inadequate dose	46	23.8	21	32.8	67	26.1
Ineffective treatment	31	16.1	8	12.5	39	15.2
Total	193	100	64	100	257	100

Table 31 lists the drugs used as first choice treatment in the management of syphilis in the absence of a definitive diagnosis.

Table 31: First Choice Drugs for the Treatment of Chancroid

DRUGS	Potential Effectiveness	PUBLIC (N=203)		PRIVATE (n=70)		TOTAL (n=273)	
	Chancroid	Freq.	%	Freq.		Freq.	
Amo xycillin	-ve	2	1.0	1	1.4	3	1.1
Benzanthine penicillin	-ve	49	24.1	10	14.3	59	21.6
Ceftriaxone	+ve	8	0.9	-	0.0	8	3.0
Cefuroxime	-ve	3	1.5	-	0.0	3	1.1
Ciprofloxacin	+ve	28	13.8	4	5.7	32	11.7
Clindamycin	-ve	1	0.5	-	0.0	1	0.4
Co- Trimoxazole	-ve	1	0.5	1	1.4	2	0.7
Crystalline penicillin	-ve	4	2.0	1	1.4	5	1.8
Doxycycline	-ve	14	6.9	5	7.1	19	7.0
Erythromycin	+ve	7	3.4	1	1.4	8	3.0
Gentamycin	-ve	-	0.0	2	2.9	2	0.7
Gentian Violet paint	-ve	1	0.5	-	0.0	1	0.4
Metronidazole	-ve	2	1.0	-	0.0	2	0.7
Norfloxacin	-ve	1	0.5	-	0.0	1	0.4
Oxytetracycline	-ve	17	8.4	1	1.4	36	13.2
Procaine penicillin	-ve	45	22.2	14	20.0	59	21.6
Spectinomycin	-ve	1	0.5	1	1.4	2	0.7
Sulphonamide	-ve	-	0.0	1	1.4	1	0.4
Whitfield's ointment	-ve	1	0.5	-	0.0	1	0.4

Table 32 indicates the appropriateness of the first choice treatment for the treatment of chancroid.

Table 32: Appropriateness of Drugs Used as First Choice in the Treatment of Chancroid

APPROPRIATENESS OF TREATMENT	PUBLIC		PRIVATE		TOTAL	
	Freq	%	Freq	%	Freq	%
Fits National recommendation.	-	-	-	-	-	-
Fits WHO recommendation.	-	-	-	-	-	-
Fits both	40	21.6	5	8.2	45	18.3
Other effective treatment	17	9.2	19	31.1	36	14.6
Inadequate dose	1	0.5	-	-	1	0.4
Ineffective treatment	124	67.0	37	60.7	161	65
Uncertain efficacy	3	1.6	-	-	3	1.2
Total	185	100	61	100	246	100

3.2.5 Education and Counselling

Table 33 shows the education given to patients who present with STDs. Service providers appear to give the relevant education particularly by telling their sexual partners to seek care.

Table 33: Education Given to STD Clients

EDUCATION	Yes		Prompted Yes	
	PUBLIC % (n=203)	PRIVATE % (n=70)	PUBLIC % (n=203)	PRIVATE % (n=70)
Education to patients to take all medicine prescribed	46.8	44.3	52.2	55.7
Education to patients to use condoms	59.1	66.6	32	26.1
Education to patients to tell their sexual partners to have treatment	87.2	92.9	11.3	5.7

Some specific questions related to condom availability and supplies were asked. Responses are found in Table 34. Most public facilities tended to have a stock of condoms at their facilities. Only 20(28.6%) of private providers said they kept a stock of condoms in their clinics. The stock levels were perceived to be adequate (Table 35). Four public facilities were found to be stocking expired condoms.

Table 34: Issues Related to Condoms

ISSUES RAISED	Yes		NA	
	PUBLIC % (n=203)	PRIVATE % (n=70)	PUBLIC % (n=203)	PRIVATE % (n=70)
Supply of condoms kept in Clinic	88.6	28.6	-	0
Provide patients with condoms	26.6	24.3	11.5	71.4
Condoms provided free	30.1	8.6	73.4	75.7
Instructions given on condom use	35.3	38.5	-	0

Table 35: Condom stocks available in the facilities visited

NUMBER OF CONDOM STOCKED	Public		Private	
	Freq	%	Freq	%
Do not stock	23	11.3	50	72.5
Out of stock	5	2.5	0	0
1-999	85	42	18	26
>1000	86	42.4	0	0
Expired	4	2.0	0	0
Total	203	100	69	100

3.2.6 Referral

Most providers used the patient form of referral as opposed to provider referral. The various patient referral system used are shown in Table 36.

Table 36: Type of Patient Referral Used

TYPE OF REFERRAL	Yes		NA	
	PUBLIC % (n=203)	PRIVATE % (n=70)	PUBLIC % (n=203)	PRIVATE % (n=70)
Index	94.6	95.7	1.5	1.4
Card	2.0	98.6	1.5	0
Slip	18.2	12.9	1.5	1.4

3.2.7 Constraints in STD management.

Providers were asked where their patients usually obtained the drugs prescribed for them. 73 (36.0) and 23 (33.3%) of providers in the public and private facilities respectively said their clients obtained their drugs from their facilities and paid for them. 124 (61.1%) and 42 (60.9%)

respectively said their clients got part of their drugs from their facilities and part from pharmacies/chemist.

Providers were asked if they gave drugs to prevent clients from contracting AIDS (Prophylaxis). None of them did in both the public and private facilities. All providers in both public and private facilities indicated that they used disposable syringes and none of them had reusable syringes.

47 (23.2 %) in the public facilities and 5 (7.1%) in private facilities had problems with their drug supplies. Examples of some of the problems faced were high costs of drugs leading to insufficient stock, irregular supply of drugs leading to shortages and non-availability of some of the drugs. Providers were asked if there were any particular drugs that they felt were essential for the treatment of STDs but to which they did not have access. Sixty-eight (33.5%) in the public facilities and 16(22.9%) in the private said they did and their responses are listed in Table 37.

Table 37: Drugs for Which Providers had Limited Access

DRUGS	Public facilities		Private facilities	
	Freq (n=68)	%	Freq (n=16)	%
Acyclovir	-	0.0	1	6.3
Antiretroviral drugs	-	0.0	2	12.5
Azithromycin	1	1.5	-	0.0
Benzanthine penicillin	8	11.2	-	0.0
Ceftriaxone	27	39.2	4	2.5
Ciprofloxacin	9	13.2	5	31.2
Doxycycline	4	5.9	2	12.5
Erythromycin	2	2.9	-	0.0
Ketoconazole/Clotrimazole/Miconazole pessary	9	13.2	-	0.0
Norfloxacin	1	1.5	-	0.0
Oxytetracycline	-	0.0	1	6.3
Others	2	2.9	1	6.3

Main constraints faced in their work with STD management are shown in Table 38.

Table 38: Constraints with STD Management

CONSTRAINTS	PUBLIC		PRIVATE	
	Freq	%	Freq	%
No constraints	50	19.5	13	16.0
Non compliance of patients to treatments prescribed/counselling	46	18.0	32	39.5
Reluctance of patients to bring / trace / inform partner	50	19.5	16	19.8
Cost of drugs or cost issues	35	13.6	15	18.5
Absence of relevant literature/ equipment	43	16.8	4	4.9
No privacy in consulting rooms	22	8.6	0	0
Limited time to counsel patients properly /Quality of Care	9	3.5	0	0
Medical Assistants are not allowed to physically examine female patients	1	0.2	0	0
Ineffective treatment due to drug imitation	0	0	1	1.2

3.2.8 Management Guidelines

156 (76.8%) of providers in the public facilities and 23 (32.9%) of private providers said they used a specific treatment guideline. Of these, 145 (93%) of providers in the public facilities said they used the national guidelines as compared with 17 (74%) of providers in the private sector. 5 (3.2%) on providers in the public facilities as compared with 3 (13%) in the private facilities said they used the WHO guidelines. Other guidelines used were the handbook on the management of STD, the list of essential drugs, MIMs and the Merck's manual in the public facilities and the Canadian STD guidelines 1948 and MIMs AGUCA in the private facilities. 147 (72.4 %) of providers in the public sector and 18 (25.7%) in the private sector had received a copy of the guidelines recommended by the National STD Control Programme.

3.2.9 Modified PI 6&7

Table 39 shows the evaluation of the treatment mentioned per facility per region. Again only the initial three regions are presented, as sample sizes in the other seven were too small for statistical significance

Table 39: Indicators of Treatment per Facility per Region

Regions	Greater Accra Region			Ashanti Region			Northern Region		
Type of facilities	**Private**	**Public**	**Total**	**Private**	**Public**	**Total**	**Private**	**Public**	**Total**
n	**69**	**53**	**122**	**57**	**15**	**72**	**26**	**2**	**28**
	%	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Adequate history	97.1	100	98.4	98.2	100	98.6	80.8	100	82.1
Adequate Examination	73.9	47.5	74.6	68.4	53.3	65.3	69.2	50.0	67.9
Adequate Treatment	2.9	5.7	4.1	0	0	0	0	0	0
PI6	1.5	1.9	1.6	0	0	0	0	0	0
Education on condom use	97.1	94.3	95.9	89.5	80.0	87.5	96.1	100	96.4
Partner Notification	98.5	96.2	97.5	98.2	100	98.6	96.1	100	96.4
PI7	97.1	90.6	94.3	87.7	80.0	86.1	92.3	100	92.9
PI6&PI7	1.4	1.9	1.6	0	0	0	0	0	0

Figure19 show the evaluation of the interviews in the three main regions. The others were not used as the sample sizes were too small.

Figure 19: Evaluation of Performance Using the Key Indicators per Region

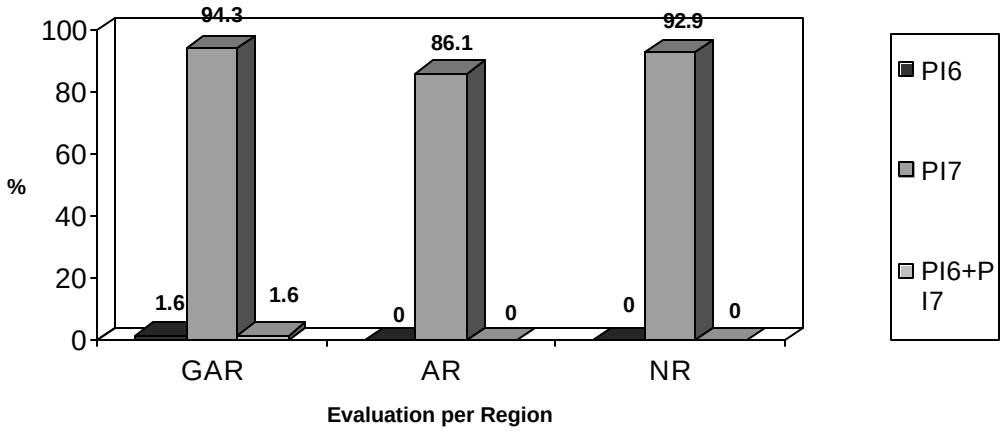


Figure 20 shows the evaluation of the performance of medical Assistants and Doctors. Although more Doctors were interviewed than Medical Assistants, more medical Assistants have been trained in the syndromic management than Doctors. Only one Medical Assistant in Private practice was interview thus this is not indicated here.

Figure 20: Evaluation of Consultation by Medical Assistants and Doctors

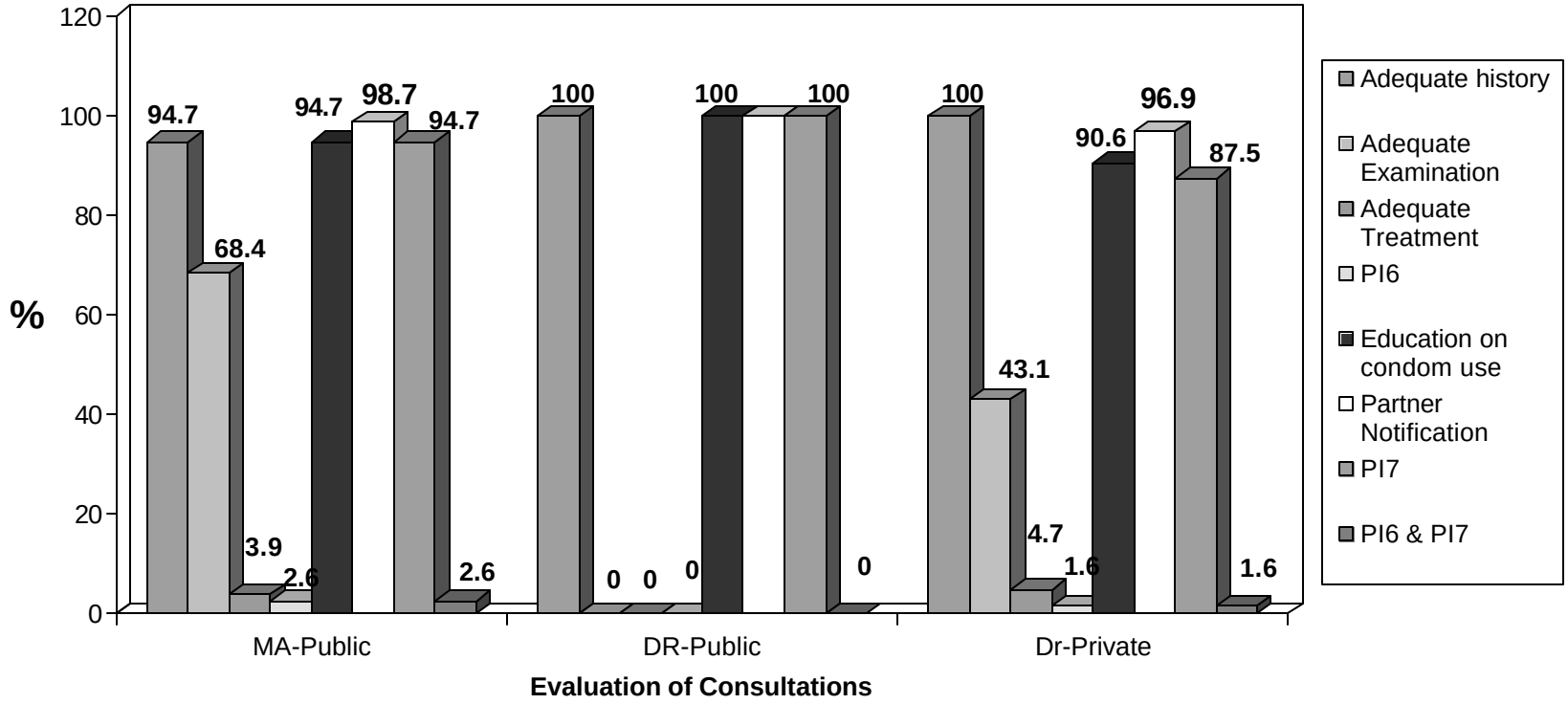
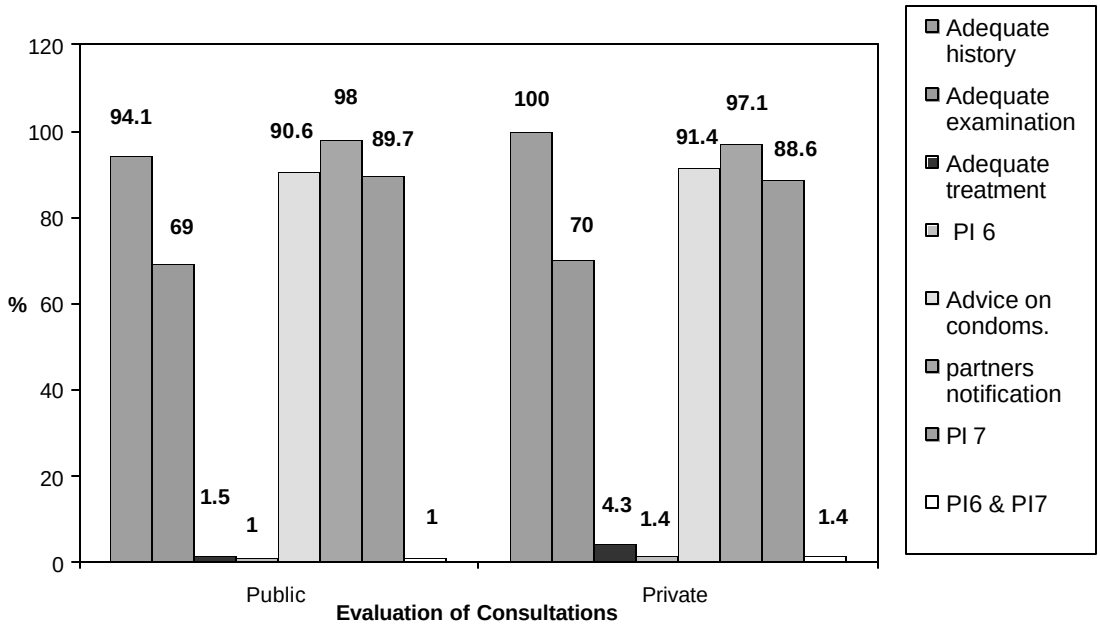


Figure 21 shows the evaluation of the all providers who were interviewed.

Figure 21: Evaluation of all Consultations



The performance of all providers when observed were compared to when interviewed and this is shown in Figure 21. In all instances each provider was observed during consultation with at least one, or at most three STD clients. Thus 181 observations were carried out by 74 providers.

The modified P I 6 for all interviews

$$= \frac{\text{Number of persons appropriately "assessed \& examined and treated"}}{\text{Number of persons presenting}}$$

=3/273

Modified PI 6 = 1.1%

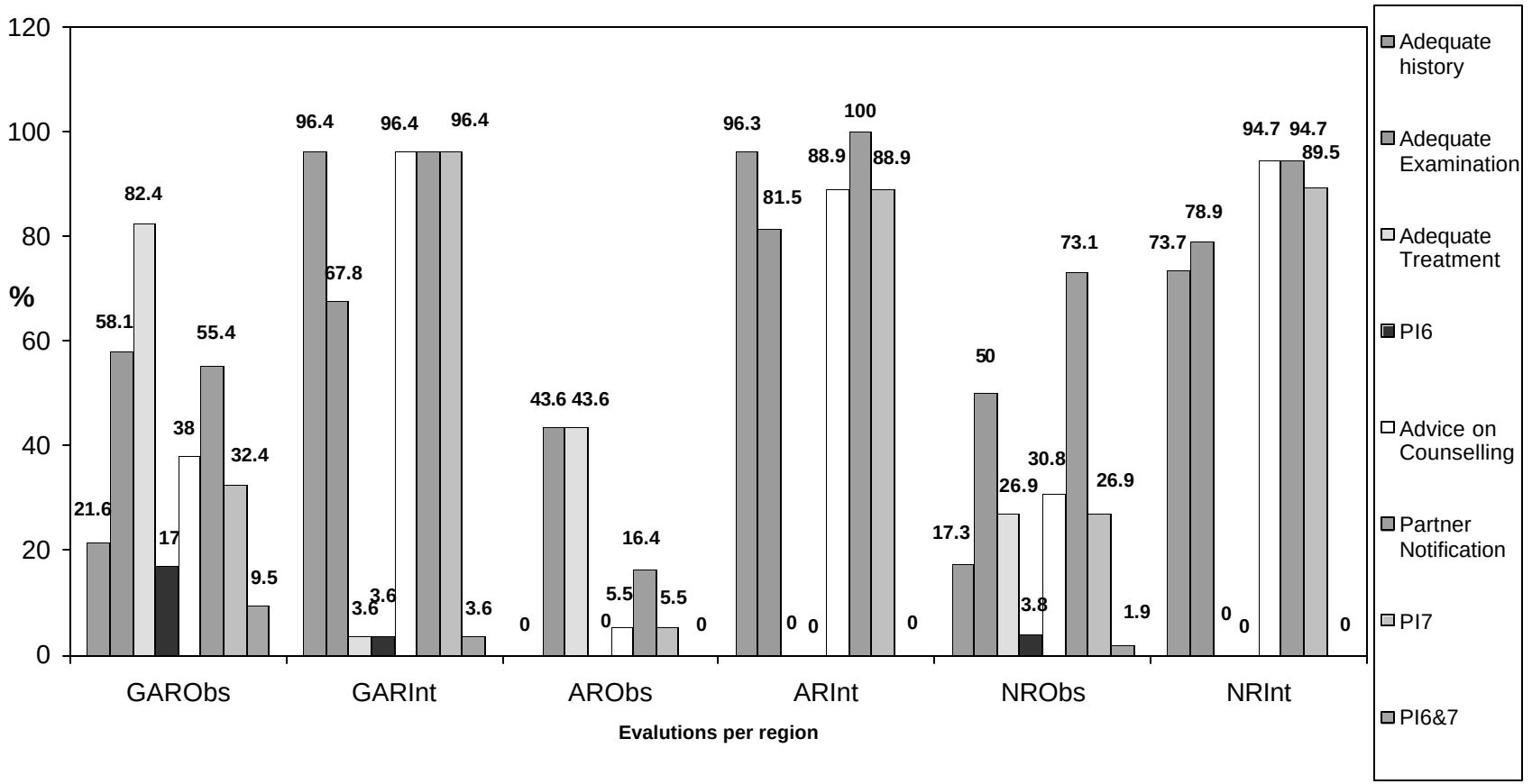
The PI 7 = number of persons receiving appropriate advice on condom use and

$$\frac{\text{Partner notification}}{\text{Number of persons presenting}}$$

= 244/273

Modified PI 7= 89.4%

Figure 22: Performance of Providers when Observed against when Interviewed



3.3 Pharmacy survey

In all, 250 pharmacies were visited and simulations began on the 14th of August and ended on the 8th of September. 317 simulations were done and this number exceeded the required because in Greater Accra region both the male and female simulators visited some shops. In all there were166 (52.4%) male simulations and 151(47.6) female simulations. 18 districts were visited in the three regions chosen.

3.3.1 General characteristics.

217 male attendants and 88 female attendants attended to the simulators. No data on the sex of the sales person was indicated in 12 simulations. Table 40 showing the sex of the simulator against the sex of the attendant.

Table 40: Sex of Shoppers against Sex of Attendants

SEX	Male Shoppers		Female Shoppers		Total	
	Freq	%	Freq	%	Freq	%
Male Attendants	124	74.7	93	61.6	217	68.5
Female Attendants	35	21.1	53	35.1	88	27.8
Missing data	7	4.2	5	3.3	12	3.8
Total	166	52.4	151	47.6	317	317

Male mystery shoppers simulating urethral discharge were seen by male attendants 124 times (74.7%) and 35 times (21.1%) by female attendants. Female mystery clients simulating vaginal discharge were attended to by females 53 (35.1%) times and by male attendants 93 (61.6%) times.

3.3.2 Referrals

48/317 (15.1%) were referred to a doctor two of whom were a nurse and a medical field unit technician, thus ending the interview. They are thus excluded from further analysis Six out of 317 (1.9%) were referred to a pharmacist first by the shop attendant and then treated. No one was sent to the laboratory. 263/317 (83.3%) were attended to by the attendants at the counter. Thus in all 269/317 were treated.

3.3.3 Signs and symptoms

Table 41 indicates if Attendants asked any questions about the presenting symptoms.

Table 41: Questions Asked by Sales Person

QUESTIONS ASKED	YES	
	Freq (n=269)	%
Attendant asked about Presenting symptoms	157	58.4
Attendant asked about Onset/duration of symptoms	191	71.0
Attendant asked about Recent sexual contacts	84	31.2

157/269 (58.4%) of salespersons asked questions about the symptoms that were presented where as 112/269 (41.6%) did not. In 191/269 (71.0%) simulations, salespersons asked about when the symptoms had began or the duration of the symptoms, whereas 78/269 (29.0%) did not and 84/269 (31.2%) asked about recent sexual contacts but 184/269 (68.4%) did not. This information was not filled on one questionnaire.

3.3.4 Treatment

Out of 269 for whom the interview continued, 13/269 (4.8%) shoppers were refused treatment because they had insufficient money and were asked to come back with money before they would be told their treatment The remainder 256/269 (95.2%) were treated. For those who were treated, the drugs to be used in treatment were named in 220/256 (85.9%) of the cases. Data was missing in one case. 65/256 (25.4%) of attendants were however willing to sell part of the treatment to the client, and 9/256 (3.5%) said that part of the drugs was okay for the treatment. Again data was missing in one instance. Only 2/256 (0.8%) were asked about any allergies before dispensing the drugs. 229/256 (89.5%) were told how to take all the medications prescribed, and 165/256 (64.5%)) were told about the importance of completing the full course of treatment. The list of drugs for the various syndromes provided by the attendants is indicated in Table 42. These are classified as to whether they met the National or WHO guidelines and these are indicated in Table 43.

Table 42: List of Drugs Mentioned by Attendants for the Treatment of Urethral Discharge and Vaginal Discharge

DRUGS	Vaginal Discharge		Urethral Discharge	
	Freq	%	Freq	%
Amoxycillin/ Co -Amoxyclav	25	16.5	9	5.4
An injection	1	0.7	-	-
Ceftriaxone	-	-	24	14.4
Chloramphenicol	1	0.7	1	0.6
Ciprofloxacin	21	13.8	33	19.8
Clotrimaxole	18	11.9	-	-
Cloxacillin	4	2.6	-	-
Co- Trimoxazole	9	5.9	2	1.2
Doxycycline	15	9.9	47	28.2
Erythromycin	2	1.3	-	-
Fluconazole	1	0.7	-	-
Frusimide	2	1.3	1.0	0.6
Gentamycin	-	-	6	3.6
Griseofulvin	-	-	1	0.6
Mebendazole	1	0.7	-	-
Metronidazole	56	37.0	19	11.4
Miconazole nitrate 2%	3	1.9	-	-
Nalidixic Acid	1.0	0.6	1	0.6
Nicorlic	-	-	29	17.4
Nofloxacin	2	1.2	5	3.0
Nystatin	19	12.5	-	-
Oxyteramycin	12	7.9	31	18.6
Pefloxacin	1	0.7	8	4.8
Penicillin	3	1.9	1	0.6
Potassium Citrate	10	6.6	10	6.0
Potassium permanganate	-	-	2	1.2
Procain Penicillin	2	1.3	4	2.4
Rifampicin	5	3.3	7	4.2
Spectinomycin	-	-	25	15.0
Undecenoic acid 5%, zinc undeconoate 20% cream	1	0.7	-	-
Vitamin K	1	0.7	-	-
Wokadine (Workhardt)	3	1.9	-	-
Others	3	2.1	2	1.2

Drugs that were given to the shoppers were also evaluated as to whether or not they conformed to national or WHO guidelines. Most of the drugs prescribed were either inadequate or ineffective and these constituted 16 of the 22 different types of drugs prescribed and were given 93 different times.

Table 43: Drugs Offered to Shoppers

CRITERIA	Urethral Discharge (n=22)			Vaginal Discharge (n=30)		
	Freq	%	# of times prescribed	Freq	%	# of times prescribed
National recommendation only	0	-	-	0	-	-
WHO recommendation only	1	4.5	25	0	-	-
Both National and WHO	4	18.2	135	5	16.7	106
Acceptable alternative	1	4.5	13	5	16.7	41
Inadequate dose/ Ineffective treatment	16	72.7	93	19	63.3	75
Total	22	100	268	30	100	222

Multiple responses were recorded.

3.3.5 Education and Counselling

One hundred and nineteen out of 269 shoppers (44.2%) were told they had a sexually transmitted disease. Only 9/269 (3.3%) discussed AIDS/HIV prevention with their clients. Only 25 (9.3%) promoted condoms use for STD/HIV prevention. And of those who promoted condom use, only 8/25 (32.0%) offered instructions on condom use. 59/269 (21.9%) were urged to refer their partners for treatment.

3.3.6 Modified PI 6 &PI 7

The consultations between the providers and clients were evaluated by region (figure 23) and using the key indicators (Figure 24). In assessing this, all those for whom the interviews ended are not included. Thus, 81/269 (30.1%) asked all the relevant questions whereas 188/269 (69.6) % did not ask all the relevant questions. Only 25/ 256 (9.8%) were given appropriate treatment for the condition presented. Only 25/269 (9.3%) were given advice on condom use and 59/269 (21.9%) were advised to notify their partners. Only 7/256 (2.7%) asked all the relevant questions, gave the right treatment in the right quantities and doses and gave appropriate advice on condom use and partner notification. For the 48 who were referred to the Dr and therefore excluded, only one 1/48 (2.1%) asked about condom use and talked about partner notification PI7 for this is thus (2.1%), not really different from the rest of the group.

Figure 23: Evaluation of Pe rformance per Region - Pharmacy Survey

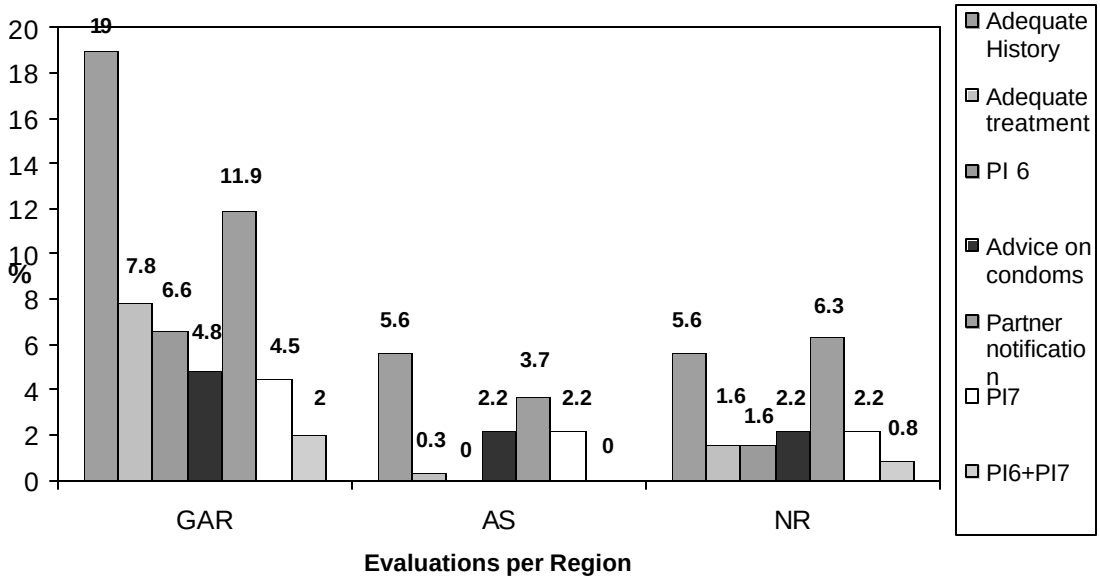
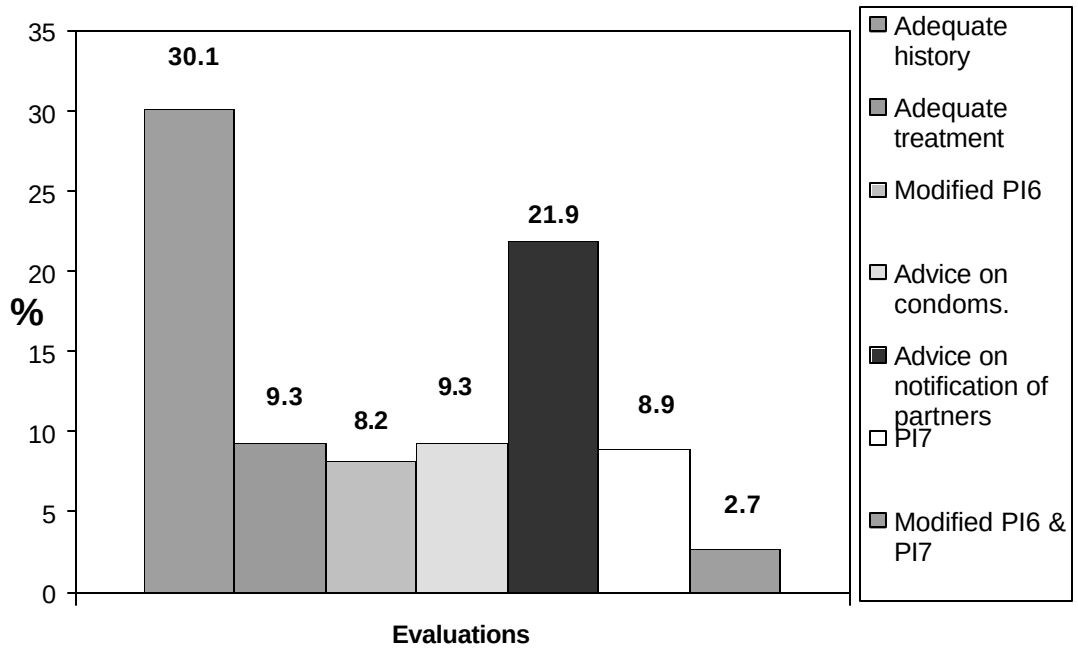


Figure 24: Evaluation of Consultations by Chemical Shop and Pharmacy Attendants



The modified P I 6 = number of persons appropriately assessed & treated

Number of persons presenting

= 21/256

PI 6= 8.2%

The PI 7 = number of persons receiving appropriate advice on condom use and

Partner notification

Number of persons presenting

= 24/269

PI7 = 8.9%

PI6&7

= 7/ 256

= 2.7

4 Discussions

4.1 Methodological issues

Traditionally, several methods for assessing the management of STDs are available. In this study the following methods were used:

- Direct observation of provider-patient encounter
- Interviews of providers
- Simulated clients at pharmacies.

These methods were chosen because the observation of provider-patient encounters gives a more complete picture of what is actually done during case management. This supplemented with interview of provider provides enough information on the process and content of consultations. However during observations the provider could alter their normal practice and it is also difficult to follow the provider's diagnostic thought process.[12] The use of mystery clients presenting at pharmacies provides added information on the substantial number of STD patients who seek care at the pharmacies. The other methods that are available include:

- Review of patient records

- Exit interview of patients
- Simulated patients at clinics

These methods were not used because patient records are usually incomplete particularly as regards counselling and it is not possible to recover missing information. Secondly with exit interviews, patients are unable to distinguish or understand certain aspects of a physical examination or they may not remember all the tasks the provider carried out. Simulated patients at clinics were not used because while the genital examination of males is relatively straightforward, the female genital examination is not and it would have been very difficult to pass a study with any unnecessary female internal genital examination through any ethical review board. In addition simulated patients do not have clinical signs so the handling of their cases is likely to be atypical. In the light of the above arguments, our field experience, and the fact that the tools were applied properly, we can conclude that our findings are fairly reliable.

4.2 Treatment of STDs

Early and effective treatment of STDs is an important part of STD control. The goals of case management are to cure the disease, prevent complications and sequelae, to prevent transmission of infection to others.[13]

4.2.1 History

Effective clinical treatment requires adequate history taking, examination and treatment. During the observations the nature of the symptoms presented and their onset or duration were the most frequently asked questions. Typically, history taking began with what is wrong, when did it begin or how long has this been going on. Questions more specific to STD were less frequently asked i.e. the history and symptoms of sexual contacts and partner change. These are vital questions that help a provider to assess the risk status of a client. The age and marital status are also important steps in the risk assessment. For example in the algorithm for vaginal discharge it enables one distinguish between patients who should be treated as potential cases of cervicitis and those who should be treated as cases of vaginitis, and this is important because of consequences of an improperly treated cervicitis. Symptoms of cervicitis and vaginitis tend to overlap. Abnormal (in amount, colour or odour) vaginal discharge is the symptom most commonly presented, but it is more predictive for vaginitis than for cervicitis. The sensitivity of the symptom vaginal discharge

[12] Franco LM, Daly CC, Chilongozi D, Dallabetta G (1997). Quality of Case management of sexually transmitted diseases: comparison of the methods for assessing the performance of providers. Bulletin of WHO, 75: 523-532.
[13] Control of Sexually Transmitted Diseases

for cervicitis varies from 25 percent (prostitutes in Zaire) to 48 percent (STD patients in USA). Thus the most probable cause of a woman complaining of vaginal discharge is vaginitis. Cervicitis is a less frequent cause of a consultation for vaginal discharge, but the complications of untreated cervicitis are much more serious. Several studies in pregnant and asymptomatic women have demonstrated that risk markers, rather than signs and symptoms, are predictive for gonococcal and/or chlamydial cervicitis. The risk assessment flowcharts still need more validation and adaptation to different cultural setting. The feasibility and acceptability of asking highly personal questions (such as number of partners) should also be assessed. In situations where a speculum examination is possible, the clinician can try to differentiate between various aetiologies of vaginal discharge

The history of a client becomes even more relevant where no laboratory facilities exist and providers can only rely on the clinical signs and symptoms. However there are problems with the sensitivity of vaginal discharge algorithm. If a woman is above the age of 21 and is married but has no clue as to her partners other sexual partners, how is she assessed? This is one of the limitations of the syndromic management risk assessment approach. The risk assessment is based on probabilities, worked out by algorithm evaluation studies. What happens is that a sample of patients presenting with syndromes are managed syndromically, but a full aetiological work-up is done. From this one is able to work out the sensitivity/specificity/positive and negative predictive values for the syndromic algorithms. It is then possible to do sensitivity analysis for different risk assessment parameters, e.g. use of age<21 or age<25 as a diagnostic discriminator. A single, universally applicable model for STD flowcharts does not exist, thus when we treat women for cervicitis, we are not making a diagnosis, but rather saying "on the balance of probability, it is considered worthwhile to treat for *Neisseria gonorrhoeae* and *Chlamydia trachomatis*, in addition to *Trichomonas vaginalis* and bacterial vaginosis. Negative answers do not necessarily mean an absence of risk, rather patients may simply be ignorant of their partners habits. Local data on aetiology and antimicrobial susceptibility are needed to design an effective flowchart. Unfortunately these studies have not yet been done in Ghana. In some countries, where they have done the studies, they use age <25 as the age discriminator to feed in to the risk assessment. Thus epidemiological assessment of risk based on identification of pathogens is necessary.

Many public health providers have received training in the syndromic management especially in the Greater Accra, Eastern and Ashanti Regions. We did not record whether providers referred to

their algorithms while consulting or not. The results indicate that only 28 (11.6%) asked all the relevant questions and yet training on the syndromic management took place only two years ago. This highlights the importance of continued training monitoring and supervision after training. Interestingly, 94.1% of public sector providers and 100% of private sector providers claimed to take an adequate history during the interviews. This difference between the observed and reported adequate history taking was mainly due to the fact that most providers did not ask questions relating to recent sexual contact. Traditionally enquiring about other sexual contacts is considered embarrassing and most providers tend to avoid that. This is however very important in the effective management of STDs. Thus a more appropriate way of eliciting such information needs to be explored. Overall, there were differences between the performances of providers as they were being observed compared to when they were interviewed. In Greater Accra Region for example providers performed better when asked about how they took the history and examined a patient during the interview but performed poorly when asked about how they would treat certain STD's. This may be because the providers were required to mention their first choice treatment for several conditions and any inaccurate answers rendered the entire evaluation for treatment inadequate, whereas during the observations, they had only one type of STD to focus on. Thus perhaps their performance when faced with a real case is better than when dealing with abstract conditions. However, as by and large the performance in the interviews were better than when they were observed one may infer that providers do have a general idea about what they should do but only do this when they are being observed. If this is true then perhaps strengthening supervision will help improve and sustain better practice.

The simulated client study shows that 157/269 (58.4%) simulated clients were asked about present symptoms, 191/269 (71.0%) were asked about the onset or the duration of the symptoms, and 84/269 (31.2%) were asked about their recent sexual contacts. History taking during STD management must be improved since only 81/269 (30.1%) of the clients were asked all tree relevant questions

4.2.2 Examination

Examination of clients is crucial in all the algorithms for syndromic management of STDs. In this study examination of males was better (75%) than that of female clients (64.7%). Similar finding have been reported in Accra, Ghana.[14] Speculum examinations and bimanual examinations are

[14] CIDA (1998). Resultsat de la premiere mesure enquete IP6/IP7 au Ghana. Unpublished report

not mandatory for the syndromic management. These were done in only (5.9%) of women. The simulated client study has no data on examination of STD patients, as pharmacists do not examine even though they play an important role in the control of STDs.

Laboratory examinations can be very useful if results are readily available. In syndromic management approach however, treatment is recommended without laboratory results. Laboratories are often not present in most clinics and those available certainly do not have the equipment to carry out a wide range of tests for aetiologic diagnosis. Even when these facilities are available, they are expensive and are thus out of the reach of many clients. Laboratory tests requested during the observation were thus not included in the assessment of the provider's performance. In spite of this, the need for laboratory backup for in case management, especially at the secondary and tertiary levels cannot be over emphasised.

4.2.3 Diagnosis and treatment

An important determinant for successful STD management is the availability of effective drugs for effective treatment. Effective treatment comprises right drug in the right dose for the right duration. Although we did not inquire from providers what form of diagnosis they were using, at the end of the consultation, an evaluation was made as to whether the treatment given was syndromic or aetiologic and whether the treatment was effective or not. 119 (49.4) providers provided adequate syndromic management and 5 (2.1%) provided effective aetiologic treatment. The rest of the treatments 110 (45.6%) were ineffective. However the diagnoses as written by the providers indicate that 125 (51.9) recorded diagnoses using the syndrome. The others gave definitive diagnoses such as syphilis, candidiasis, etc. The ones who gave a diagnosis of syphilis, candidiasis, etc were using aetiologic diagnosis (effectively or otherwise) and those who diagnosed cervicitis, vaginitis, urethral discharge etc. used syndromic management.

Many drugs that are not recommended were in use. Evidence from data available in Ghana indicates that Co-Trimoxazole and Oxytetracycline only have 3% susceptibility to Neisseria gonorrhoea and yet they are still being used. Pockets of resistance have also been noted to spectinomycin, however it is still one of the WHO recommended alternatives for gonorrhoea and is being used by some providers. Other drugs which have no place in STD management such as Diflucan, gentamycin, bethnovate cream a steroid were used and a lot of training is needed in the area of rational drug use. For clients diagnosed as having urethral discharge 15 (60%), received

treatment that was effective. Only one client received the appropriate drug in insufficient quantities. For those diagnosed as having any of the vaginal discharge syndromes, approximately half of them were treated effectively (Figures 6 & 7). None of the 47 diagnosed PID were assessed to have been treated adequately. 66% of the treatments drugs given were assessed to be ineffective.

Educating patients about their own drug treatment is very important. Patients might be in a better position to help themselves if they understood the importance of taking full-prescribed courses. In the pharmacy component of this study, even though the drugs to be used in treatment were named in 220/256 (85.9%) of the cases few simulated clients 229/256(89.5%) were told how to take all the medications prescribed. In addition, 165/256(64.5%) were educated on the importance of completing the full course. Only 2/256 (0.6%) providers asked about allergies before prescribing the drugs. From this study it can be said that it is important that providers improve on their patient education as "inadequate or nonexistent patient education about prescribed drugs, including instructions about how, when and for how long to take it, result in poor patient compliance with the required treatment".[15]

4.3 Education and counselling

4.3.1 HIV/AIDS prevention

STDs are known to facilitate the acquisition and transmission of HIV/AIDS, thus providers need to counsel and educate their clients on AIDS/HIV prevention as prevention is the most essential and effective means of reducing or controlling the spread of STDs and AIDS/HIV. Findings from this study indicate that out of 119/269 (44.2%) simulated clients who were told they had a sexually transmitted disease only 9(3.3%) had counselling on STD/HIV prevention.

This is another crucial part of STD control part an area for which little attention is paid in the clinic setting and certainly insufficient time often allotted to. Providers often do not have the requite skill to do proper counselling and sometimes just make a statement asking the partner to use a condom or bring the partner for treatment. This is termed education and involves giving patients practical information about their STD, its name, symptoms and treatment as well as

[15] Control of sexually transmitted Diseases

helping the patient to understand how STD is spread and why it is so important to treat them. Counselling however is defined as "face to face communication between person with a problem and a person trying to help solve the problem". It is about helping a patient to make changes to their attitudes and behaviour that may put them and their partners at risk. During the observations, only active dialogue that involved client participation were recorded as positive. A quarter 63 (26.1%) provided adequate counselling on condom use and half, 127 (52.7%) advised on partner notification. Communicating all counselling messages thoroughly may take as long s 20 minutes.[16] Some modules suggest specially trained counsellors to talk to patients after their consultation however this breeches confidentiality and raises issues of stigma especially when such clinic are labelled as special / STD clinics. 204 (84.6%) of the consultations were assessed to provided adequate privacy (Table 11), thus privacy was not an issue in this study. We did not carry out any exit interviews so we cannot tell how many of the clients had appreciated the need to use condoms or to inform their partners.

4.3.2 Condoms promotion:

Condoms promotion, which is an integral part of STD patient counselling, is known to be an "effective means of reducing high risk behaviours and incidence of STD in both individuals and couples."[17] Condom promotion to STD patients includes advice on condom use, a demonstration of correct use and provision of condoms to patients, but this study captured the first two. Even though over 90% of service providers in both public and private facilities said they gave advice on condom use, only 26.1% of prescribers offered advice on condom use in the observations. This is very low given that advice on condom use is one of the key components of STD management. The findings from the pharmacy survey is even worse as only 25(9.3%) were given advice on condom use and 8 out of these 25 (32.0%) received instructions on condom use. There could be another dimension to this problem since anecdotal data suggest that most of the pharmacies do not have trained pharmacists as primary/first line attendant. The whole training programme of the NACP needs to be re-looked at again, especially in terms of who attends these training sessions because it is becoming more and more obvious that those who participate in the training are not diffusing their knowledge to the front liners.

[16] STD case management workbook WHO- Field Test Version

[17] Control of sexually transmitted Diseases

4.3.3 Partner notification:

Partner notification and treatment is known to be an important component of STD case management. But partner notification is not executed fully because of the shame associated with STDs. This study indicates that STD case management in relation to partner notification is poor as only 59/269(21.9%) of the simulated clients and 52.7% of observed patients were urged to refer their partners for treatment. Breaking the stigma barrier associated with STDs seems like an uphill task especially considering the cultural milieu we operate in. Some formative research needs to be done in this area to address this issue if any progress is to be made in the control of STDs.

4.4 Implications of the finding

4.4.1 STD control

The findings of this study suggests that the current management practices of STDs in the country leaves a lot to be desired when compared with internationally accepted practices. The main problems were inadequate history taking (88.4%), inadequate examination (46.1%) and inadequate treatment (49%). Only 4.1% did all three adequately. The performance of Medical Assistants against Doctors (PI6=6 vrs 1.8, PI7 29 vrs19.5, PI6& PI7 5 vrs 0.9) was not encouraging. Although this can be explained by the fact that many more Medical Assistants have been trained in the syndromic management approach and also that Dr are usually more reluctant to change habits and are often more likely to use a wider range of drugs outside the essential drug list, the results still leave a lot to be desired. A lot of emphasis has to be placed on this attitude to change and its effect on their performance. Training in Syndromic management had been carried out in Greater Accra and Ashanti, however performance differed significantly with Ashanti Region consistently performing worst in all the activities as compared to the Northern Region which also worse than Greater Accra. The performance of the other regions were not assessed as sample sizes were too small

There was no obvious difference between the management practices for STDs in public and private health care facilities as elicited in the interviews, thus any interventions that are put in place should address both types of facilities. There is therefore the need to design specific interventions to address these issues. Apart from training sessions, other interventions such as clinical monitoring and supervisions at all levels of the health service need to be put in place and strengthen.

4.4.2 HIV/AIDS control

The poor management of STDs has bigger implications for HIV/AIDS control in the country and the importance of STD has been compounded by its link to HIV/AIDS. A person infected with an STD is two to five times more likely to contract HIV if exposed[18]. Individuals who have STDs are therefore prime candidates for HIV, yet the opportunity to reach those who seek treatment for STDs is often missed. In resource-poor settings the appropriate diagnostic tool should enable health care workers to make a correct diagnosis and treat adequately within a short time without sophisticated laboratory tests, specialized skills, and preferably without the need for a repeat visit by the patient. Thus we need to promptly diagnose and manage STDs if we hope to reduce the growing incidence of HIV/AIDS. To facilitate this, the national AIDS Control Programme (NACP) has adopted diagnostic and therapeutic flowcharts for STDs for use at all levels of service delivery. What remains to be done is to get prescribers at health facilities to make use of these flow charts. This requires retraining, monitoring and supervision at all service delivery points.

4.4.3 Is syndromic approach good enough?

There are clear advantages of the syndromic management of STDs in Ghana since it is generally easy and rapid to use and does not require laboratory facilities.[19] Since most health facilities in rural communities do not have laboratory capable doing aetiologic diagnosis, and laboratory services are expensive, it is logical to prescribe syndromic management for such facilities. We however think that referral health facilities should collect data on the antibiotic sensitivity to STD organisms at regular intervals in order to document sensitivity patterns that will inform the programme, shape drug policies and could lead to a whole review of the programme. A periodic evaluation can focus on one particular objective at a time or attempt to assess overall progress toward all objectives and goals of the programme. Some methods of data collection for evaluating the biological effectiveness of STD control programmes could include the following:

- Surveillance data from the STD control program
- STD-related morbidity indicators collected from non-STD service sites
- Results of special studies conducted either by the internal STD control program or by an outside group.

[18] Wasserheit JN. Epidemiologic synergy: interrelations ships between HIV and other STDs. Sexually Transmitted. Diseases 1992; 19:61-77

Information feedback mechanisms should be established at the same time as monitoring and evaluation parameters and data collection methods are defined. Feedback mechanisms can be as simple as routine monthly communication from a supervisor or manager to the clinic staff about the most recent number of patients treated and the treads in STD at the facility, or as sophisticated as annual, formal reports on all aspects of program performance.

5 Conclusions and Recommendations

5.1 Conclusions

1. The management of STDs in the country leaves a lot to be desired and could adversely impact on HIV/AIDS transmission in the country.
2. The prevention indicators 6 and 7 are very low.
3. Even though the NACP has adopted the syndromic management approach and has issued guidelines for its operation, these guidelines are not being adhered to.
4. Training on the syndromic management of STDs has not permeated all corners and sectors of the country

5.2 Recommendations

1. The link between STD and HIV/AIDS should be reinforced. The national AIDs Commission and the NACP should include STD in their names
2. Training on syndromic management of STD patients should be expanded to cover all parts of the country and should include the private sector as well.
3. There should be a wider circulation of the guidelines to other providers. The guidelines should also be made into pocket size documents. The laminated card form should be made available to providers for use in their offices.
4. Monitoring and supervision of staff needs to be strengthened at all levels, and heads of units need to utilize data generated by their units to improve quality of care.

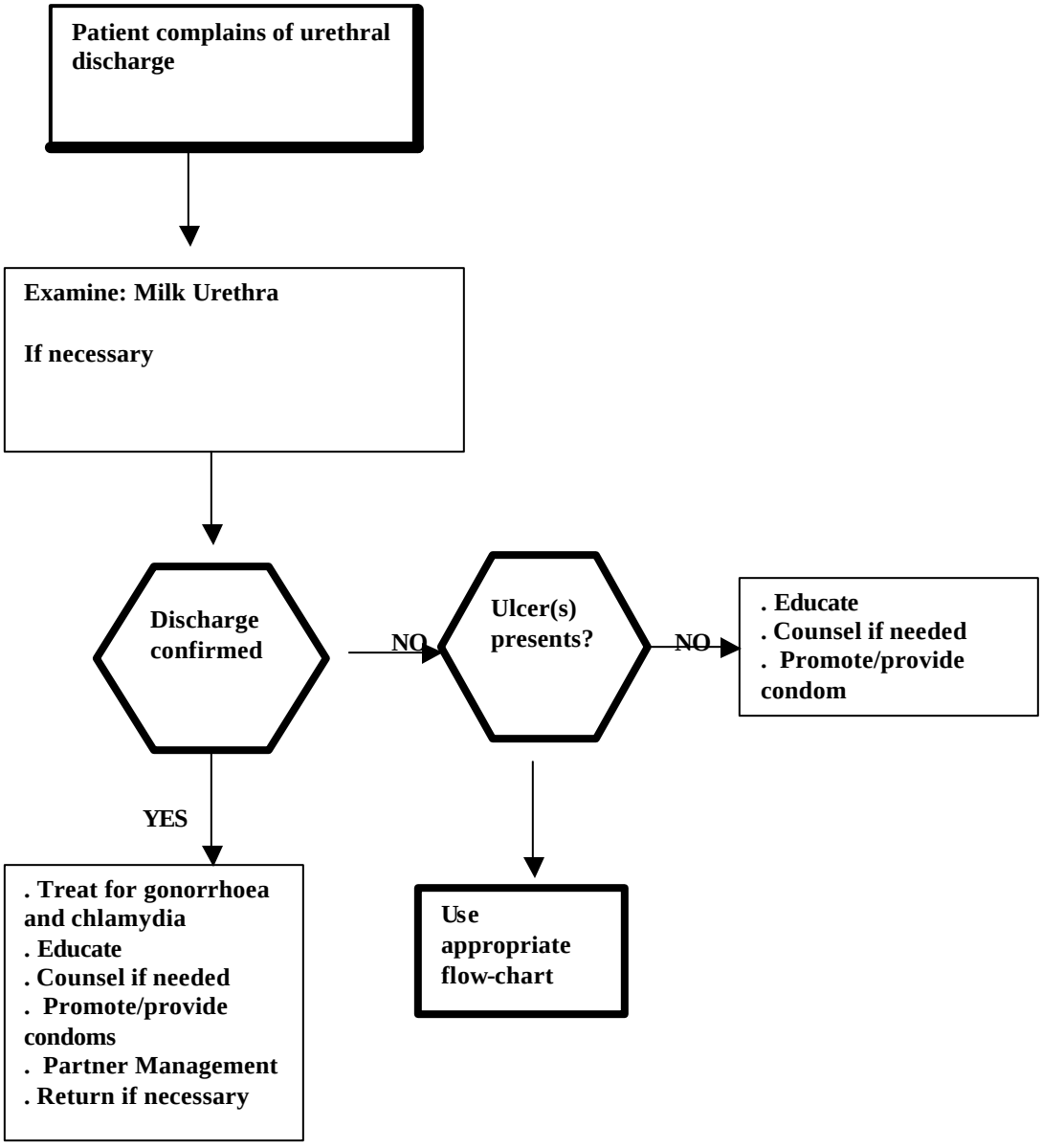
[19] Bosu WK (1999). Syndromic management of sexually transmitted diseases: is it rational or scientific? Topical Medicine and International Health 4:114-119

5. Continuing education should be done for all health practitioners through the various associations such as the Ghana Medical Association, the Pharmacy association of Ghana, the Ghana Registered Midwives Association.
6. The Essential Drug list for the management of STDs in the country needs to be reviewed periodically in the light of available antibiotic sensitivity profile
7. Drug supply needs to be improved at the facility level.
8. The Pharmacy Council should re-examine its policy on Chemical sellers with regards to the class of drugs they are allowed to sell.
9. The use of pre-packaged drugs should be considered by the NACP and condoms should be part of the package.
10. The stigma associated with the management of STDs needs to be addressed as a matter of priority, probably through some formative research.
11. An epidemiological assessment of risk based on identification of pathogens is necessary for the country to improve the diagnosis of cervicitis.
12. The dissemination of this report should be wide and should be targeted at Regional and District Directors, Senior medical officers of public health, Principal Nursing Officers, as well as the various private Health Professional Associations.

6 Annexes

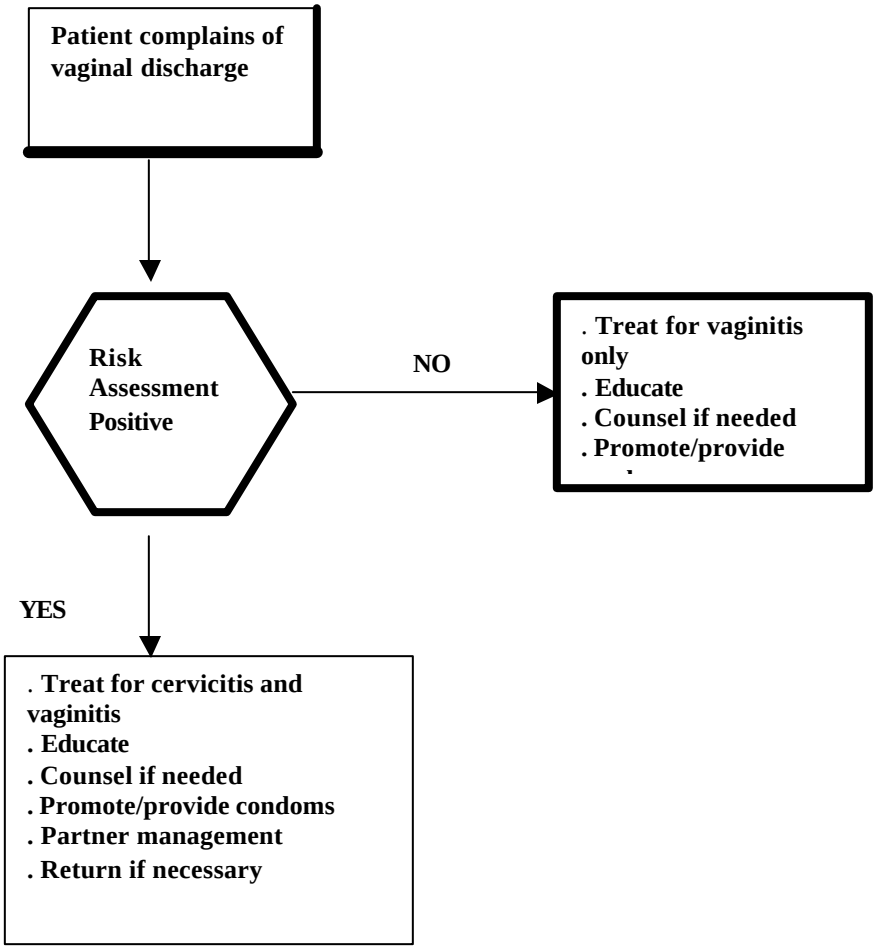
Annex 1

URETHRAL DISCHARGE SYNDROME FLOW CHART



Annex 2

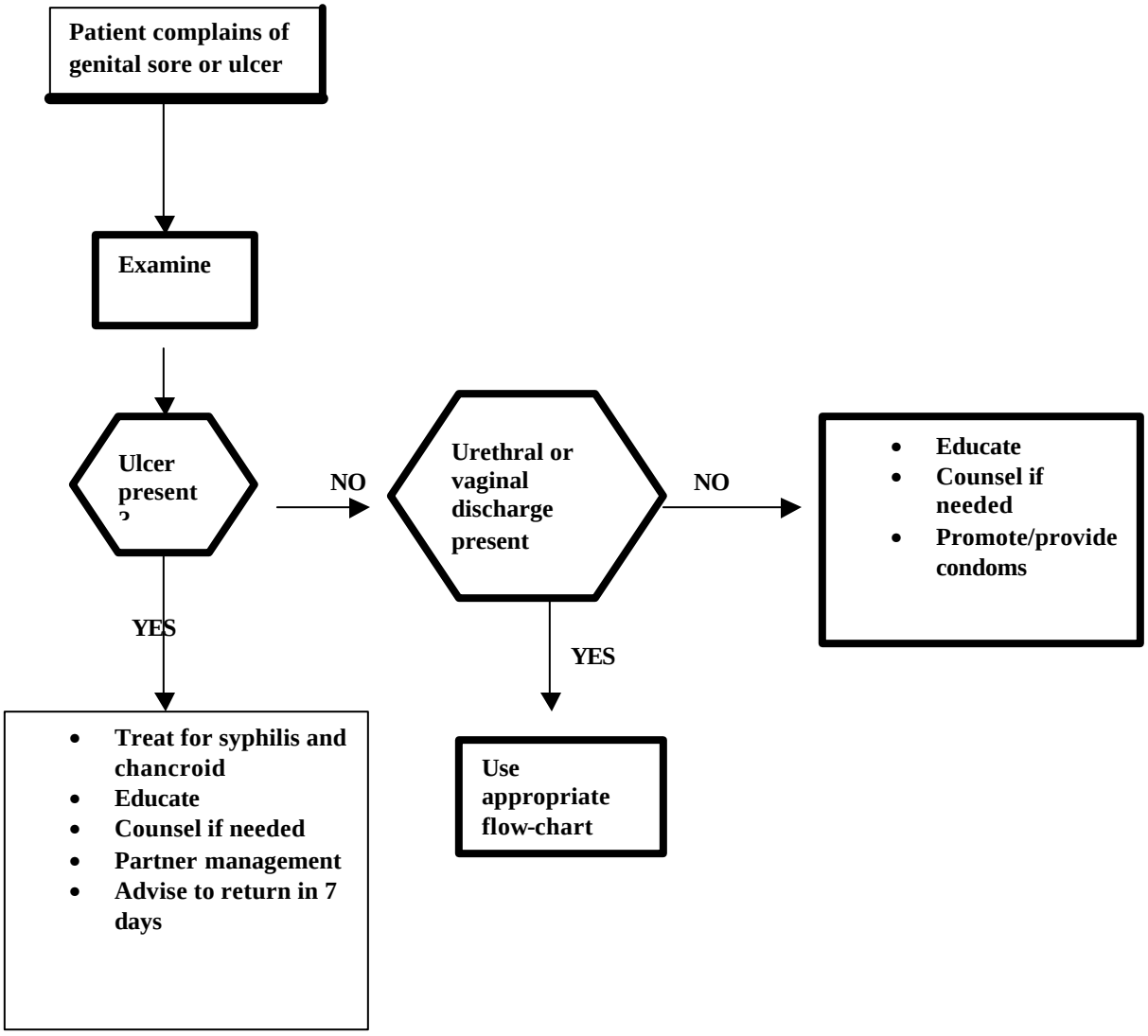
VAGINAL DISCHARGE SYNDROME FLOW CHART



Risk assessment positive =
Partner symptomatic or any of Age<21;
single; > 1 partner; new partner in past 3 months

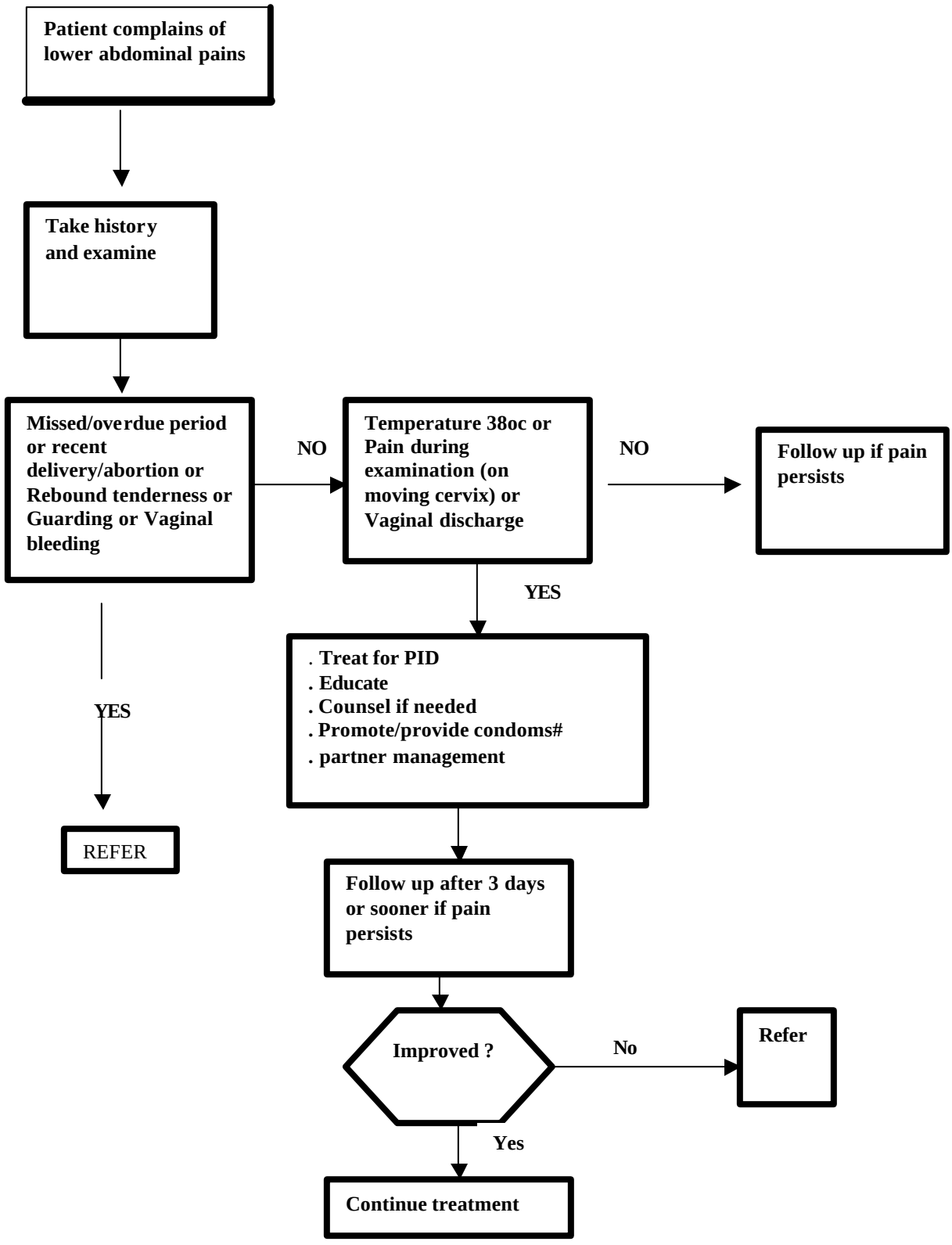
Annex 3

GENITAL ULCER FLOW-CHART



Annex 4

LOWER ABDOMINAL PAIN FLOWCHART



Annex 5

NATIONAL GUIDELINES FOR SYNDROMIC MANAGEMENT

URETHRAL DISCHARGE – TREATMENT REGIMEN

Treat for gonorrhoea and chlamydia

Gonorrhoea

Tab ciprofloxacin 500mg stat

Or

IM Ceftriaxone 250mg stat

Plus

Chlamydia

Caps Doxycycline 100mg 12 hourly for 7 days

Or

Caps Tetracycline 500mg 6 hourly for 7 days

Or

Tab Erythromycin 500mg 6 hourly for 7 days

VAGINAL DISCHARGE – TREATMENT REGIMEN

a. Treat for vaginitis

Trichomoniasis and Bacterial vaginosis

Tab Metronidazole 400mg 8 hourly for 5 days

Or

Tab Metronidazole 2g stat

(N/B) Metronidaxole is contraindicated during 1st trimester of pregnancy

Plus

Candidiasis

Miconazole vaginal tablets 200mg at night for 3 days

b. If risk assessment positive, add the following for cervicitis:-

Gonorrhoea

Tab Ciprofloxacin 500mg stat. (Avoid in pregnancy)

Or

IM Ceftriaxone 250mg stat

Plus

Chlamydia

Caps Doxycycline 100mg 12 hourly for 7 days

Or

Caps Tetracycline 500mg 6 hourly for 7 days

Or

Tab Erythromycin 500mg 6 hourly for 7 days

(NB avoid Doxycycline/Tetracycline in pregnancy and nursing mothers).

LOWER ABDOMINAL PAIN (Pelvic Inflammatory Disease) – TREATMENT REGIMEN

Treat for gonorrhoea plus chlamydia plus anaerobic bacteria:-

Gonorrhoea

Tab Ciprofloxacin 500mg stat

Or

IM Ceftriaxone 250mg stat

Plus

Chlamydia

Caps Doxycycline 100mg 12 hourly for 10 days

Or

Cap Tetracycline 500mg 6 hourly for 10 days.

Or

Tab Erythromycin 500mg 6 hourly for 10 days.

Plus

Anaerobic Bacteria
Tab Metronidazole 400mg 8 hourly for 10 days.

GENITAL ULCER – TREATMENT REGIMEN

Treat for syphilis and chancroid: -

Syphilis

Benzathine Penicillin G. 2.4 million units in 2 intramuscular injection during one clinic Visit; give one injection in each buttock.

Or

Aqueous Procaine Penicillin 1.2 million units daily, by deep intramuscular injection for 10 days

For persons allergic to penicillin use:-

Caps Doxycycline 100mg 12 hourly for 15 days

Or

Caps Tetracycline 500mg 6 hourly for 15 days

Or

Tab Erythromycin 500mg 6 hourly for 15 days

plus

Chancroid

Tab Ciprofloxacin 500mg stat

Or

IM Ceftriaxone 250mg stat

Or

Tab Erythromycin 500mg 6 hourly for 7 days.

Annex 6

Identity number |__| |__|

HEALTH FACILITY SURVEY **OBSERVATIONS**
Date: /__ / __ / __/

INSTRUCTIONS FOR OBSERVERS: PLEASE CIRCLE THE APPROPRIATE RESPONSE

COMPLETE THIS SECTION BEFORE OBSERVATION:
Region 1. Greater Accra 2.Ashanti 3.Northern
District …….

Name of facility ……..……..
Type of facility
1. Hospital
2. Health centre
3. Private clinic
4. Polyclinic
5. Other
Specify …….
Observer's code |__| |__|
Facility number |__| |__| |__|
Health care provider (HCP) code |__| |__|
Observation number 01 / 02 / 03 / 04 / 05

Profession of HCP Nurse = 1; Medical Assistant = 2; Doctor = 3
Sex of HCP Male = 1, Female = 2

Patient characteristics: (**use patient card / consulting room book to fill as appropriate**)

1. Sex Male = 1 Female = 2

2. Age |__||__|

3. Marital status (Married = 1; Single = 2 Not asked=3)

Listen During History Taking For:

4. What were the presenting STD complaint/s -(multiple responses possible)

1. Urethral discharge.
2. Vaginal discharge,
3. Genital ulcer,
4. Inguinal swelling
5 Painful micturition
6. Lower Abdominal Pain
7. Other specify…….
…..……
……..……

Observation

5. Did the prescriber ask about:

- Nature of present symptoms? 1.Yes 2. No
- Onset or duration of symptoms? 1.Yes 2. No
- History of recent sexual contacts? 1.Yes 2. No
- Symptoms of the partner? 1.Yes 2. No
- Number of partners in the last year? 1.Yes 2. No
- Partner change in the last three months? 1.Yes 2. No

6. Are patient's genitals fully exposed, (from navel to knee) with **female** patients lying down? 1.Yes 2. No

8. Are examination gloves used? 1.Yes 2. No

9. Are the external genitalia thoroughly examined for : Discharge and lesions, i.e.
FOR CIRCUMCISED MEN: 1.Yes 2. No 9. NA
FOR UNCIRCUMCISED MEN, is the foreskin retracted? 1.Yes 2. No 9. NA
FOR WOMEN, are labia separated and inspected? 1. Yes 2. No 9. NA

FOR WOMEN ONLY:

10. Is a speculum examination performed? 1.Yes 2. No 9. NA

IF YES, is an adequate light source used? 1.Yes 2. No 9. NA

11. Is a bimanual examination performed? 1.Yes 2. No 9. NA

12a. Is a specimen for Gram stain obtained? 1.Yes 2. No

12b. (IF YES), is the result of the Gram stain available on the day of the consultation? 1.Yes 2. No 9.NA

13a. Is a specimen for wet smear obtained? 1.Yes 2. No

13b. (IF YES), is the result of wet smear available on the day of consultation? 1.Yes 2. No 9. NA

14a. Is an RPR/VDRL obtained/requested? 1.Yes 2. No

14b. (IF YES), is the result of the RPR/VDRL available on the day of the consultation? 1.Yes 2. No 9. NA

15a. Does the HCP obtain/ request laboratory Investigations OTHER than those in questions 12-14? 1.Yes 2. No

15b. (IF YES), which tests?
……

16a. ASK the HCP what his/ her diagnosis is and write down:
……

16b. Were the results of any laboratory tests available to the HCP before this diagnosis? 1.Yes 2. No

17. INSTRUCTION: ASK the HCP or FIND OUT FROM PRESCRIPTION/CARD what therapy he or she is prescribing/Providing to the patient, at this consultation

Box with * is to be left for supervisor

DRUG 1 name …… * |__|

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. topical
- Duration of treatment (days): ……..

DRUG 2 name …… * |__|

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. topical
- Duration of treatment (days): ……..

DRUG 3 name …… * |__|

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. topical

Duration of treatment (days): ……..

DRUG 4 name …… * |__|

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. topical
- Duration of treatment (days): ……..

Does the HCP instruct the patient on:

18. The importance of Completing the full course of treatment? 1. Yes 2. No

19. Educate on the risks of AIDS/HIV prevention? 1. Yes 2. No

20. Promote condom(s) for STD/HIV prevention? 1.Yes 2. No

21. Counselling for HIV/STD prevention 1.Yes 2. No
(Do the HCP and health care seeker engage in a dialogue)

22. Are condom(s) provided/sold to the patient ? 1.Yes 2. No

23. Are instructions on condom use offered? 1. Yes 2. No

24. Is patient urged to refer partner(s) for treatment or is patient given drugs for partner? 1. Yes 2. No

25. Was privacy maintained during the consultation? 1. Yes 2. No

---

ENSURE YOU HAVE ALL NECESSARY INFORMATION AND THANK PROVIDER FOR HIS/HER ASSISTANCE.

Remarks/ observations by Interviewer:

……
……
……
……
……
……

LEAVE FOR SUPERVISOR \PI

1. Effective syndromic treatment
2. Effective aetiology treatment
3. Ineffective

FINAL RESULTS

PI 6		Yes No
	History (Q6)	1. 2.
	Examination (Q9)	1. 2.
	Treatment (Q17)	1. 2.
Final score		
PI 7	- Advice on condom (Q21)	1. 2.
	- Advice on partner notification (Q 25)	1. 2.
Final score		1. 2.

Remarks/ observations:

……
……
……
……

Annex 7

Identity number |__| |__|

HEALTH FACILITY SURVEY

Health Provider Interview Date: /___ / ___ / ___/

INSTRUCTIONS FOR INTERVIEWERS: PLEASE CIRCLE THE APPROPRIATE CODE

COMPLETE THIS SECTION BEFORE INTERVIEW:

Region 1. Greater Accra 2.Ashanti 3.Northern
District ……
Type of facility
1. Hospital
2. Health centre
3. Private clinic
4. Polyclinic
5. Other
Specify …….
Interviewer's code: |__| |__|
Name of health care facility:……
Facility number |__| |__| |__|
Health care provider (HCP) code |__| |__|
Profession of HCP (nurse = 1; doctor = 2; medical assistant = 3)
Sex of HCP (male = 1, female = 2)
Was this HCP observed managing an STD patient? 1.Yes 2. No

1. How many cases of STD did you see at this clinic last week?

M|__| |__| F |__| |__|

2. How many cases of STD do you see at this clinic during an average month?

M |__| |__| |__| F |__| |__| |__|

3. When patients report with a complaint of STD What questions do you routinely ask ?

- Present symptoms? 1.Yes 3.PROMPTED Yes 2.No
- Onset/ duration of symptoms? 1.Yes 3.PROMPTED Yes 2.No
- Recent sexual contacts? 1.Yes 3.PROMPTED Yes 2.No

4. Do you routinely perform a physical Examination on your **MALE** STD patients? 1.Yes 2. No 9. *NA
(*HCP does not see male STD Patients)

5. (IF YES), please describe each step of how you would examine a male STD patient:

(listen and cirle as appropriate before prompting)

- A Patient asked to undress so that genitals Are fully exposed
  1.Yes 3.PROMPTED Yes 2.No 9.NA

- B Patient examined for a urethral/ penile Discharge 1.Yes 3.PROMPTED Yes 2.No 9.NA

- C Genitals examined for lesions after retracting for foreskin
  1.Yes 3.PROMPTED Yes 2.No 9.NA

6. Do you routinely perform a physical examination On your **FEMALE** STD patients? 1.Yes 2. No 9.*NA
(*HCP does not see female STD patients)

7. (IF YES), please describe each step of how you would examine a female STD patient.
(listen and circle as appropriate before prompting)

A	Patient asked to undress so that genitals Are fully exposed	1.Yes 3.PROMPTED Yes 2.No 9.NA
B	Patient asked to lie down	1.Yes 3.PROMPTED Yes 2.No 9.NA
C	Patient examined for lesions on vulva and labia	1.Yes 3.PROMPTED Yes 2.No 9.NA
D	Patient examined for vaginal discharge	1.Yes 3.PROMPTED Yes 2.No 9.NA
E	Speculum examination performed	1.Yes 3.PROMPTED Yes 2.No 9.NA
F	Bimanual examination performed	1.Yes 3.PROMPTED Yes 2.No 9.NA

8. Do you have:
- an examination table? 1.Yes 2. No
- bivalve vaginal specula? 1.Yes 2. No
- an examination light? 1.Yes 2. No
- examination gloves? 1.Yes 2. No

9. What type(s) of diagnosis do you base your treatment on:

1.An etiologic diagnosis such as gonorrhoea or syphilis?

2. A clinical diagnosis based on history and examination?

3. A syndromic diagnosis such as urethral discharge or genital ulcer disease?

10. Do you have a microscope in this clinic? 1. Yes 2. No

11. (IF YES), are the following tests performed in this clinic?
- Wet-mount microscopy to diagnose STDs? 1. Yes 2. No

- Gram stains to diagnose STDs? 1. Yes 2. No
- VDRL/RPR tests? 1. Yes 2. No

12. Do you usually take these specimen your self? 1. Yes 2. No

13a. Do you send your STD patients (or specimens) to another facility for laboratory investigations? 1. Yes 2.No

13b. (IF YES), what test have you requested most often In the past month? MAXIMUM OF THREE TESTS

VDRL/RPR…….. ……1
CULTURE (swab /urine) …….. ……2
HIV test……..……..……3
Gram stain……..…….. 4.
NA……9

14. In the absence of a definitive diagnosis, what is the first choice of treatment that you usually prescribe for:

Supervisor will fill box with *.

A MALE patient with a urethral discharge? *|__|

DRUG 1 name ……

- Strength:……...
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……...

DRUG 2 name …….. *|__|

- Strength:……...
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……...

*|__|

DRUG 3 name ……

- Strength:……...
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……...

*|__|

DRUG 4 name ……

- Strength:……...
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……...

A FEMALE patient with a vaginal discharge? *|__|

DRUG 1 name ……

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……..

DRUG 2 name …….. *|__|

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……..

DRUG 3 name …….. *|__|

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……..

DRUG 4 name …….. *|__|

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……..

A MALE patient with a genital ulcer? *|__|

DRUG 1 name ……

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……..

DRUG 2 name …….. *|__|

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……..

DRUG 3 name …….. *|__|

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……..

DRUG 4 name …….. *|__|

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……..

A FEMALE patient with a genital ulcer? *|__|

DRUG 1 name ……

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……..

DRUG 2 name …….. *|__|

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……..

DRUG 3 name …….. *|__|

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. Tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……..

DRUG 4 name …….. *|__|

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……..

15. In your experience, what is the first choice of treatment that you usually prescribe for a patient with:

Gonorrhoea? *|__|

DRUG name ……

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. Topical
- Duration of treatment (days): ……..

Non-gonococcal urethritis? *|__|

DRUG name ……

- Strength:……..
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. topical
- Duration of treatment (days): ……..

Primary syphilis? *|__|

DRUG name ……..…

- Strength:……...
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. topical
- Duration of treatment (days): ……...

Chancroid? *|__|

DRUG name ……

- Strength:……...
- Dosage: 1. Stat 2.daily 3.bid 4. tid 5. qid 6.other……
- Route: 1. im 2.oral 3. topical
- Duration of treatment (days): ……...

16. Where do your patients usually obtain the drugs
You prescribe for them?

1. At this facility (free)
2. At this facility (paid)
3. At the pharmacy/ chemist shop (outside this facility)
4. Part at this facility and part at a pharmacy outside this facility
5. Other, SPECIFY: ……

17a. Do you have any problem with the STD related drug supply?
1.Yes 2.No

17b. (IF YES), what problem(s): …….
……
……
……
……
……

18a. Are there any particular drugs which you feel are essential
For the treatment of STDs but to which you have no access?
1.Yes 2.No

18b. (IF YES), which?
……
……
……
……

19. What type of syringes and needles are usually used in this facility?
1.Disposable
2.Reusable
3.Both

20. What education/advice do you normally give to your STD patients?

a) Do you tell your patients to take all the medications you have prescribed
1.Yes 3.PROMPTED Yes 2.No

b) Do you advice your patients to use condoms? 1.Yes 3.PROMPTED Yes 2.No

c) Do you advice your patients to tell their sexual partner(s) to have treatment? 1.Yes 3.PROMPTED Yes 2.No

d) What type of partner referral do you do?
Provider Referral 1.Yes 2. No
Patient Referral 1.Yes 2. No

e) If patient referral, do you use (multiple response possible)

1. Index
2. Card
3. Slip
9. NA

f) Other specify……

21. Do you keep a supply of condoms in this clinic? 1.Yes 2.No

22. Do you provide condoms to your STD patients ? 1.Yes 2.No 9. NA

23. (IF YES), are condoms free? 1.Yes 2.No 9. NA

24. Do you provide instructions to your patients on how to use condoms? 1.Yes 2.No

25a. Do you follow any specific treatment guidelines in your management of STD patients? 1.Yes 2.No

25b. (IF YES), which?
1. National Guidelines
2. WHO
3.CDC
4.Other specify…….
9.NA

26. Have you received a copy of the STD treatment guidelines recommended by the National STD Control Programme? 1.Yes 2.No

27. Do you provide drugs to prevent your clients from contracting STDs (do you provide STD prophylaxis)? 1.Yes 2.No

28. (If a medical Practitioner)
What is your specialty? SELECT ONLY ONE

1. Venerologist
2. Dermato-venerologist
3. Dermatologist
4. OBS / GYN
5. Urologist
6. General Practitioner
7. GP/Venerologist
8. Other, SPECIFY: ……

29. What are the main constraints on your work with STD management?
……
……
……
……
……
……

THANK YOU FOR YOUR HELP IN COMPLETING THIS INTERVIEW

IF THE ANSWER TO QUESTION 22 IS YES: (inquire from pharmacy or whoever…. if necessary

30. How many condoms are in stock at this Clinic today? __ __ __ __ __

31. Was this clinic ever out of stock of condoms In the last 12 months? 1.Yes 2.No

32. What STD drugs are available today?
……

……

……..

……
……

THANK YOU FOR YOUR HELP IN COMPLETING THIS INTERVIEW

Remarks/ observations by Interviewer:

……
……
……
……
……

(TO BE FILLED BY SUPERVISORS /CODING TEAM.)

		Yes	No
PI 6	-History (Q4) -Examination (Q 5 to Q 8) -Treatment (Q 14- 15)	1 1 1	2 2 2
Final score		|__|	|__|
PI 7	-Advice on condoms (Q20b) -Advice on partner notification (Q 20c)	1 1	2 2
Final score		|__|	|__|

Remarks/ observations:

……
……
……
……
……

Annex 8

PHARMACY QUESTIONNAIRE – STD SURVEY PI 6&7
(TO BE FILLED ONLY AFTER SIMULATION HAS BEEN DONE)

Region…….. District……..

Town…… Name of shop……

Sex of pharmacy worker(male=1 female=2) Name of shopper…….

Interviewer's code…….. Date(dd/mm/yy)……..

PLEASE CIRCLE THE APPROPRIATE CODE

A) Referrals

Did the Pharmacy worker:

1. Tell you to see a : (Multiple response allowed)

Doctor/clinic	1. Yes 2. No
Pharmacist	1. Yes 2. No
Doctor/clinic/pharmacist	1. Yes 2. No
Laboratory	1. Yes 2. No
None	1. Yes 2. No

B) Drugs

2. To come back with money before he/she would tell you the treatment — 1. Yes 2. No

3. Did he name the drugs ? — 1. Yes 2. No

4. Refuse to treat you — 1. Yes 2. No

5. If yes why
   1. Referred
   2. Not enough money
   3. Other specify……..

C) Signs and symptoms

Did the Pharmacy Worker ask or tell about:

6. Present symptoms? — 1. Yes 2. No
7. Onset/ duration of symptoms? — 1. Yes 2. No
8. Recent sexual contacts? — 1. Yes 2. No

D) Treatment

9. Did he/she tell you how to take all the medications he/she have prescribed? 1. Yes 2. No

10. Did he/she tell you that you had a sexually transmitted disease? 1. Yes 2. No

11. Did he/she instruct you on the importance of completing the full course of treatment?

1. Yes 2. No 9. NA

12. Was he/she willing to sell part of the treatment? 1. Yes 2. No

12. Did he say that part of the drugs was okay for your treatment?

1. Yes 2. No

14. Did they ask about allergies? 1. Yes 2. No

E) Prevention

15.Was AIDS/HIV prevention discussed? 1.Yes 2. No

16.Were condoms promoted for STD/HIV prevention? 1.Yes 2. No

17. Are instructions on condom use offered? 1.Yes 2. No

18. Is patient urged to refer partner(s) for treatment? 1.Yes 2. No

F) DRUGS PRESCRIBED: **LEAVE BOX WITH * FOR SUPERVISOR**

DRUG 1 name …… * |__|

- Strength:……..
- Dosage: 1. Stat 2. daily 3. 2x/d 4. 3x/d 5. 4x/d 6)other……..
- Route: 1. im 2.oral 3. topical 4.per vag
- Duration of treatment (days): ……...

DRUG 2 name …… * |__|

- Strength:……..
- Dosage: 1. Stat 2. daily 3. 2x/d 4. 3x/d 5. 4x/d 6.other ……
- Route: 1. im 2. oral 3. topical 4) per vag
- Duration of treatment (days): ……...

DRUG 3 name …… * |__|

- Strength:……..
- Dosage: 1. Stat 2. daily 3. 2x/d 4. 3x/d 5. 4x/d 6)other……..
- Route: 1. im 2.oral 3. topical 4.per vag
- Duration of treatment (days): ……...

DRUG 4 name …… * |__|

- Strength:……..
- Dosage: 1. Stat 2. daily 3. 2x/d 4. 3x/d 5. 4x/d 6.other ……
- Route: 1. im 2. oral 3. topical 4) per vag
- Duration of treatment (days): ……...

Remarks/ observations by shopper:

……..
……..
……..
……..
……..
……..
……

LEAVE FOR SUPERVISOR/PI

PI 6	History (Q6) Treatment (Q17)	Y N 1 2 1 2
Final score		
PI 7	- Advice on condom (Q23) - Advice on partner notification (Q26)	1 2 1 2
Final score		

Remarks/ observations:

……..
……..
……..
……..
……..
……..
……