Health Facility Survey

2009

Research and Epidemiology Unit
Ministry of Health
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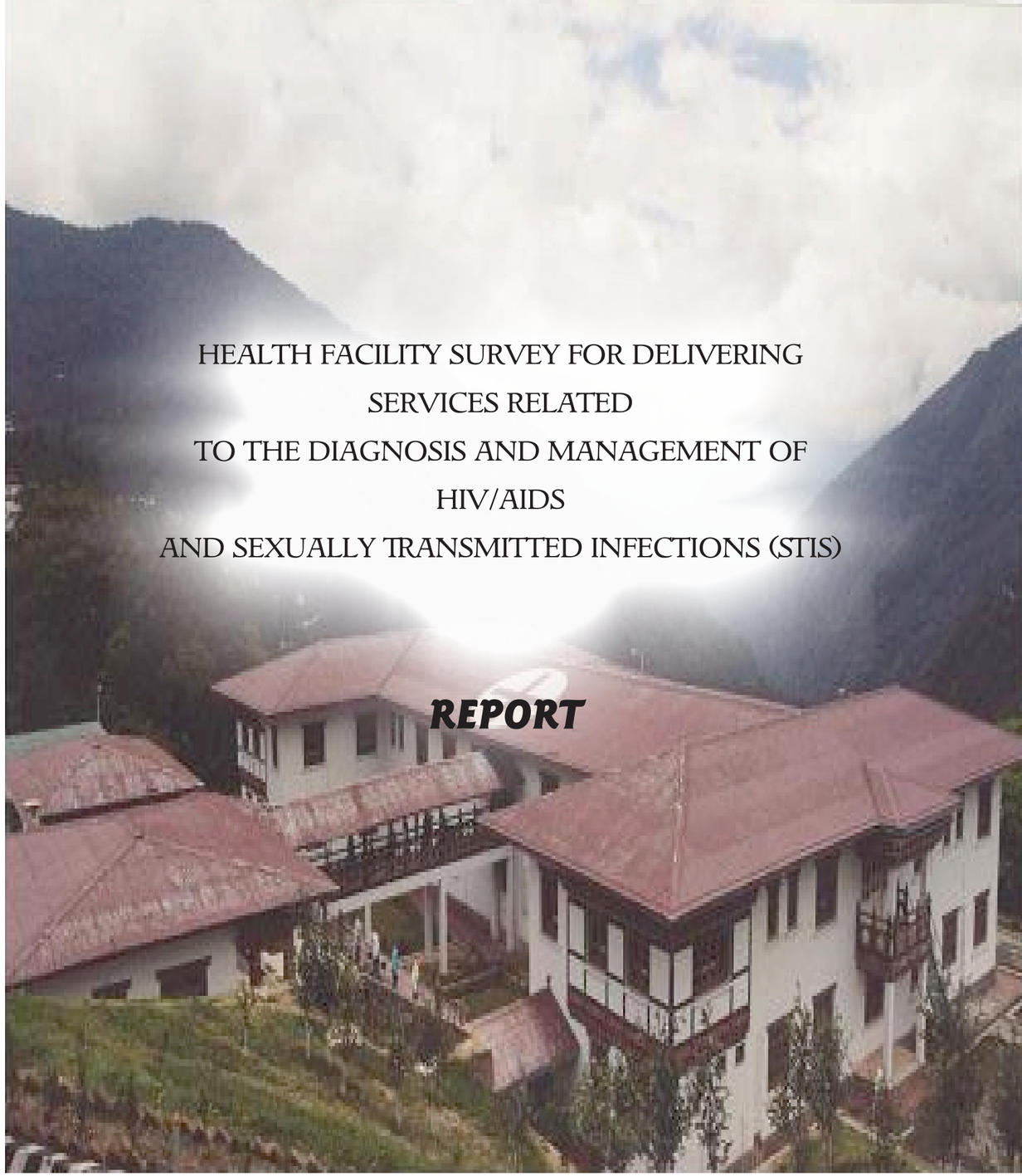

HEALTH FACILITY SURVEY FOR DELIVERING SERVICES RELATED TO THE DIAGNOSIS AND MANAGEMENT OF HIV/AIDS AND SEXUALLY TRANSMITTED INFECTIONS (STIS)

REPORT

Research and Epidemiology Unit
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Acronyms and Abbreviations

ANC	Antenatal Care
BHU	Basic Health Unit
ELISA	Enzyme Linked Immunosorbent Assay
HISC	Health Information Service Center
HIV	Human Immunodeficiency Virus
MoH	Ministry of Health
NACP	National AIDS Control Programme
OPD	Out Patient Department
PLHIV	People Living with HIV
RGoB	Royal Government of Bhutan
RPR	Rapid Plasma Reagin
STI	Sexually Transmitted Infection
VCT	Voluntary Counselling and Testing
VDRL	Venereal Disease Research Laboratory
HSF	Health facility Survey

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FOREWORD

Prevention of HIV/ STIs as well as care and support for those living with HIV/ STIs has received considerable attention in Bhutan. The Ninth Five Year Plan provided a multi-sectoral strategy to prevent and control HIV/ AIDS. It also identified this as one of the country's most important programme in promoting healthy outcomes for women and children. Services related to prevention, treatment and care are provided at health facilities at different levels. The services include provision of Voluntary Counselling and Testing (VCT) for HIV, Syndromic Management for STIs, along with some laboratory diagnosis which ranges from simple tests in the district hospitals to a wider and comprehensive range of tests at regional and national referral hospitals. To further facilitate delivery of services, several manuals and guidelines on the Syndromic Management of STIs and VCT have been provided at health care facilities and also personnel have been trained to provide these services.

To assess the health faculties' functionality and utilization of theses services for prevention and control of STIs and HIV in the country the Research and Epidemiology Unit of the Ministry of Health carried out Health Facility Survey (HSF 2009), with financial support from the World Bank, which is representative of the health facilities in the country. The findings are very useful in planning and future programme interventions to improve these services for the population of Bhutan. This report and recommendations provide exemplary documentation of evidence based assessment and future interventions.

I hope that the planners, relevant programmes and stakeholders would use the evidences from this report to plan and design appropriate cost-effective interventions to improve care and services for people of Bhutan in general and for the people living with HIV/ AIDS (PLWHA) in particular.

(Dasho Dr. Gado Tshering)
SECRETARY

1. INTRODUCTION

Bhutan is a small country in Southern Asia (38,394 square km) with a population of around 700,000. The Royal Government of Bhutan (RGoB) has maintained a system of complete free healthcare not only for all Bhutanese citizens but also for those who reside in the country. The declaration of Alma Ata in 1978 adopting a primary healthcare approach to achieve 'Health for All' has also served to accelerate health service development in this direction. The RGoB has invested considerable resources into creating and ensuring universal access to primary health care. Nearly all health services are governmental with $101 per capita health expenditure (1). Today, the country has one National Referral Hospital known as Jigme Dorji Wangchuck (JDW) National Referral Hospital, two Regional Referral Hospitals, 30 District Hospitals, 172 Basic Health Units (BHUs) and 485 Outreach Clinics (2). The national healthcare delivery system is characterized by the central level being responsible for administration, training and major referrals, and the districts managing the delivery of basic services to the population through a network of District Hospitals, BHUs and outreach clinics.

All available evidences suggest that Bhutan is a low prevalence nation for Human Immunodeficiency Virus (HIV) infection with adult general population prevalence at below 0.01% (3). The National AIDS Control Programme (NACP) reported a cumulative total of 160 HIV infected cases, 80 males and 80 females, up to November 2008 (3). The first case of infection was detected in 1993 and a case among injecting drug users was detected in 2006. However, in general, the distribution of cases is such that no particular population group or geographical area can be considered to be the most represented. So far 31 deaths have been reported (3).

As sexually transmitted infections (STIs) can play a critical role in HIV transmission, the RGoB recognized that it is imperative to appropriately diagnose and treat STIs as part of the HIV prevention strategy. The data from Bhutan on laboratory diagnosed STIs is limited but nonetheless using available data the estimated incidence of gonorrhoea among adults was found to be 2% and syphilis was lower (3). A recently published report on General Population Survey shows that 5-6% of men and 8% of women complained of STIs in the last year and symptoms were highest amongst urban men (4). A gonococcal microbial drug resistance survey conducted in 2005 showed that none of the *Neisseria gonorrhoea* strains were sensitive to penicillin and all were completely resistant to

tetracycline and only 10% were sensitive to ciprofloxacin. Based on these findings, the RGoB has made it a policy that all cases of gonorrhoea will be treated with ceftriaxone (5).

Prevention of HIV/STIs as well as care and support for those living with HIV/STIs has received considerable attention in Bhutan. The Ninth Five Year Plan provided a multi-sectoral strategy to prevent and control HIV and AIDS. It also identified this as one of the country's most important programme in promoting healthy outcomes for women and children. On the basis of this the Multi-Sectoral Task Forces for STI and HIV prevention were formed in each Dzongkhag and services related to prevention, treatment and care are being provided at health facilities at different levels. The services include provision of Voluntary Counselling and Testing (VCT) for HIV, syndromic management for STIs, along with some laboratory diagnosis which ranges from simple tests in the District Hospitals to a wider and comprehensive range of tests at Regional and JDW National Referral Hospitals. To further facilitate delivery of services, several manuals and guidelines on the syndromic management of STIs and VCT have been provided at health care facilities at different tiers and also personnel have been trained to provide these services. A national STI register is maintained which compiles information from all health facilities in Bhutan. A similar register is maintained for HIV.

In brief, the HIV/STI services available at different levels of the health facilities of Bhutan include:

At the BHUs –syndromic diagnosis of STIs with management using a standard treatment algorithm is carried out. Also counselling services are provided for HIV.

At District Hospitals (including Grade-I BHUs) and Regional Hospitals – syndromic diagnosis of STIs along with diagnosis for syphilis using RPR or VDRL, Gram staining for gonorrhoea and HIV (single rapid test) is conducted. VCT is provided for HIV. Partner notification for both STIs and HIV is encouraged. Management of STIs is done using a treatment algorithm. For HIV, a standard referral system is followed.

At the JDW National Referral Hospital STI patients are managed syndromically at the Out-Patients Department (OPD). Serological tests for STI and HIV is done at the Public Health Laboratory, which is under the umbrella of JDW National Referral Hospital. Microbiological tests for STIs are done at the JDW National Referral Hospital. At these laboratories a more extensive range of tests for diagnosis of STIs and HIV are available including culture and sensitivity tests for gonorrhoea and measurement of CD4 counts for HIV.

For HIV, there are two stand-alone VCT Centers in Bhutan, one each in Thimphu and Phuntsholing. These Centers are also referred to as the Health Information Services Center (HISC). At these Centers trained counsellors as well as laboratory technicians conduct counselling and testing while maintaining full confidentiality. Outreach services are provided through "peers" who reach out to vulnerable communities including sex workers, drugs users and other vulnerable youths with HIV/STI prevention information. At other sites VCT is integrated with the existing health care facilities and is especially targeted to pregnant women seeking antenatal services, patients with tuberculosis and STIs.

For those diagnosed with HIV, a comprehensive referral system is in place and all people living with HIV (PLHIV) are entitled to six monthly follow-up with CD4 counts, management of Opportunistic Infections and free treatment with antiretroviral drugs following the Highly Active Anti Retroviral Therapy regimen. At each District Hospital the formation of a "core team" has been advised which is mandated to deal with any HIV positive case, whether it is for confirmation of diagnosis, counselling, CD4 counts, provision of ART or follow up with adherence of ART. A register of HIV positive cases is maintained at all sites.

In 2004, the Ministry of Health (MoH), RGoB embarked on an HIV/AIDS prevention project funded by the World Bank. As an essential component of HIV prevention is provision of prevention, care and support services by health care providers, a survey of the services available through the health care system in Bhutan is required to gauge what services are in place, the quality of those services and identification of gaps and needs.

The survey was focused on the available health facilities for HIV/STI prevention, diagnosis and management at different levels in the country using a semi quantitative questionnaire to determine availability and quality of services. It is envisaged that based on the findings of this survey, the MoH can take steps to further enhance effective service delivery for the prevention, treatment and care of the STIs and HIV.

The survey assessed the following:

1. The services available for STI management, VCT and laboratory diagnosis at different levels (National, Regional and District Hospitals and BHUs).
2. Whether existing guidelines and algorithms are being followed and documented practice of healthcare providers in terms of procedures, confidentiality, record keeping, referrals, counselling.
3. The availability of logistics (infrastructure, drugs, instruments for examination, laboratory reagents and supplies, etc).

4. Whether Universal Precautions were followed and whether waste was appropriately disposed.
5. Whether there was system of monitoring of services in place.
6. Client satisfaction through exit interviews was also carried out in the Centers where STI cases were available during the time of the survey.

2. METHODOLOGY

A cross sectional survey of health facilities was conducted using semi-structured questionnaires, which were administered to the service providers at different levels of the health care delivery system. In addition exit interviews were also conducted with patients/clients to assess their satisfaction with the VCT and STI management services in Centers where there were VCT and STI patients available during the time of the survey. Through these tools the quality and utilization of services could be gauged.

2.1 Survey tools

Different sets of questionnaires were administered to service providers (prescribers) as shown below:

1. Survey of STI and HIV services (for BHU) – the questionnaire (annexe I) to assess the comprehensive, integrated services for STI and HIV.
2. Survey of STI and HIV services (for BHU Grade-I, District, Regional and JDW National Referral Hospitals) – the questionnaire (annexe II) to assess the comprehensive, integrated services for STI and HIV diagnosis, management and referral.
3. Survey of stand-alone VCT Centers (the HISC sites in Thimphu and Phuentsholing) – the questionnaire (annexe III) was specifically designed to assess the VCT services available at these two sites.
4. Survey of laboratories in the JDW National Referral Hospital, Public Health Laboratory and the two Regional Referral Hospitals – the questionnaires (annexe IV, V, VI) to assess the laboratory services available at these sites.

Each questionnaire was accompanied by a guideline (annexe VII, VIII, IX, X, XI and XII), which was aimed at providing an understanding of the questions and what the appropriate response should be for each question. In some cases, the questions were open-ended and the guideline was designed to help the interviewer score the response although this may often have been subjective. Each question was scored and based on the score each sub-section was graded (this is described in more detail below). The guideline also provided the appropriate score for each response.

Two sets of exit interviews (or client satisfaction questionnaires) were administered to the patients attending the facilities for comprehensive, integrated services for STI and HIV (annexe XIII) and with clients attending the VCT Centers (annexe XIV). Each of these exit interview questionnaires were also accompanied by guidelines (annexe XV and XVI).

2.2 Health facility sites and application of tools

The health facilities providing STI/HIV services in Bhutan assessed in this survey were grouped into five categories based on the services they provided and their capacities:

1. The OPD of the JDW National Referral Hospital, at Thimphu, and two Regional Referral Hospitals, at Mongar and Gelephu, which provide services for STIs and HIV as part of an integrated health system.
2. The laboratories of the Public Health Laboratory and the JDW National Referral Hospital, both at Thimphu, are more developed and provide a wider range of diagnostic tests for STIs and HIV.
3. Thirty District Hospitals in 20 districts (with some districts having more than one hospital) – these provide services for STIs and HIV as part of an integrated system. A basic laboratory is available in each of these hospitals designed to diagnose syphilis, gonorrhoea (by gram staining) and HIV (a single rapid test). VCT is also provided as part of the package of services.
4. 172 BHUs, which provide syndromic management for STIs.
5. Two standalone VCT Centers (Health Information Service Center or HISC) at Thimphu and Phuntsholing where comprehensive VCT is provided and laboratory facilities are available for three rapid tests for HIV diagnosis. Outreach services to reach the more vulnerable populations with HIV prevention information is also provided through these Centers.

To obtain a comprehensive understanding of the nature and quality of HIV/STI services it was essential that all five categories of facilities were sampled. The sample size calculation and sampling strategy are described below.

2.3 Sample size calculation and selection of facilities

As shown above the following health facilities were sampled:

I. The National Referral Hospital in Thimphu, Public Health Laboratory in Thimphu, two Regional Referral Hospitals in Mongar and Gelephu and two stand-alone VCT Centers (HISC) in Thimphu and Phuntsholing.

II. A random selection of District Hospitals and BHUs in three regions of Bhutan (east, west and central). For the selection of these sites the sample size calculation was done based on a standard formula used for health facility surveys and this is shown below (6):

$$n = \frac{z^2 fq}{v^2 p}$$

Where,

n=required sample size
p=anticipated proportion of facilities with the attributes of interest
q=1-p
f=design effect
V^2=square of the relative error
Z^2=square of the normal deviate needed to provide an estimate at the 95% level of confidence

For the District Hospitals if for "p", the waiting space is considered as the attribute of interest, the values for the above parameters are:

p=90% of the District Hospitals have a waiting space (assumed)
f=1.2
v=0.2
$z^2 = (1.96)^2 = 3.84$

$$\therefore \frac{(3.84x1.2x0.01)}{(0.2x0.2x0.09)} = 12.8\ (13)$$ District Hospitals

The above formula provided a sample size of 13 for District Hospitals. For each region (east, west and central), the number of District Hospitals to be sampled was calculated as a proportion based on the number of District Hospitals available in the region as shown in table 1 below:

Table 1: Sample size at district level by region

Region	**Existing number of District Hospitals**	**Sample size (number of District Hospitals to be sampled)**
Central	7	3
East	9	4
West	14	6
Total	**30**	**13**

For the BHUs, if for "p", having adequate (adequate refers to screened space or separate room for examination such that no one can hear or see the patient during examination; and presence of examination bed, lighting and necessary equipment for patient

examination) facilities for patient examination was considered as the attribute of interest, the values for the above parameters were:

p=82% of the BHUs have adequate facilities for patient examination (assumed)
f=1.2
v=0.15
$z^2 = (1.96)^2 = 3.84$

$$\therefore \frac{(3.84x1.2x0.18)}{(0.15x0.15x0.82)} = 44.9 \text{ (45 BHUs)}$$

The above formula provided a sample size of 45 for BHUs. For each region (east, west and central), the number of BHUs to be sampled was calculated as a proportion based on the number of BHUs available in the region as shown in the table 2 below:

Table 2: Sample size for BHU by region

Region	Existing number of BHUs	Sample size (number of BHUs to be sampled)
Central	46	12
East	77	20
West	49	13
Total	**172**	**45**

The first health facility at the district and BHU level was selected based on random number method. The subsequent facilities were selected systematically based on the sampling interval until the required sample size was met in each region.

The questionnaires were administered to the most senior staff at the facility and to other relevant personnel as deemed necessary. Also, in several instances direct observation were made to assess the situation and/or to corroborate responses. In those cases, the instructions provided in the questionnaire as well as the guidelines were followed. Direct observations, where conducted took precedence over response by senior staff.

2.4 Scoring and grading of the questionnaire

Each question was scored using a scoring system while conducting the interview. The scoring system is explained in table 3 below:

Table 3: Scoring the questions

Score	Description
2	Meets quality standard
1	Meets quality standard but requires further work
0	If it is absent, or is present but does not meet quality standard, or has not been reviewed or not directly observed (where direct observation is required)

A score was ascribed to a question which best described the degree to which the response met the criteria for a standard quality (provided in the guideline). In cases where scoring was felt to be too subjective, help of the guideline was taken to decide on the final score. For questions, that required direct observation, but direct observation was not done, the question was scored 0. All missing responses were left blank. Questions that require no scoring were be marked as "x". Each question was scored on site.

For each sub-section, a percentage was calculated using the formula numerator/denominator X 100; where numerator was the total score obtained in each sub-section and the denominator was the total allowable score for each sub-section. Based on the percentage, an overall grade was ascribed for the sub-section as follows:

A >90% = Excellent (does not require any change)
B-71-90% = Good (may not require any change)
C- 51-70% = Moderate (will require appropriate modification for improvement)
D <50% = Poor (will require considerable improvement)

Grading was done later on the same day in consultation with the supervisor. Grading was restricted to sub-sections to enable better picture of the service provided by the Centers.

2.5 Exit interview

The target for the exit interview was three clients per facility if available during the time of the survey. For simplicity, the exit interviews were conducted on the same day that the facility assessment survey was carried out. If there was no patient or client at the facility during the day of visit, the exit interview was skipped in which case the reason for not completing the interview was noted.

Two different sets of exit interview questionnaires were used; one each for STI patients (annexe VII) and VCT clients (annex VIII). Each of these exit interview questionnaire was also accompanied by a guideline (annexe IX and X).

2.6 Development of the survey tools

The ICDDR, B, developed the survey tools in accordance to the need of the country and shared with the Ministry of Health. The teams from ICDDR, B and the Ministry reviewed each tool considering the ground realities in Bhutan and incorporated all the inputs from the experts as well as from the field. While developing the tools, Health facility tools developed by FHI Bangladesh was also being referred.

2.7 Data entry and analysis

The entire field data and the scores were double checked on hard copies by the monitoring team before data entry. To ensure the accuracy and reliability of data, double entry of data was done using Epi Info. In addition, validity range of each response and consistency checks were incorporated in the data-entry screens. After completing double entry, data were compared using Epi Info and the entry errors were incorporated in the first entry. Further cleaning was done using Excel after which data files were converted into SPSS by using Stat transfer for analysis. Summary statistics (such as percentages, mean and median) were calculated.

3. SURVEY TEAM RECRUITMENT

The survey team members were recruited from the health workers in the country who had ample experiences in the field delivering health care services in Bhutan. The survey teams in each region consisted of two interviewers. While in the field, one collected the data and other acted as a supervisor to check the consistency and the roles were reversed when one person was tired of one role. The interviewers conducted the interviews and scored the questions; they also conducted the exit interviews while accessing the facility on the same day. The scores were graded by the interviewer and checked by the supervisors before they left the Centers to ensure consistency.

4. TRAINING OF THE FIELD TEAM

All the interviewers and supervisors were trained for a period of 8 days (24th April till 1st May 2009) by facilitators from ICDDR, B and Research and Epidemiology Unit. Following were the areas covered during the training:

- Understanding the issues around VCT, STI management, laboratory diagnosis of STIs and HIV
- Stressing on confidentiality

- Using the survey forms with the guideline
- Applying the scoring and grading system and entering into the computer

In-house mock testing of the questionnaires by the interviewers followed by the field-testing of the questionnaires in presence of the facilitators helped the trainees improve their skills and gain hands-on experience in administering the questionnaires.

5. QUALITY ASSURANCE OF THE SURVEY

Quality assurance of the survey was addressed by taking into consideration two issues:

1. A major concern with this survey was that several questions in the questionnaires were open-ended and scoring may have required subjective judgement. For this it was necessary to ensure that inter-interviewer variation was minimised. For this purpose, a thorough field-testing of the questionnaires after training was conducted. Any ambiguity found during the pre-testing was corrected in the guideline and the interviewers were re-trained using the corrected version.

2. In order to reduce interviewer bias, the health workers were assigned to conduct interviews in facilities, which were not their work place.

The staff from the Research and Epidemiology Unit monitored the survey at frequent intervals in all the regions.

6. ETHICAL CONSIDERATIONS

Research Ethics Board of Health (REBH) approved the survey protocol and the tools prior to the fieldwork. Prior to each interview, written informed consent was obtained from the interviewees at the facilities as well as respondents of the exit interviews using consent forms in the local language.

RESULTS:

I. BHU-I and Above:

The BHU-I and above includes the BHU-I that serve at par with the district hospital, the representative sample for the district hospitals, the other hospitals such as IMTART and army hospitals and selected samples of the BHU-I other than the ones serving as district hospitals. The total sample was 20 such facilities (n=20). Since only the basic requirements for delivering efficient services related to diagnosis and management of HIV/AIDS and sexually transmitted infections (STIs) that are standard for the country was assessed, all these facilities were assumed to be comparable in providing the HIV/STI services. The findings from the facilities are provided below:

1 Nature of services provided at the facility

It was found that half (50%) of the facilities, BHU-I and above, follow syndromic management for STI diagnosis and treatment and another half follow syndromic management with some laboratory diagnosis. 43 % of the facilities in the east, 57% in the west and 50 % of facilities in the central region provide syndromic management.

In the central region, the proportions of syndromic and syndromic plus some laboratory diagnosis is roughly the same, that is, 50% each whereas it is about 57% and 44% respectively in the western region and 42% and 57% respectively in the eastern region.

About 90% of the facilities provide STI treatment with counselling. The common source of STI in the past year was mentioned as unprotected sex (100%) but whether the actual sources were spouse, CSWs or other multiple partners was not clear.

About 70% of the facilities reported provision of STI/HIV services to specific population group and partner notification was done with consent of the patients.

STI drugs were available in all the facilities but only 40% of the facilities had STI leaflets/pamphlets available at the facility. More than three forth (86%) of facilities in the east, 75% in the central and 33% of facilities in the west did not have STI leaflets and pamphlets during the time of survey.

About 90% of the facilities provide VCT/ counselling services to the ANC patients. The proportion of VCT/counselling services to ANC patient is lower in the east and west (85.7% and 88.9% respectively) than the central 100%. And about 95% of the facilities provide VCT/counselling services to the STI clients. The proportion in the west again is lower (88.9%) as compared to central and east, which were 100% each.

Only about 60% (12) of the facilities provide services to HIV positive patients and among those, about 83% provide counselling services to the HIV patients and only about 68% of

the facilities reported provision of VCT/counselling for TB patients. Only half of the facilities in the east provide counselling services to HIV patients.

Although about 85% of the facilities were performing well in provision of standard STI/VCT services (Grade B and above), only 30% are providing excellent service, majority provide good service where some improvements may be required and there are about 15% of facilities with moderate grade, which requires considerable improvement.

Refer table 1.1 and annexes for details

Table 1.1 Nature of services provided at the facility:

Regions	**East** N=7 % (n) (CI)	**Central** N=4 % (n) (CI)	**West** N=9 % (n) (CI)	**Total** N=20 % (n) (CI)
Mean Score ***Median Score***	***74.3*** ***77.0***	***83.0*** ***86.4***	***91.3*** ***90.9***	***83.7*** ***86.3***
Grade A	0	25.1(1) (0.6-80.6)	55.6 (5) (21.2-86.3)	30.0(6) (11.9-54.3)
B	71.4(5) (29.0-96.3)	50.0 (2) (6.8-93.2)	44.4 (4) (13.7-78.8)	55.0(11) (31.5-76.9)
C	28.6(2) (3.7-71.0)	25.0 (0.6-80.6)	0	30.0(6) (11.9-54.3)
D	0	0	0	0

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement)

1.1 Facility set up and supplies

1.1a Infrastructure

It was found that minimum level privacy (auditory and visual) was maintained in 95 % of the facilities during patient examination and in 85% of the facilities during VCT/counselling. The proportion of minimum level of privacy maintained during VCT/counselling is lower (75%) in the central as compared to 85.7% in the east and 88.9% in the western regions.

While 75% of the facilities were found to provide group counselling, only 60% of the facilities have rooms available for the purpose. The proportion of provision of group

counselling as well as availability of the rooms are lower in the west, 55.6% and 20% respectively than the east (85.7%, 85.7%) and the central region (75%, 100%).

Although 90% of the facilities reported having adequate water supply, 25% of the facilities in the central and 13% of the facilities in the east did not have adequate water supply. 35% of the facilities did not have adequate laboratory space among which more than half of the laboratory space in the western region was inadequate.

Overall, only about one third (30 %) of the facilities had excellent infrastructure, another one third had adequate infrastructure, 30% had moderate and 10% had poor infrastructure which requires appropriate or considerable modification to provide adequate services for the STI/HIV and VCT services.

Table 1.1a Infrastructure

Region	**East** N=7 % (n) (CI)	**Central** N=4 % (n) (CI)	**West** N=9 % (n) (CI)	**Total** N=20 % (n) (CI)
Mean Score	***87.7***	***79.2***	***75.4***	***80.5***
Median score	***100.0***	***83.3***	***83.3***	***86.7***
Grade				
A	57.1(4) (29.0-96.3)	50.0 (2) (6.8-93.2)	0	30.0 (6) (11.9-54.3)
B	14.3(1) (0.4- 57.9)	0	55.6 (5) (21.2-86.3)	30.0 (6) (11.9-54.3)
C	28.6(2) (3.7-71.0)	25.0 (1) (0.6-80.6)	33.3 (3) (7.5-70.1)	30.0 (6) (11.9-54.3)
D	0	25.0 (1) (0.6- 80.6)	11.1 (1) (0.3- 48.2)	10.0 (2) (1.2-31.7)

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement)

1.1b Equipments/materials available in the facility

Almost all the facilities (85%-100%) were found to have functioning patient beds, screens, basin, spotlight, drums for sterile equipments, instrument forceps, microscope, clean sheet for examination bed, clean towel and soap on the sink and sink for staining. However, half (50%) of the facilities did not have proctoscope and 30% of the facilities did not have penile model and about 30% of the facilities did not have BCC materials such as flip chart and pamphlets.

Over all, 95% of the facilities had adequate supply of materials and equipments. However, 5% of the facilities require appropriate modification for improvement and specific components that were not available such as proctoscope; penile model and BCC materials need special attention. Refer table below for details.

Table 1.1b Equipment and materials available ate the facility

Grades	**East** N=7 % (n) (CI)	**Central** N=4 % (n) (CI)	**West** N=9 % (n) (CI)	**Total** N=20 % (n) (CI)
Mean Score	***87.6***	***90.0***	***92.4***	***91.2***
Median Score	***89.5***	***95.0***	***94.7***	***94.7***
A	42.9 (3) (9.9-81.6)	100.0 (4) (39.8-100)	55.6 (5) (21.2-86.3)	60.0 (12) (36.1-80.9)
B	42.9 (3) (9.9- 81.6)	0	44.4 (4) (13.7-78.8)	35.0 (7) (15.4-59.2)
C	14.3 (1) (0.4-57.9)	0	0	05.0 (1) (0.1- 24.9)
D	0	0	0	0

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement)

1.1c Supplies

All the facilities had STI drugs and more than 26 gross of condoms in stock. However, 5% of the facilities from the western region reported stock outs on gloves and condoms and 36.8% of the facilities reported STI drug stock outs in the past year. It was observed that 5% of the facilities has expired drugs in the store at the time of survey.

However, all the facilities were found to follow proper drug storage practices and drugs were stored following FIFO and stored under optimum conditions.

On an average, 90% of the facilities had excellent supplies and 10% of the facilities had good supplies. However, supplies in the eastern region may require appropriate changes to ensure regular supply of drugs and supplies such as gloves.

Table 1.1c Supplies:

Region	**East** N=7 % (n) (CI)	**Central** N=4 % (n) (CI)	**West** N=9 % (n) (CI)	**Total** N=20 % (n) (CI)
Mean Score ***Median Score***	***100.0*** ***100.0***	***83.0*** ***86.4***	***91.3*** ***90.9***	***83.7*** ***86.3***
A	100 (7) (59.0- 100)	75.0 (3) (19.4-99.4)	88.9 (8) (51.8-99.7)	90.0 (18) (68.3-98.8)
B	0	25.0 (1) (0.6-80.6)	11.1 (1) (0.3-48.2)	10.0 (2) (1.2-31.7)
C	0	0	0	0
D	0	0	0	0

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement)

1.2 Personnel

At least one staff from 60% of the facilities received training on STI syndromic management guideline 2006. Among the trained about 17 % of facilities were trained for less than 2 days duration, which are mostly in the eastern region (staff from 33% of the eastern facilities). And staff from 40% of the facilities received training on STI other than the syndromic management guideline.

While the staff, from 90% of the facilities, who provide counselling received training on VCT and confidentiality the staffs from10% of the facilities did not receive training at all. Training duration was inadequate (<4 days) for 32% of those who were trained. The inadequacy of the training was more significant in the west (50%) and east (66.7%). On an average 54% of the prescriber were trained on STI management. However, training coverage is found to be less in the east as compared to central and western regions.

About 90% of the facilities had laboratory technicians. Among them lab technicians from about 78% of the facilities were trained on the relevant tests they conduct.

All facilities had cleaners who handled bio-hazard materials. For personal protection measure the cleaners in 100% of the facilities used gloves followed by mask (70%), foot wear (55%) and apron (50%).

Over all, about 55% of the facilities had adequate training in STI syndromic management of STI, VCT and personal protection. 45 % of the facilities need considerable improvement in capacity.

Table 1.2 Personnel

Grades	**East** N=7 % (n) (CI)	**Central** N=4 % (n) (CI)	**Western** N=9 % (n) (CI)	**Total** N=20 % (n) (CI)
Mean Score	***70.1***	***73.0***	***78.7***	***74.6***
Median Score	***64.3***	***72.8***	***76.9***	***76.0***
A	14.3 (1) (0.4-57.9)	0	22.2 (2) (2.8-60)	15.0(3) (3.2-37.9)
B	28.6 (2) (3.7-71.0)	50.0 (2) (6.8-93.2)	44.4 (4) (13.7-78.8)	40.8 (8) (19.1-63.9)
C	42.9 (3) (9.9-81.6)	50.0 (2) (6.8-93.2)	33.3 (3) (7.5-70.1)	40.8 (8) (19.1-63.9)
D	14.3 (1) (0.4-57.9)	0	0	5.0(1) (0.1-24.9)

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement)

1.3 Procedure for STI case management

On an average staff in 90% of the facilities greeted patients on arrival. Although staff of all the facilities asked sexual history from all STI patients, only 80% of the facilities examined all the STI suspected patients. Only half (50%) of the STI patients were regularly examined in the central region as compared to east (71.4%) and west (100%).

Condom demonstration was done in 75 % of the facilities, of which regular demonstration was done only in 33 % of the facilities. Eastern region reported more (71%) regular condom demonstration than the other two regions.

95% of facilities reported using ciftriaxone (250 mg single dose I/M) for STI treatment and 5% of the facilities, all in central region, reported using both ciftriaxone I/M and doxycycilline oral for treatment of gonorrhoea.

All facilities took measures like counselling and condom distribution as per the national guideline to prevent re-infection when a case was diagnosed. And 40 % of the facilities adopted patient referral approach while remaining 60% followed provider referral

approach for partner notification. Post exposure prophylaxis system (PEP) is available only in about 35 % of the facilities of which only 85% of the facilities had focal person for the PEP.

Overall, half (50%) of the facilities had good procedure for STI case management. While 10% of the facilities had excellent procedure for STI management, about 40 % of the facilities had moderate (35%) to poor (5%) procedure for STI case management. So, these (40%) facilities require appropriate modification for improvement and some considerable improvement to provide better service in STI management.

Table 1.3 Procedure for STI case management

Grades	**Eastern Region** N=7 % (n) (CI)	**Central Region** N=4 % (n) (CI)	**Western Region** N=9 % (n) (CI)	**Total** N=20 % (n) (CI)
Mean Score	***78.9***	***59.4***	***77.0***	***74.1***
Median Score	***75.0***	***60.4***	***80.0***	***73.6***
A	28.6(2) (3.7-71.0)	0	0	10.0(2) (1.2-31.7)
B	42.9 (3) (9.9-81.6)	0	44.4 (4) (13.7-78.8)	50.0(10) (27.2-72.8)
C	28.6(2) (3.7-71.0)	75.0 (3) (19.4-99.4)	22.2 (2) (2.8-60.0)	35.0(7) (15.4-59.2)
D	0	25.0 (1) (0.6-80.6)	0	5.0(1) (0.1-24.9)

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement)

1.4 Procedure for VCT

While 95% of the facilities provide pre-test and 100 % of the facilities provide post-test counselling to the clients for VCT only about 68% of the facilities reported adequate duration for pre-test counselling (>30 minutes).

Only about one third (31%) of the facilities reported adequate duration (>=10 min) of post-test counselling if the result was negative, while about 86% of the facilities reported adequate duration (>=30 min) of post-test counselling if the result was positive.

Group counselling was carried out in less than half (45%) of the facilities while partner notification policy was followed in all the facilities. About 74% of the facilities released

patient information, with the consent (verbal/written), while referring to other Centers. On an average 80% of the counsellors knew the components of good qualities of a counsellor.

Overall, in terms of VCT procedures (appropriate pre and post test counselling duration, partner notification policy) only about a third (30%) of the facilities were found to be excellent and 55% were found to be good while another 15%, which requires considerable improvement, were found to be either moderate or poor.

Table 1.4 Procedures for VCT:

Grades	**Eastern Region** N=7 % (n) (CI)	**Central Region** N=4 % (n) (CI)	**Western Region** N=9 % (n) (CI)	**Total** N=20 % (n) (CI)
Mean Score ***Median score***	***80.0*** ***85.0***	***88.8*** ***87.5***	***86.0*** ***88.9***	***84.5*** ***87.0***
A	28.6(2) (3.7-71.0)	25.0 (1) (0.6-80.6)	33.3 (3) (7.5-70.1)	30.0 (6) (11.9-54.3)
B	42.9 (3) (9.9-81.6)	75.0 (3) (19.4-99.4)	55.6 (5) (21.2-86.3)	55.6 (5) (21.2-86.3)
C	14.3(1) (0.4- 57.9)	0	11.1 (1) (0.3- 48.2)	10.0 (2) (1.2-31.7)
D	14.3(1) (0.4- 57.9)	0	0	5.0(1) (0.1-24.9)

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement)

1.5 Care and support for the HIV positive cases

The study found that only half (50%) of the facilities ever dealt with the HIV positive cases. Among those, 80% of the facilities had core teams to support HIV positive cases and more than 75% had a doctor, nurse, counsellor, pharmacist and a laboratory technician as member of the team. In another half of the facilities where there is no core team, there was a focal person to support HIV positive cases.

More than half (60%) of the facilities who had HIV positive cases experienced referral of cases to other facilities mostly for CD4 counts (67%) followed by HAART follow up (33.3%) and (16.7%) for counselling.

Over all, 40% of the facilities that had excellent care and support for the HIV positive cases were from the western region and remaining 60% of the facilities had moderate to poor care and support for the HIV positive cases. So, the latter facilities need considerable improvement.

Table 1.5 Care and support for the HIV positive cases:

Region	**East** N=2 % (n) (CI)	**Central** N=3 % (n) (CI)	**West** N=5 % (n) (CI)	**Total** N=10 % (n) (CI)
Mean Score ***Median Score***	***16.5*** ***16.5***	***77.7*** ***66.6***	***70.0*** ***100.0***	***61.6*** ***66.6***
A	0	0	60.0 (3) (14.7-94.7)	40.0 (4) (12.2-73.8)
B	0	33.3 (1) (0.8-90.6)	0	0
C	0	66.7 (2) (9.4-99.2)	0	20.0 (2) (2.5-55.6)
D	100.0 (2) (15.8-100)	0	40.0 (2) (5.3-85.3)	40.0 (4) (12.2-73.8)

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement)

1.6 Universal precautions

1.6a General infection prevention practices

All the facilities reported practicing basic infection prevention measures. They follow rules of hand washing and use of glove while examination and testing.

The staffs of all facilities reported proper disposal of needles and syringes. While 90% of the facilities used sharp boxes for needle disposal, 10 % of the facilities in the east and west used plastic bins for the same. Overall, general infection prevention practices were found to be excellent.

1.6b Decontamination, cleaning and sterilization of the instruments

After each use the instruments were decontaminated and sterilized in 95% of the facilities. The most commonly used disinfectant is sodium hypochlorite and 95% of the facilities use freshly prepared one.

Savlon was used sometimes and most facilities (70%) prepared fresh one on the day of use. While 100% of the facilities dip the instruments in the Hypochlorite/Savlon only 55% of the facilities dipped for adequate duration of 10-30 minutes. On the other hand, about 40% of the facilities practiced dipping instruments for longer than required duration; sometimes they keep it over night, and about 5% in the eastern region dipped them for less than 10 minutes.

100 % of the facilities reported autoclaving after decontaminating the instruments. 85% of the facilities had autoclave on site and remaining 15% have easy access to autoclaves near by. Standard procedure for storing and use (adequate duration) of the sterilized instruments were followed in most of the facilities.

About 95% of the facilities were found to be practicing acceptable decontamination, cleaning and sterilization practices. However, 5% of the facilities were performing poor and need considerable improvement.

1.6c Waste Disposal

Bucket coding for waste disposal was practiced in 90% of the facilities with lower proportion in the west (77.8%). About 90% of the facilities collected sharps in hard closed bin and taken them to the deep pit burial and rest of the facilities collected sharps either in buckets or plastic bins and then buried. The latter practice was commonly observed in the west.

About 75% of the facilities collected used glassware in closed bin or buckets and buried in deep pits. While about 20% reused them after autoclaving 5% burnt and threw them in the jungles.

While more than half (55%) of the facilities disposed infectious materials such as blood, used cotton or gauze, etc. in deep pits and buried them, 35% of the facilities burnt them and 5% decontaminated and threw in city disposal. The poor method of waste disposal was observed in the central region.

About half (50%) of the facilities directly led liquid waste to underground without decontamination, about 20% buried in deep pits and about 30% decontaminated liquid waste in disinfectant for 30 minutes and led to underground.

Overall, about 65% of the facilities practiced adequate waste disposal and management practices but about 35% of the facilities had moderate to poor waste management practices which requires appropriate modifications for improvement and in some cases (5%) considerable improvement is needed in this area.

Table 1.6: Universal precaution and waste disposal:

Grades	**Eastern Region** N=7 % (n) (CI)	**Central Region** N=4 % (n) (CI)	**Western Region** N=9 % (n) (CI)	**Total** N=20 % (n) (CI)
7a. General infection prevention practices				
Mean Score ***Median Score***	***100.0*** ***100.0***	***97.5*** ***100.0***	***100.0*** ***100.0***	***95.5*** ***100.0***
A	100.0(7) (59.0-100.0)	75.0(3) (19.4-99.4)	100.0 (9) (66.4-100.0)	95.0(19) (75.1-99.9)
B	0	25.0 (0.6-80.6)	0	5.0 (1) (0.1-24.9)
C	0	0	0	0
D	0	0	0	0
7b. Decontamination and sterilization of instruments				
Mean Score ***Median score***	***84.4*** ***83.0***	***88.9*** ***90.5***	***84.6*** ***83.0***	***85.4*** ***86.5***
A	42.9 (3) (9.9-81.6)	50.0 (2) (6.8-93.2)	0	45.0 (9) (23.1-68.5)
B	57.1(4) (18.4- 90.1)	50.0 (2) (6.8-93.2)	44.4 (4) (13.7-78.8)	50.0 (10) (27.2-72.8)
C	0	0	44.4 (4) (13.7-78.8)	05.0 (1) (0.1-24.9)
D	0	0	11.1 (1) (0.3-48.2)	0
7c.Waste disposal				

Mean Score ***Median Score***	***76.9*** ***89.0***	***89.6*** ***89.6***	***76.1*** ***72.4***	***79.0*** ***84.8***
A	14.3 (1) (0.4-57.9)	0	22.2 (2) (2.8-60.0)	15.0 (3) (3.2-37.9)
B	57.1 (4) (18.4-90.1)	25.0 (0.6-80.6)	55.6 (5) (21.2-86.3)	50.0 (10) (27.2-72.8)
C	28.6 (2) (3.7-71.0)	50.0 (2) (6.8-93.2)	22.2 (2) (2.8-60.0)	30.0 (6) (11.9-54.3)
D	0	25.0 (0.6-80.6)	0	05.0 (1) (0.1- 24.9)

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement

1.7 Availability and adherence to guidelines

Table 1.7 Availability and adherence to guidelines

Grades	**Eastern Region** N=7 % (n) (CI)	**Central Region** N=4 % (n) (CI)	**Western Region** N=9 % (n) (CI)	**Total** N=20 % (n) (CI)
Mean Score ***Median Score***	***64.3*** ***75.0***	***62.5*** ***62.5***	***52.8*** ***50.0***	***58.8*** ***62.5***
A	0	0	0	50.0 (10) (27.2-72.8)
B	57.1(4) (18.4-90.1)	50.0 (2) (6.8-93.2)	44.4 (4) (13.7-78.8)	55.0(11) (31.5-76.9)
C	0	0	0	0
D	42.9 (3) (9.9-81.6)	50.0 (2) (6.8-93.2)	55.6 (5) (21.2-86.3)	50.0 (10) (27.2-72.8)

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement.

95% of the facilities had The National Guideline for STI Management 2006 and 80% of the facilities had infection control guidelines while only 55% of the facilities had guideline for VCT on site. All guidelines were found least available in the western region as compared to the other two regions. No written protocol for PEP was available in 85% of the facilities.

50% of the facilities do not have the required guidelines at the facilities, which require immediate attention.

1.8 Record keeping system

While 95% of the facilities maintained STI records at the facilities only 75% maintained them as they should. Also 56% of the records were not well maintained in the western region. While all the facilities had STI monthly/quarterly report forms, only 75% of the facilities had HIV monthly/quarterly report forms. 19% of the facilities in the west and 33% in the east reported not having HIV forms at the facilities. Nevertheless, all the facilities reported submitting reports to the authority in time.

Table 1.8 Record keeping System

Grades	**Eastern Region** N=7 % (n) (CI)	**Central Region** N=4 % (n) (CI)	**Western Region** N=9 % (n) (CI)	**Total** N=20 % (n) (CI)
Mean Score ***Median score***	***87.7*** ***100.0***	***79.2*** ***83.3***	***75.4*** ***83.3***	***80.5*** ***86.7***
A	14.3(1) (0.4- 57.9)	25.0 (1) (0.6-80.6)	22.2 (2) (2.8-60.0)	20.0 (4) (5.7-43.7)
B	42.9(3) (9.9-81.6)	75.0 (3) (19.4-99.4)	44.4 (4) (13.7-78.8)	50.0 (10) (27.2-72.8)
C	42.9(3) (9.9-81.6)	0	22.2 (2) (2.8-60.0)	25.0 (5) (8.7-49.1)
D	0	0	11.1 (1) (0.3- 48.2)	05.0 (1) (0.1-24.9)

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement

90% of the facilities maintained VCT client records. While 95% of the facilities recorded the laboratory test results, only 85% of the facilities had a system of recording samples received for HIV testing. This practice is lower in the east (57%) as compared to the other two regions that is 100%.

50% of the facilities did not have pre and post-test counselling forms and about 30% of the facilities did not have informed consent forms for HIV testing. So, it was recorded in either plain white papers or registers.

Only about 70 % of the facilities had acceptable recording system and over one-third (30%) of the facilities of the central and west regions need considerable improvement in record keeping system.

1.9 Infrastructures and supplies

Gram staining was done in 85%of the facilities, VDRL/RPR in 90% of the facilities and HIV test (rapid) in 90 % of the facilities. About 80% of the facilities provide results for gram stain and VDRL/RPR on the same day and about 83 % of the facilities provide HIV test results on the same day and remaining 17 % do it only after 1-2 days.

Table 1.9 Infrastructure and supplies

Region	**East** N=7 % (n) (CI)	**Central** N=4 % (n) (CI)	**West** N=9 % (n) (CI)	**Total** N=20 % (n) (CI)
Mean Score ***Median Score***	***61.9*** ***78.6***	***85.6*** ***83.3***	***81.7*** ***88.4***	***75.6*** ***83.2***
A	0	25.1(1) (0.6-80.6)	33.3 (3) (7.5-70.1)	20.0(4) (5.7-43.7)
B	71.4(5) (29.0-96.3)	75.0 (3) (19.4-99.4)	33.3 (3) (7.5-70.1)	55.0(11) (31.5-76.9)
C	0	0	33.3 (3) (7.5-70.1)	15.0(3) (3.2-37.9)
D	28.6(2) (3.7-71.0)	0	0	10.0(2) (1.2-31.7)

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement

While more than 90% of the facilities had stock of laboratory supplies such as glassware, tubes, needles, syringes, etc. only 65% had stocks of reagents (HbsAg and PRP/TPHA) at the time of assessment. Most stock outs were observed in the eastern region. 33.3% of the facilities, all in the east, did not have HIV rapid kits. This is unacceptable.

Reagents usually arrived in time, under right conditions, but 25% of the facilities had expired reagents at the time of survey. The expired reagents were usually discarded with approval.

About a quarter (25%) of the facilities, particularly in the east and west require modification and considerable improvement to provide adequate testing facilities for the STI and VCT.

1.10 Confidentiality

All the prescriber and counsellors interviewed from 100% of the facilities understood the meaning of confidentiality. However, 10% of the laboratory technicians (eastern region) did not understand the meaning of confidentiality. 95% of the STI and HIV registers were kept in secure place under lock and key.

Table 1.10 Confidentiality

Region	**East** N=7 % (n) (CI)	**Central** N=4 % (n) (CI)	**Western** N=9 % (n) (CI)	**Total** N=20 % (n) (CI)
Mean Score ***Median Score***	***86.4*** ***92.0***	***94.2*** ***92.3***	***98.1*** ***100.0***	***93.3*** ***96.2***
A	71.4(5) (29.0-96.3)	100(4) (39.8-100)	88.9 (8) (51.8-99.7)	85.0(17) (62.1-96.8)
B	14.3 (1) (0.4-57.9)	0	11.1 (1) (0.3-48.2)	10.0(2) (1.2-31.7)
C	14.3 (1) (0.4-57.9)	0	0	05.0 (1) (0.1-24.9)
D	0	0	0	0

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement

None of the facilities reported breach in confidentiality, which is good. But about 5% of the facilities need improvement in this area.

1.11 Referral linkages

About 90% of the facilities had referral slips for referring patients to other facilities and 20% of the facilities referred STI/HIV patients to another facility most of which were recorded either in referral slips or in prescription forms.

Only 13% of the HIV positive patients who needed services from other facilities were referred and only 0.2 % of the HIV negative patients who needed referral were referred to other facilities.

In more than half (55%) of the facilities, mostly in the central and eastern regions, referral linkages need to be improved considerably.

Table 1.11 Referral Linkages

Region	**East** N=7 % (n) (CI)	**Central** N=4 % (n) (CI)	**West** N=9 % (n) (CI)	**Total** N=20 % (n) (CI)
Mean Score ***Median Score***	***35.7*** ***50.0***	***75.0*** ***75.0***	***88.9*** ***100.0***	***67.5*** ***50.0***
A	0	50.0 (2) (6.8-93.2)	77.8 (7) (40.0-97.2)	45.0(9) (23.1-68.5)
B	0	0	0	0
C	0	0	0	0
D	100 (7) (59.0-100.0)	50.0 (2) (6.8-93.2)	22.2(2) (2.8-60.0)	55.0 (11) (31.5-76.9)

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement)

1.12 Monitoring quality of the services

About a third (30%) of the facilities did not have the quality monitoring system in place and 30% of the facilities never had a supervisory visit in the last year. 20% of the laboratories never sent any samples to other laboratories for quality control.

40% had 1-2 supervisory visits and another 30% had more than or equal to 3 visits in the last year. Central and west had less (50% and 56% respectively) supervisory visits than the east (99%).

Of those visited facilities, 64% reported that recommendations were made during the supervisory visits and 100% of the facilities implemented the recommendations.

Table 1.12 Monitoring qualities of services

Region	**East** N=7 % (n) (CI)	**Central** N=4 % (n) (CI)	**West** N=9 % (n) (CI)	**Total** N=20 % (n) (CI)
Mean Score	***74.9***	***53.1***	***62.9***	***65.1***
Median Score	***75.0***	***43.8***	***66.0***	***64.3***
A	28.6(2) (20.8-60.0)	25.1(1) (0.6-80.6)	0	15.0(3) (3.2-37.9)
B	28.6(2) (20.8-60.0)	0	44.4 (4) (13.7-78.8)	30.0(6) (11.9-54.3)
C	14.3(1) (0.4-57.9)	25.0 (0.6-80.6)	11.1(1) (0.3-48.2)	15.0(3) (3.2-37.9)
D	28.6(2) (20.8-60.0)	50.0 (2) (6.8-93.2)	44.4 (4) (13.7-78.8)	40.0(8) (19.1-63.9)

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement

1.13 Utilization of services

Average number of STI clients per facility in the last year was about 44 with median of 20, meaning 50% of the facilities received about 20 clients in the last year and more than half (55%) of the STI patients received treatment at the facilities. It was observed that only 8% of the STI patients received treatment in the west, 69% of the patient received treatment in the central and most (95%) of the STI patients were treated in the were treated in the eastern region.

On an average 85% of ANC women in each facility were referred for RPR screening and 82% of them received counselling for HIV test in last year. The average number of

clients tested HIV positive per facility is 0.5, which means in 20 facilities only about 10 clients were tested positive in the last year.

On an average 74% of STI patients received condoms at the treatment site. This service was better in the central region (85%) as compared to east (67%) and west (77%).

On an average 94% of the STI clients received counselling services of which 83% received counselling for HIV testing but only 38% were tested for HIV mostly in the central (75%) and in the east about 36% and 24% in the west.

More than 55% of the STI cases in east, about 35% in the central and 29% of STI cases in the west underwent partner notification. On an average only 41% of the STI cases underwent partner notification in the last year.

71 % of the TB patients in the west, 67% in the central and 53 % in the east had received counselling services. On an average, only 63% of the TB patients received these services whereas more than one third (37%) of TB patients did not receive counselling service in the last year.

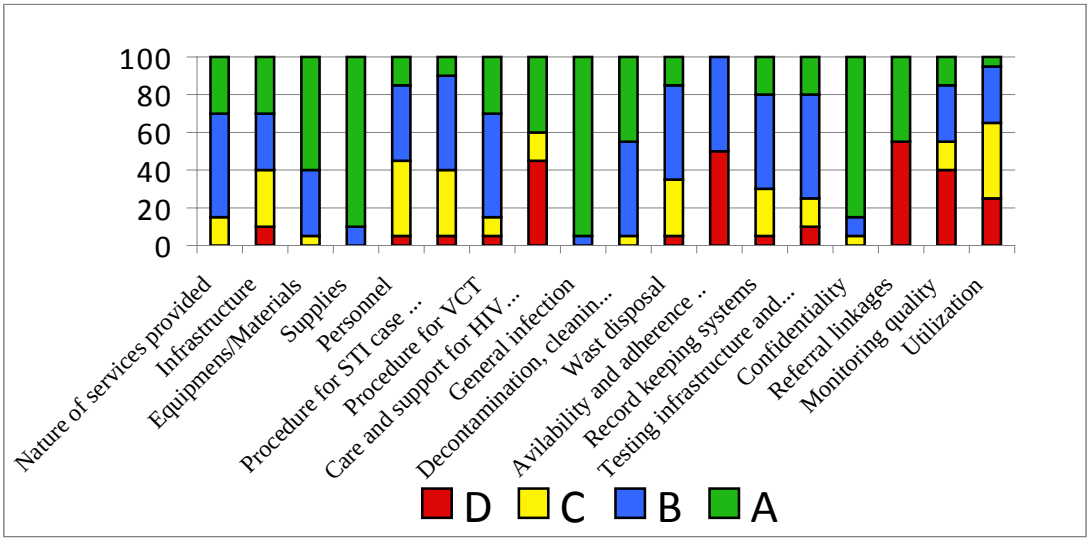
Overall, only 35% of the facilities were optimally utilized. Utilization of 40% of the facilities was suboptimal and 25% of the facilities were underutilized for the STI/HIV services.

Table 1.13 Utilization of services

Region	**East** N=7 % (n) (CI)	**Central** N=4 % (n) (CI)	**West** N=9 % (n) (CI)	**Total** N=20 % (n) (CI)
Mean Score ***Median Score***	***60.1*** ***63.0***	***68.2*** ***72.7***	***58.3*** ***59.1***	***60.8*** ***63.0***
A	0	25.1(1) (0.6-80.6)	0	05.0 (1) (0.1-24.9)
B	42.9(3) (9.9-81.6)	50.0 (2) (6.8-93.2)	11.1(1) (0.3-48.2)	30.0(6) (11.9-54.3)
C	14.3(1) (0.4-57.9)	0	77.8 (7) (40.0-97.2)	40.0(8) (19.1-63.9)
D	42.9(3) (9.9-81.6)	25.0 (0.6-80.6)	11.1(1) (0.3-48.2)	25.0 (5) (8.7-49.1)

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement).

Summary of BHU-I and Above



In summary, the key findings that require considerable attention and improvement are as follows:

1. Almost two-third of the BHU-I and above facilities were either sub-optimally utilized or underutilized and more than half of the facilities had inadequate to poor monitoring and supervision.

2. About half of the facilities did not have relevant guidelines for management for STI and VCT. Also the recording system was found poor in half of the facilities

3. More than half (55%) of the facilities had poor referral linkages to refer STI and HIV cases when required

4. Almost half (45%) of the facilities had inadequate trainings on STI/HIV and VCT management and 40% of the facilities had poor infrastructure for STI/HIV and VCT management

5. More than one-third (35%) of the facilities had poor waste management practises.

These areas need to be prioritised and addressed by the relevant stakeholders to improve STI/HIV and VCT services to the people.

Recommendations: BHU-I & above

1. The knowledge of the staff and record keeping system needs to be checked and corrected if the source of infection is misunderstood and recorded wrongly.

2. Since 60% of the facilities did not have adequate STI/HIV leaflets and pamphlets, the ICB and the HIV/AIDS programme should ensure provision of well researched and pre-tested materials at all the health facilities

3. Capacity for counselling of ANC, HIV patients and TB patients need to be strengthened overall with particular focus on the eastern and western region.

4. HIV/AIDS and TB programme need to establish collaboration in order to provide better counselling services to the TB patients and vice versa.

5. The VCT/STI services need to be improved in general with particular focus in the regions where services need appropriate modification to improve services.

6. Appropriate training modules need to be developed and staff from all facilities should be trained adequately on STI and VCT management

7. Training on STI syndromic management guideline needs to be replicated countrywide

8. Depending on the training coverage, regional prioritization of the training needs to be done

9. Counsellors need to be trained on adequate duration of pre and post-test counselling and group counselling should be encouraged in facilities with more clients.

10. Standard protocol for care and support needs to be developed and all the facilities particularly those which deals with HIV positive cases need to be improved to provide adequate care and support for the HIV positive cases.

Selected key indicators for BHU-I and Above

Indicators	East (%)	Central (%)	West (%)	Total (%)
Follow syndromic management for STI diagnosis and treatment with out laboratory results	43	50	56	50
Follow syndromic management for STI diagnosis and treatment with laboratory results	57	50	44	50
STI leaflets and pamphlets available at the facility	14	25	67	40
Facilities with national guideline for STIs	43	50	55	50
Condoms available	100	100	95	96
Minimum level of privacy maintained during patient examination	100	100	100	100
Adequate water supply available in the health facility	86	75	100	90
Facility with stock outs for STI drugs in the last year	0	50	35	37
Inadequate (<=4 days) training duration on VCT & confidentiality	0	0	0	0
Physical examination of all suspected STI cases	71	50	100	80
Health facilities correctly treated for suspected gonorrhoea (ceftriaxone and doxycycline)	0	75	22	25
Proportion of facilities where regular (always) demonstration of condom was	43	0	0	15
Proportion of facilities where regular (sometimes) demonstration of condom was	57	100	56	65
Proportion of ANC mothers who received counselling for HIV in last one year	77	78	93	84
Proportion of facilities that provided counselling services to STI clients	100	100	77	90
Facilities maintaining records in STI register as they should be	100	100	89	95
Facilities with written PEP protocol	0	0	11	05
Clinical staffs follow rules of hand washing and rightly describes the procedure	100	100	89	95
Separate buckets with or without chemicals for disposal of contaminated waste (eg, swab), instruments (e.g. forceps)	100	100	89	95
Facilities with supervisory visits of >=3	57	25	11	30
Facilities which followed up any recommendations made during the last supervisory visit	100	100	100	100
Facilities ever out of stack of condom in the last year	0	0	11	5

II. Health Facility Survey-BHU-II

STI treatment services are available in all the 172 BHU-II in the country. There are no laboratory testing services for STI and HIV within the current standard of health care at the BHU-II. The HIV/STI services were evaluated through this survey in 46 randomly selected representative samples of BHUs under the three regions: east, west and central part of the country.

2.1 Nature of services provided

All the BHUs in three regions, as expected followed syndromic management without laboratory diagnosis for treatment and diagnosis of STIs.

97.7% (44) of the BHUs provided STI treatment with counselling while 4.3% (2) of the facilities provided treatment without counselling. 97.6% of the STI sources were unknown indicating that a better recording of information is necessary.

95.7% of BHUs carried out partner notification with consent for STI clients.

It was observed that about 30 % (14) of the BHUs did not have any STI/IEC materials such as leaflets and pamphlets. The IEC materials were grossly unavailable in the eastern region where only 5% (1) BHU had the materials. 37.5% (6) BHUs in the central did not have IEC materials. IEC materials were commonly (70.7%) available in the BHUs in the western region and they also had STI IEC materials as compared to other regions.

2.2 VCT services

26.1% (12) provided on site VCT while 15.2% (7) BHUs referred out their ANC clients. 58.7% (27) did not provide any counselling services for ANC clients. Mostly BHUs in the central region 87.5% (14) and western region 70.0% (7) did not provide VCT services. BHUs in the eastern region performed better than the other regions with 70% (14) either provided VCT at the site or were referred for VCT.

Overall 93.2% (41) provided VCT services to ANC clients and 97.8% (45) provided counselling services to STI clients. There were no huge differences in provision of VCT services in ANC and STI clients among the three regions. On the other hand, counselling services to TB patients were inadequate with only 64.1% (25/39) reporting the provision of services.

All the BHUs surveyed in all the three regions have reported that they provided counselling services to risky population groups.

Only 4.3% (2) of the BHUs provided excellent services (grade A) while 67.4% (31) provided adequate services (grade B). Over quarter (28.3%) of the BHUs needed

improvement (grade C). BHUs must improve record keeping for source of STI infection and make IEC materials available for better communication to the patients. The findings also suggest that there are inadequate counselling services in ANC, TB patients. There is also low coverage of STI services to riskier population groups (e.g., drug users, mobile population, etc). All of these services need urgent scale up and corrective measures at the BHU setting. (Refer table 2.2).

Table 2.2: Nature of services provided in this facility

Regions	**East** N=20 %(n) (CI)	**Central** N=16 %(n) (CI)	**West** N=10 %(n) (CI)	**Total** N=46 %(n) (CI)
Mean score	***77.1***	***73.5***	***80.6***	***76.6***
Median score	***77.0***	***72.2***	***85.4***	***77.0***
Grade scores				
A	5.0 (1) (0.1-24.9)	6.3 (1) (0.2-30.2)	0	4.3 (2) (0.5-14.8)
B	70.0 (14) (45.7-88.1)	56.3 (9) (29.9-80.2)	80.0 (8) (44.4-97.5)	67.4 (31) (52.0-80.5)
C	25.0 (5) (8.7-49.1)	37.5 (6) (15.2-64.6)	20.0 (2) (2.5-55.6)	28.3 (13) (16.0-43.5)
D	0	0	0	0

2.3 Facility set up and supplies

2.3a Infrastructure

Majority (97.8%) of the BHUs have maintained a minimum level of privacy (auditory and visual privacy like screen, locked door, etc.) during patient examination. This was also maintained for VCT counselling (95.7%).

It was observed that one-fifth (19.6%) of the BHUs did not have adequate water supply in the facility. The problem appeared to be alike in all the BHUs across the regions.

Nearly three quarters (73.9%) of the BHUs had excellent (grade A) facilities for providing minimum privacy measures during patient examination, VCT and water supply. Remaining quarter (23.9%) of them required improvement in facility set up which was mainly due to inadequate water supply for the facility. Overall 2.2% (1) BHUs had issues with maintaining privacy as well as water supply (grade D) which may also compromise practice of universal precaution. (Refer table 2.3a.)

Table 2.3a: Facility setup and supplies-*Infrastructure*

Regions	**East** N=20 %(n) (CI)	**Central** N=16 %(n) (CI)	**West** N=10 %(n) (CI)	**Total** N=46 %(n) (CI)
Mean score	***89.8***	***89.6***	***93.3***	***90.5***
Median score	***100.0***	***100.0***	***100.0***	***100.0***
Grade				
A	70.0 (14) (45.7-88.1)	75.0 (12) (47.6-92.7)	80.0 (8) (44.4-97.5)	73.9 (34) (58.9-85.7)
B	0	0	0	0
C	30.0 (6) (11.9-54.3)	18.8 (3) (4.0-45.6)	20.0 (2) (2.5-55.6)	23.9 (11) (12.6-38.8)
D	0	6.3 (1) (0.2-30.2)	0	2.2 (1) (0.1-11.5)

2.3b Equipments and materials available in the facility

All the BHUs had functioning patient bed, screens for patient observation, sink/basin for hand washing, spot light, and working torch with batteries, drums for sterile equipments, instrument forceps, forceps jars, and sponge holding forceps, specula and penile models.

However, over one-fifths (21.7%) of the BHUs did not have clean sheets on examination bed while 8.7% (4) did not have soap on the sink/basin for hand washing. 91.3% (42) of the BHUs had condoms while 93.5% (43) had clean towels at appropriate place.

Over two third (68.9%) of the BHUs had BCC materials (flip chart, leaflets, pamphlets, etc). Among the regions, BCC were widely available in the BHUs of the western region (90%). Nearly two thirds (62.5%) in the central and one fourth of the BHUs in the east did not have BCC materials.

Over a fifth (21.8%) of the BHUs required improvement (grade C and D) in selected areas of supplies and materials. The BHUs needed to fix the spot lights for patient examination, keep torch with batteries, penile models for condom demonstration, and BCC materials for patient education and place clean sheets on patient examination bed. (Refer table 2.3b.)

Table2.3b: Equipments/materials available

Regions	**East** N=20 %(n) (CI)	**Central** N=16 %(n) (CI)	**West** N=10 %(n) (CI)	**Total** N=46 %(n) (CI)
Mean score	**81.2**	**74.6**	**81.8**	**79.0**
Median	**81.0**	**78.0**	**78.0**	**81.0**
Grade				
A	15.0 (3) (3.2-37.9)	0	20.0 (2) (2.5-55.6)	10.9 (5) (3.6-23.6)
B	65.0 (13) (40.8-84.6)	62.5 (10) (35.4-84.8)	80.0 (8) (44.4-97.5)	67.4 (31) (52.0-80.5)
C	20.0 (4) (5.7-43.7)	31.3 (5) (11.0-58.7)	0	19.6 (9) (9.4-33.9)
D	0	6.3 (1) (0.2-30.2)	0	2.2 (1) (0.1-11.5)

2.3c Supplies

Less than 50% of the BHUs had 24 grosses of condoms in store. 15.2% (7) reported ever out of stock of condoms in the last year while 10.9% (5) of the BHUs reported being ever out of stock of gloves in the last year.

All the BHUs had STI drugs in stock among which 5% (1) one of the BHUs had expired STI drugs in store. 97.8% (45) had stored the STI drugs appropriately in proper room temperature, lighting and by expiry dates.

Almost a quarter (23.9%) of the BHUs have reported stock outs for STI drugs in the last year. Most of the past year's STI drug stock outs were reported in the order of 37.5% in the central region, 20.0% in the western region and 15% in the eastern region.

Considering supply and stock assessment of condoms, gloves and STI drugs, 17.4% (8) performed excellent (grade A). 71.7% (33) did not require any changes in supply and stock management services while 10.9% (5) required improvement in supply and management of the above commodities at the facilities. 25% of the BHUs in the central region and 5% in the eastern region required considerable improvement. 100% of the BHUs in the western region adequately managed supply and stocks (grade A and B). (Refer table 2.3c.)

Table 2.3c: Facility setup and supplies-*Supplies*

Regions	**East** N=20 %(n) (CI)	**Central** N=16 %(n) (CI)	**West** N=10 %(n) (CI)	**Total** N=46 %(n) (CI)
Mean score	***84.7***	***77.3***	***91.4***	***83.6***
Median	***87.0***	***75.0***	***100.0***	***87.0***
Grade				
A	10.0 (2) (1.2-31.7)	0	60.0 (6) (26.2-87.8)	17.4 (8) (7.8-31.4)
B	85.0 (17) (62.1-96.8)	75.0 (12) (47.6-92.7)	40.0 (4) (12.2-73.8)	71.7 (33) (56.5-84.0)
C	5.0 (1) (0.1-24.9)	25.0 (4) (7.3-52.4)	0	10.9 (5) (3.6-23.6)
D	0	0	0	0

2.4 Personnel

At least one staff from 71.7% (33) of the BHU-II had received training on STI syndromic management. Of those who were trained, 93.9% (31/33) received training on STI syndromic management guideline 2006. Of those trained on syndromic management guideline 2006, 87.1% (27/31) have been trained for adequate duration (2 days or more), while 12.9% (4/31) were trained for inadequate duration (2 days or less).

Overall, 9.3% (4/43) of the staffs also received trainings on STIs other than the syndromic management.

45.7% (21/46) BHUs had staffs who received training in VCT and confidentiality. Training coverage was less in central (12.5%) as compared to east (60.0%) and west (70.0%). Of those trained on VCT and confidentiality, 66.7% (14/21) of the staffs received adequate training duration (4-5 days) while 28.6% (6/21) received inadequate(less than 4 days) duration of training. All staffs trained in the central were trained for an adequate duration. However, 33.3% in the east and 28.6% of those trained in the west received inadequate (less than 4 days) duration of training.

93.5% (43) of the BHUs had a cleaner/attendant /care taker. It was found that cleaners handled biohazard substances in 97.7% (42/43) of the BHUs. As an individual protection, 97.7%(42/43) of the cleaners responded that they used gloves, 88.4%(38/43) used foot wears, 51.2% (22/43) used masks, 27.9%(12/43) used apron and 4.7%(2/43) used goggles.

Nearly three quarters (73.9%) of the BHUs scored grade C and D. This indicates that BHUs needed considerable increase in coverage of training for staffs as well as to provide adequate duration of training on STI syndromic management(>=2 days) and VCT(>=4 days). (Refer table 2.4)

Table 2.4 Personnel

Regions	**East** N=20 %(n) (CI)	**Central** N=16 %(n) (CI)	**West** N=10 %(n) (CI)	**Total** N=46 %(n) (CI)
Mean score	***61.6***	***43.5***	***67.6***	***56.6***
Median	***66.0***	***43.8***	***72.0***	***56.8***
Grade				
A	0	0	0	0
B	25.0 (5) (8.7-49.1)	12.5 (2) (1.6-38.3)	50.0 (5) (18.7-81.3)	26.1 (12) (14.3-41.1)
C	45.0 (9) (23.1-68.5)	18.8 (3) (4.0-45.6)	30.0 (3) (6.7-65.2)	32.6 (15) (19.5-48.0)
D	30.0 (6) (11.9-54.3)	68.8 (11) (41.3-89.0)	20.0 (2) (2.5-55.6)	41.3 (19) (27.0-56.8)

2.5: Procedure for STI case management

95.7% (44/47) of the BHUs staffs reported that they receive or greet and explain the procedures to the patients.

When treating a STI client, 71.7% (33) of the BHU staffs reported that they demonstrated condom use. However, only one BHU reported demonstrating condom use routinely in the last year. 97.1% of the BHU staffs reported that condom demonstration to STI clients were not done routinely but sometimes only.

Although BHU staffs asked routine sexual history to the STI clients, physical examination was not routinely done for suspected STI clients. Overall 87% (40) of the BHUs staffs of did the physical examination. However, most (95.7%) of the BHUs staffs provided additional measures (counsel, provided condoms or notified partners) to prevent STI re-infection in the clients.

All the BHUs in the east and central region followed national guidelines while only 80% (8/10) of the BHUs in the west did so when treating STI clients.

43.5% (20) of the BHU staff let the STI clients take responsibility to notify and bring their partners (patient referral) for treatment while 56.5% (26) of the BHU staffs helped the patients to motivate their partners to come for treatment (provider referral).

For suspected cases of gonorrhoea, over all 32.6% (15/46) BHUs have provided the correct treatment with the combination of ceftriaxone 250 mg i.m. and doxycycline. None of the BHUs in the west, 25% (5/20) of the BHUs in the east and 62.5% (10/16) BHUs in the central provided the correct treatment.

One-fifth, that is, 17.4% (approximately) of the BHUs (grade C and D) requires improvement in STI treating procedures. More attention must be given to the areas such as onsite condom demonstration, increase the physical examination for the suspected STI clients, initiate more provider initiated partner notification and provide correct combinations of drugs for STI clients.

Table 2.5: Procedure for STI case management

Regions	**East** N=20 %(n) (CI)	**Central** N=16 %(n) (CI)	**West** N=10 %(n) (CI)	**Total** N=46 %(n) (CI)
Mean score ***Median***	***82.9*** ***83.0***	***72.8*** ***77.7***	***74.6*** ***75.2***	***77.6*** ***82.1***
Grade				
A	30.0 (6) (11.9-54.3)	6.3 (1) (0.2-30.2)	0	15.2 (7) (6.3-28.9)
B	65.0 (13) (40.8-84.6)	68.8 (11) (41.3-89.0)	70.0 (7) (34.8-93.3)	67.4 (31) (52.0-80.5)
C	0	18.8 (3) (4.0-45.6)	10.0 (1) (0.3-44.5)	8.7 (4) (2.4-20.8)
D	5.0 (1) (0.1-24.9)	6.3 (1) (0.2-30.2)	20.0 (2) (2.5-55.6)	8.7 (4) (2.4-20.8)

2.6: Universal precautions and waste disposal

2.6a. General infection prevention practices

Staffs interviewed in all the BHUs reported that they followed infection prevention measures. 100% of the staffs could describe the rules of hand washing. Except for central region (93.8%), all the BHUs in the west and the eastern region reported that they usually used gloves during examination.

All the BHUs in the central and the west used sharp boxes or safety boxes. 10.0% (2) BHUs in the east used plastic bins in addition to sharp box/safety box.

In general, all the BHUs adopted adequate measures in general infection prevention such as hand washing practices, use of gloves during patient examination, and in handling and disposal of needles and sharp instruments. (Refer table 2.5a.)

Table 2.6a: General infection prevention practices

Regions	**East** N=20 %(n) (CI)	**Central** N=16 %(n) (CI)	**West** N=10 %(n) (CI)	**Total** N=46 %(n) (CI)
Mean score ***Median***	***100.0*** ***100.0***	***98.8*** ***100.0***	***100.0*** ***100.0***	***99.6*** ***100.0***
Grade				
A	100.0 (20) (83.2-100.0)	93.8 (15) (69.8-99.8)	100.0 (10) (69.2-100.0)	97.8 (45) (88.5-99.9)
B	0	6.3 (1) (0.2-30.2)	0	2.2 (1) (0.1-11.5)
C	0	0	0	0
D	0	0	0	0

2.6b Decontamination, cleaning and sterilization of instruments

It was observed that in 93.5% (45) of the BHUs decontamination and sterilization of instruments after each use was satisfactory. 100% of the BHUs used hypochlorite solution/savlon. 86.0% of the BHUs prepared hypochlorite solution daily or whenever required. 82.6% of the BHUs prepared savlon daily or whenever required.

It was observed that 93.5% (43.46) of the BHUs dipped the instruments in hypochlorite or savlon solution after use. 32.6% of the BHUs dipped instruments in hypochlorite or savlon solution for inappropriate duration (less than 10 minutes or more than 30 minutes) while the remaining 67.4% of the BHUs dipped for recommended standard practice of 10-30 minutes. 95.7% of the BHUs autoclaved instruments after cleaning them. The site observation also found that 100% of the BHUs had functioning autoclave with 95.5% of the BHUs following standard procedure for autoclaving.

Over one fifth (28.9%) of the BHUs kept the instruments in a close cabinet covered in double layer of clothes for extended duration of two weeks while 13.4% (6) of the BHUs kept the instruments inadequately wrapped with a single layer of cloth in closed/open cabinet for one week. Only 4.4% (2) BHUs met the standard practice where instruments were kept in a double layer of clothes in open cabinet for one week after sterilization.

Although 91.3% of the BHUs performed well (grade A and B), it was skewed due to standard practices in autoclaving and the standard practices in frequency of preparation and use of savlon and hypochlorite solution for decontamination of instruments. However, a special attention must be given to improve the standard practices in storage of the autoclaved instruments and to maintain appropriate timing while dipping the instruments for decontamination. 20% (2/10) of the BHUs in the west needed improvements and 10% (2/20) BHUs in the east had extremely poor performance in maintaining these standard practices. (Refer table 2.5b).

Table 2.6b Decontamination, cleaning and sterilization of instruments

Regions	**East** N=20 %(n) (CI)	**Central** N=16 %(n) (CI)	**West** N=10 %(n) (CI)	**Total** N=46 %(n) (CI)
Mean score ***Median***	***82.0*** ***83.0***	***83.8*** ***83.3***	***81.0*** ***81.8***	***82.4*** ***83.0***
Grade				
A	40.0 (8) (19.1-63.9)	37.5 (6) (15.2-64.6)	30.0 (3) (6.7-65.2)	37.0 (17) (23.2-52.5)
B	50.0 (10) (27.2-72.8)	62.5 (10) (35.4-84.8)	50.0 (5) (18.7-81.3)	54.3 (25) (39.0-69.1)
C	0	0	20.0 (2) (2.5-55.6)	4.3 (2) (0.5-14.8)
D	10.0 (2) (1.2-31.7)	0	0	4.3 (2) (0.5-14.8)

2.6c Waste disposal

Overall 65.2% (30/46) of the BHUs had separate buckets with or without chemicals for disposal of contaminated waste (e.g. swab) and instruments (e.g. forceps). This was particularly poor in the central (43.8%) and the western regions (60.0%).

95.7% of the BHUs staffs reported that they followed recommended practice sharp disposal by pit burial after collecting in the closed bins. However, it was observed that

71.7% (33) of the BHUs disposed glass wares such as injection vial by in the deep burial pit after collecting in hard closed bin. This practice was poorer in the east (60.0%) and central (75.0%) as compared to west (90.0%). Overall 15.2% (7) BHUs buried the glass wares in an inappropriate manner by directly collecting in the bucket.

63.0% (29) of the BHUs reported that infectious materials such as blood, used cotton were buried in deep pit. This disposal method was practiced the least in the west (40.0%) and central (56.3%) as opposed to the east (80.0%).

37.0% (17) of the BHUs burnt the infectious materials. This was commonly practiced in the west (60.0%) as compared to the east (20.0%) and the central (43.8%).

17.4% (8/46) of the BHUs disposed liquid clinical waste most of the times by decontaminating with disinfectant for 30 minutes and let to the underground drainage. Approximately two thirds (65.2%) of the BHUs did not adhere to good practice and directly let the liquid clinical waste to the underground drainage. Few BHUs also used other ways of disposal such as throwing in the pit/waste disposal/collected in the bin.

The overall performance in the area of waste disposal was variable among the BHUs (Refer table 5c.). 45.7% of the BHUs had inadequate performance (grade C and D) indicating the need for improvement in disposal practices of sharps, infectious materials and liquid clinical wastes at the BHUs across the country.

Table 2.6c: Waste disposal

Regions	**East** N=20 %(n) (CI)	**Central** N=16 %(n) (CI)	**West** N=10 %(n) (CI)	**Total** N=46 %(n) (CI)
Mean score ***Median***	***75.3*** ***80.0***	***68.1*** ***60.0***	***72.0*** ***80.0***	***72.0*** ***80.0***
Grade				
A	20.0 (4) (5.7-43.7)	12.5 (2) (1.6-38.3)	0	13.0 (6) (4.9-26.3)
B	40.0 (8) (19.1-63.9)	31.3 (5) (11.0-58.7)	60.0 (6) (26.2-87.8)	41.3 (19) (27.0-56.8)
C	35.0 (7) (15.4-59.2)	37.5 (6) (15.2-64.6)	40.0 (4) (12.2-73.8)	37.0 (17) (23.2-52.5)
D	5.0 (1) (0.1-24.9)	18.8 (3) (4.0-45.6)	0	8.7 (4) (2.4-20.8)

2.7: Availability and adherence to guidelines

39.9% (11) of the BHUs had a copy of the national guidelines for STI management in the facility. 50% (5) of the BHUs in the west did not have the national STI guidelines while 12.5% (2) BHUs in the central and 20.0% (4) BHUs in the east did not have the national STI guidelines.

Overall 15.2% (7) BHUs did not have infection control guidelines at the facility. Of these one third (30%) of the BHUs in the west, one fifth (19.7%) of the BHUs in the central did not have the infection control guidelines.

VCT guidelines were available in less than one third (30.4%) of the BHUs in the country. In the central region, only one BHU had the guideline.

There were only 4.3% of the BHUs with the written PEP protocol available in the facilities.

Over three quarters (76.1%) of the BHUs did not have the required guidelines at the health facility (grade C and D). An assessment would be required to review the production, supply, distribution at the central and the district health office and the utility of the national STI and infection control guidelines had they been supplied to the BHUs. (Refer table 2.6).

Table 2.7: Availability and adherence to guideline

Regions	**East** N=20 %(n) (CI)	**Central** N=16 %(n) (CI)	**West** N=10 %(n) (CI)	**Total** N=46 %(n) (CI)
Mean score	***75.6*** ***Median:66.0***	***57.2*** ***Median:66.6***	***53.3*** ***Median:66.7***	***64.3*** ***Median:66.6***
Grade				
A	45.0 (9) (23.1-68.5)	6.3 (1) (0.2-30.2)	10.0 (1) (0.3-44.5)	23.9 (11) (12.6-38.8)
B	0	0	0	0
C	35.0 (7) (15.4-59.2)	62.5 (10) (35.4-84.8)	50.0 (5) (18.7-81.3)	47.8 (22) (32.9-63.1)
D	20.0 (4) (5.7-43.7)	31.3 (5) (11.0-58.7)	40.0 (4) (12.2-73.8)	28.3 (13) (16.0-43.5)

2.8: Record keeping systems

84.3% (39) of the BHUs maintained records of STI patients. Over one third (37.5%) of the BHUs in the west and nearly a fifth (17.6%) of the BHUs in the east had not maintained the records of STI patients as they should be. On the contrary, records were maintained in 100% of the BHUs in the central region.

40.0% (6/10) of the BHUs in the west and 37.5% (10/16) of the BHUs in the east did not have STI forms at the facility. It was observed that 82.2% (37/46) BHUs had provided monthly report of STI to the authority in the timely manner.

Over one fifth (21.8%) of the BHUs needed improvement in the record keeping for STIs, must make quarterly report forms available, and provide timely monthly STI reports to the district health office. (Refer table 2.7).

Table 2.8: Record keeping systems

Regions	**East** N=20 %(n) (CI)	**Central** N=16 %(n) (CI)	**West** N=10 %(n) (CI)	**Total** N=46 %(n) (CI)
Mean score **Median**	**87.5** **100.0**	**78.1** **87.5**	**71.7** **75.0**	**80.8** **100.0**
Grade				
A	60.0 (12) (36.1-80.9)	50.0 (8) (24.7-75.3)	40.0 (4) (12.2-73.8)	52.2 (24) (36.9-67.1)
B	30.0 (6) (11.9-54.3)	18.8 (3) (4.0-45.6)	30.0 (3) (6.7-65.2)	26.1 (12) (14.3-41.1)
C	0	0	10.0 (1) (0.3-44.5)	2.2 (1) (0.1-11.5)
D	10.0 (2) (1.2-31.7)	31.3 (5) (11.0-58.7)	20.0 (2) (0.2-55.6)	19.6 (9) (9.4-33.9)

2.9: Confidentiality

95.7% of the clinical staffs interviewed from all the BHUs understood the meaning of confidentiality. It was observed that in overall 14.0% (11) BHUs, STI registers were not kept in a secure place. Among the regions, it was found that one fifth of the BHUs in the east kept the STI registers in insecure places. However, breach in confidentiality of information for STI clients was not reported in any of the BHUs.

Nearly one fifth (17.4%) of the BHUs needed to improve measures such as securing the STI registers in appropriate places of the health facility to strengthen the protection of confidentiality of STI clients at the facilities. (Refer table 2.8)

Table 2.9: Confidentiality

Regions	**East** N=20 %(n) (CI)	**Central** N=16 %(n) (CI)	**West** N=10 %(n) (CI)	**Total** N=46 %(n) (CI)
Mean score	***84.8***	***83.2***	***97.5***	***87.0***
Median	***88.0***	***88.8***	***100.0***	***88.0***
Grade				
A	10.0 (2) (1.2-31.7)	0	90.0 (9) (55.5-99.7)	23.9 (11) (12.6-38.8)
B	70.0 (14) (45.7-88.1)	75.0 (12) (47.6-92.7)	10.0 (1) (0.3-44.5)	58.7 (27) (43.2-73.0)
C	20.0 (4) (5.7-43.7)	25.0 (4) (7.3-52.4)	0	17.4 (8) (7.8-31.4)
D	0	0	0	0

2.10: Referral linkages

Over a third (34.7%) of the BHUs did not have referral slip/form for referring STI patients to other facility/person although 15.2% (7) of the BHUs referred STI patients to another facility in the last year. Such referrals were however recorded in prescribed form (71.4%) or register book (57.1%).

Nearly two thirds (65.2%) of the BHUs could be improved by using proper referral forms/slips when STI cases are referred out. Since 93.8% (15/16) of the BHUs in the central and 75% (15/20) BHUs in the east did not use any forms as opposed to 100% of the BHUs using referral slips/forms in the western region BHUs, this discrepancy must be addressed to standardize referral systems for STIs.

Table 2.10: Referral linkages

Regions	**East** N=20 %(n) (CI)	**Central** N=16 %(n) (CI)	**West** N=10 %(n) (CI)	**Total** N=46 %(n) (CI)
Mean score **Median**	**35.0** **0.0**	**40.6** **50.0**	**-**	**51.1** **50.0**
Grade A	25.0 (5) (8.7-49.1)	6.3 (1) (0.2-30.2)	100.0 (10) (69.2-100.)	34.8 (16) (21.4-50.2)
B	0	0	0	0
C	0	0	0	0
D	75.0 (15) (50.9-91.3)	93.8 (15) (69.8-99.8)	0	65.2 (30) (49.8-78.6)

2.11: Monitoring quality of services

All BHU staffs in the east and the central regions reported that there was monitoring of services in place. However, 30% (3/10) of the BHUs in the west reported that there was no monitoring of services in place.

Overall, 52.2% (24) BHUs had 1-2 supervisory visits and 41.3% (19) BHUs had more than three supervisory visits in the last year. 95.3 % of the BHUs reported that records were checked. 39.5% (17/46) BHUs reported checking universal precaution during the last visit of the supervisors.

83.7% (36/46) of the BHUs reported that recommendations were made during the last supervisory visit. Of them 86.1% (31/36) implemented the recommendations made by the supervisor. The BHUs in the east implemented 100% of the recommendations of the supervisor. Implementation of the recommendations following supervisory visit was less in central (78.6%) and the west (60%).

Overall 28.3% of the BHUs received inadequate monitoring and supervision support out of which 19.6% of the BHUs needed considerable support. Frequency of supervisory visits must be increased while at the same time improve the quality of supervision with dialogue with the health staffs to ensure better follow up on the supervisory recommendations. (Refer table 2.10)

Table 2.11: Monitoring quality of services

Regions	**East N=20 %(n) (CI)**	**Central N=16 %(n) (CI)**	**West N=10 %(n) (CI)**	**Total N=46 %(n) (CI)**
Mean score Median	***86.9 Median:83.2***	***75.4 Median:81.5***	***57.5 Median:70.6***	***76.5 Median:83.0***
Grade				
A	45.0 (9) (23.1-68.5)	18.8 (3) (4.0-45.6)	30.0 (3) (6.7-65.2)	32.6 (15) (19.5-48.0)
B	45.0 (9) (23.1-68.5)	43.8 (7) (19.8-70.1)	20.0 (2) (2.5-55.6)	39.1 (18) (25.1-54.6)
C	5.0 (1) (0.1-24.9)	12.5 (2) (1.6-38.3)	10.0 (1) (0.3-44.5)	8.7 (4) (2.4-20.8)
D	5.0 (1) (0.1-24.9)	25.0 (4) (7.3-52.4)	40.0 (4) (12.2-73.8)	19.6 (9) (9.4-33.9)

2.12: Utilization of services

In one year, STI patient visits included 0.4% (230/51837) of the patient visits. The average number of STI clients in the BHUs was 4.4. In the last year, 50% of the BHUs have seen 2.5 cases each. Overall, 63.9% of the STI patients received treatment at the visited centers which indicates that a third of the STI patient might have been referred at higher centers. However, the proportion of STI cases treated at the site was variable. It was found that only 15% of the STI cases were treated at the western BHUs while 68.5% cases were treated at site in eastern region. Majority (93.8%) received on site treatment for STIs in the central region.

Overall 22.2% (449/1591) of the ANC women were referred from the BHUs to higher centers for screening by rapid plasma regain (RPR) in the last year. One third of the ANC women were referred in the east and the west while very few women (9.7%) were referred in the central region for RPR screening at the higher centers.

Although national standard recommends provision of condoms on site to the STI clients, only 70.9% (144/203) of the STI clients received them. This differed by regions; 49.0% of the STI clients seen in the east, 75.0% in the central and 77.9% in the west were provided condoms at the treatment site.

There was also gap in the counselling services for STI clients. 82.6% of the STI clients received counselling in the last year. In addition to treatment, 93.8% of the STI clients in

the central, 73.7% in the east, and 77.9% in the west also received counselling in the last year.

There is substantial lack of partner notification (41.5%) which is likely to lead to inadequate detection of STI cases or increase recurrent infections. 30.4% of STI clients in the east, 57.7% in the central and 28.5% in the west had their partners notified in the last one year.

Nearly two thirds (71.6%) of the ANC mothers received counselling for HIV in the last year. Among the regions, mothers seeking ANC services in the western region received the least (48.9%) counselling in the last year.

Cross-examination and referral for services between TB, HIV and STI is recommended in the national guidelines. However, only a fourth (24.6%) of TB patients received HIV testing while nearly three quarters (73.7%) of STI clients received HIV counselling in the last one year. Further there is variation in the services provided among regions. Among the STI clients, only half (49.1%) of the clients seen in the western BHUs were counselled for HIV. On the other hand, 80.6% of the STI clients seen in the BHUs in the east and 66.8% of the STI clients treated in the central were counselled for HIV.

Majority (76.1%) of the BHUs needed to increase the services for offering HIV test and adequate counselling services among STI and TB patients. BHUs could also improve the performance by providing on site provision of condoms to STI clients and encouraging ANC mothers for RPR tests through referrals. (Refer table 2.11).

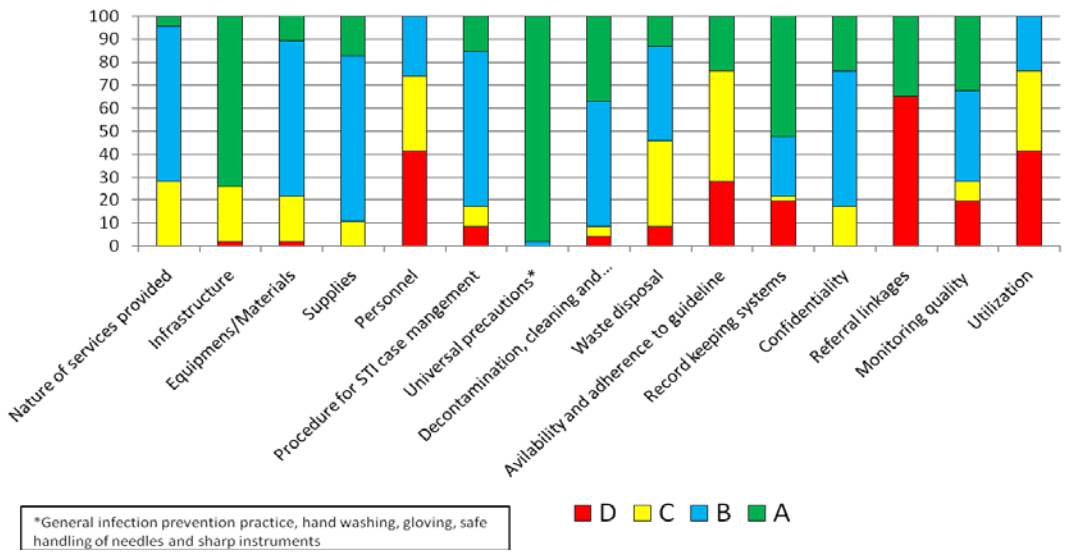
Table 2.12: Utilization of the services

Regions	**East** N=20 %(n) (CI)	**Central** N=16 %(n) (CI)	**West** N=10 %(n) (CI)	**Total** N=46 %(n) (CI)
Mean score ***Median***	 -	***53.8*** ***62.0***	***53.6*** ***57.1***	***52.9*** ***62.0***
Grade A	0	0	0	0
B	30.0 (6) (11.9-54.3)	12.5 (2) (1.6-38.3)	30.0 (3) (6.7-65.2)	23.9 (11) (12.6-38.8)
C	30.0 (6) (11.9-54.3)	43.8 (7) (19.8-70.1)	30.0 (3) (6.7-65.2)	34.8 (16) (21.4-50.2)
D	40.0 (8) (19.1-63.9)	43.8 {7} (19.8-70.1)	40.0 (4) (12.2-73.8)	41.3 (19) (27.0-56.8)

Summary findings and Recommendations:

The summary findings of the performance of BHU-II are reflected in the figure (1). The grades are colour coded where red (grade D) and yellow (grade C) need corrective measures. Except for one column, all staked bars have presence of red and yellow indicating areas needing attention.

Figure 1:Summary performance of the BHU II



1. There is good practice of universal precaution in hand washing and use of gloves but poorer practice of waste disposal. Similarly, autoclaving of the instruments are proper but poorer practices of decontamination and inappropriate storage duration of the sterilized equipments. Urgent corrective measures are required to improve comprehensive universal precaution and waste disposal system at the BHU-II.

2. The gross absence of the required national standard guidelines namely STI syndromic management or infection control guideline in the health facility might contribute to difficulty in accessing the right information thereby compromising the standard practices. A standard norm is instituted across the BHUs by designating appropriate places within the health facility where such tools should be kept for easy access and better use. Further, respective programmes at the central could do assessment of production, supply and distribution of these guidelines and correct if any gaps in these areas.

3. STI counselling services are inadequate in general. Following corrective measures are suggested:

- Improve the partner notification and treatment through mix of patient initiated and provider initiated partner tracing and notification. Make efforts to trace the STI exposed partners with the full consent of the STI clients.
- Increase the referrals of HIV testing and counselling for TB and STI patients.
- Ensure availability of IEC and BCC materials for STI.
- Promote condom demonstration and provision of condom distribution at the site of the treatment
- Ensure physical examination of the suspected STI clients
- Provide the recommended duration of trainings for STI and VCTs in order not to compromise on the content and required skills.

4. Due attentions must be given to ensure consistent availability of condoms and STI drugs to prevent stock outs in the BHUs. The staffs should be trained to better estimate and forecast these supplies to ensure non-interrupted supply of STI drugs and condoms.

5. To improve the STI information and records, STI registers must be properly maintained in the facility. Referral forms might be introduced as an alternative of the prescription papers. A feed back of the referrals from the referral health facility to the BHUs could ensure complete information of the referred patients. STI registers must be kept in secured places to ensure protection of patient information as STI clients are highly stigmatized.

4. Since there were inconsistent supervisory visits, and poor follow up on the recommendations made by the supervisors, the quality of monitoring and supervision must be improved. Why there was poor follow up of the supervisory recommendations by the health staffs was not assessed. To address these areas, standard supervisory tools may be used that can be jointly assessed and agreed for follow up by the supervisors and the health staffs during the visit. It is therefore recommended that innovative performance measurement tools are developed and piloted to assess individual health worker and the facility performance for the district health office. This will enable the districts to assess individual as well as the aggregate performance of the health facilities and their staff, which can further be used at the national level for quality enhancement.

5. The variation of performance for STI service delivery in BHU-II facilities across the country observed in selected areas may be considered for programmatic corrective interventions at the regional level, but overall it appears that systemic interventions may be beneficial across to address the performance gaps holistically.

6. In future, a comprehensive health facility performance assessment to understand the performance of health facilities is highly desirable to address the quality improvement in health care delivery.

Selected key indicators for BHU-II

Indicators	East (%) n	Central (%) n	West (%) n	Total (%) n
STI leaflets/pamphlets available in the health facilities (observations)	5.0(1)	37.5(6)	70.0(7)	30.4(14)
BCC materials available in the health facilities	65.0(13)	37.5(6)	90.0(9)	60.9(28)
Facilities with national guideline for STIs	80.0(16)	87.5(14)	50.0(5)	76.1(35)
enile model available	50.0(10)	62.5(10)	5.0(5)	54.3(25)
Condoms available	95.0(19)	87.5(14)	90.0(9)	91.3(42)
Minimum level of privacy maintained during patient examination	100.0(20)	93.8 (15)	100.0(10)	97.8(45)
Adequate water supply available in the health facility	75.0(15)	87.5(14)	80.0(8)	80.4(37)
Functioning spot light available	85.0(17)	75.0(12)	60.0(6)	76.1(35)
Facility ever out of stock in the last year	15.0(3)	18.8(3)	10.0(1)	15.2(7)
Facility with stock outs for STI drugs in the last year	15.0(3)	37.5(6)	20.0(2)	23.9(11)
Health facilities who received any one of the staffs training for >= 2 days	86.7(13)	77.8(7)	100.0(7)	87.1(27)
Physical examination of all suspected STI cases	90.0(18)	75.0(12)	100.0(10)	87.0(40)
Health facilities correctly treated for suspected gonorrhoea (ceftriaxone and doxycycline)	25.0(5)	62.5(10)	0	32.6(15)
Proportion of STI patients who received condoms at site of treatment	49.0	75.0	77.9	65.9
Proportion of STI patients who underwent partner notification in the last year	30.4	57.7	28.5	41.5

Proportion of ANC mothers who received counselling for HIV in last one year	77.9	75.0	48.9	71.6
Proportion of TB patients who received HIV counselling services in last one year	37.3	33.3	68.4	24.6
Health facilities having infection control guideline	95.0(19)	81.3(13)	70.0(7)	84.8(39)
Health facilities with record of STI patient attending in STI register	85.0(17)	85.5(14)	80.0(8)	84.3(39)
Facilities maintaining records in STI register as they should be	82.4 (14)	100.0(14)	62.5(5)	84.6(33)
STI registers kept in a secure place	80.0(16)	92.9(13)	88.9(8)	86.0(37)
Facilities with written PEP protocol	0	0	20.0(2)	4.3(2)
Clinical staffs follow rules of hand washing and rightly describes the procedure	100.0(20)	100.0(16)	100.0(10)	100.0(46)
Health facilities with sharp box/safety box for sharp disposal	90.0(18)	100.0(16)	100.0(10)	95.7(44)
Separate buckets with or without chemicals for disposal of contaminated waste(eg, swab), instruments(e.g. forceps)	85.0(17)	43.8(7)	60.0(6)	65.2(30)
Facilities with supervisory visits of >=3	50.0(10)	31.3(5)	40.0(4)	41.3(19)
Facilities which followed up any recommendations made during the last supervisory visit	100.0(17)	78.6(11)	60.0(3)	86.1(31)

III. Findings from the assessment of the laboratories at different levels in the country:

3.1 The Clinical Laboratory and the Public Health Laboratory at the JDWNRH

The Clinical Laboratory and Public Health Laboratory (PHL) at the National Referral Hospital (JDWNRH) were assessed for their capacities to be the National Reference Laboratory (NHRL) using pre-set questionnaires. Overview of the findings from these laboratories is provided below: Refer table 3.1a for comparative details and table 3.1b (b) for Grades.

The Clinical Laboratory is located in a different wing of the hospital, away from the PHL area. Functionally the two laboratories are linked and work in a coordinated manner to provide STI and HIV services to the people. Clinical laboratory at the JDWNRH is

responsible for testing for STIs and measuring CD4 counts for the HIV patients while PHL is responsible for performing HIV tests and other rapid tests such as for antibodies to hepatitis A, B and C and other serological tests.

3.2 Laboratory tests conducted by Clinical and Public Health Laboratories

Clinical laboratory performed tests for gonorrhoea, other STIs such as trichomonas and chlymedia, and CD4 counts for HIV patients. Tests for Treponema pallidum using dark field microscopy were not performed due to lack of equipment and reagents. This shows that although the clinical laboratory had the capacity to conduct basic STI tests, it is not up to the standard of a national reference laboratory for the whole country.

PHL performed tests for HIV, hepatitis A, B and C, TPHA, VDRL and other serological tests. Algorithms for testing HIV and other STI tests as per the national guidelines were adequately used. Hence, the laboratory was performing the relevant tests that met the national referral laboratory standards in terms of STIs and HIV testing.

3.3 Facility set up and supplies

Infrastructure - the clinical laboratory had good continuous water supply, autoclave and access to incinerator. However, the laboratory space was inadequate. In the PHL, although the laboratory had access to autoclave and incinerator, the laboratory space again was inadequate and there was not regular water supply.

Equipments and materials – Both the laboratories had most of the required equipments and materials except for inadequate numbers of -20°C and -70°C refrigerators.

Reagents/Kits and Chemicals – While clinical laboratory had adequate reagents the PHL did not have an adequate HIV test kits and other STI reagents. The kits usually arrive with the short expiry dates, which were therefore soon discarded leading to shortage of test kits for prolonged periods of time.

Other laboratory supplies – Both the laboratories had adequate supplies of glassware, tubes, needles and syringes, masks, etc.

3.4 Personnel

The Clinical laboratory and PHL both had trained technicians to support the microbiologist and laboratory technologist to carry out the tests. However, the laboratory did not have a qualified bio-medical engineer.

3.5 Universal precaution and waste disposal

General Infection prevention practices – The clinical laboratory staff were aware of standard universal precaution practices, which they follow in their laboratory. They also had a post exposure prophylaxis (PEP) system in the laboratory. However, they did not have the current universal precaution guideline on site.

PHL staff although were aware of the standard universal precaution practices, they did not follow the standard hand washing practice and the lab did not have PEP system in place.

Safe handling of needles and sharp instruments – Both laboratories collected needle and sharps in sharp / needle box and incinerate before dumping into the city garbage, which is a good practice.

Decontamination, cleaning and sterilization of instruments – The standards of decontamination, cleaning and sterilization of the instruments were followed in both the laboratories but the staff of PHL did not know the duration for dipping the instruments for disinfection. However, they dipped it for longer period than required, which is better than keeping it for shorter duration than required.

Waste disposal – Both the laboratories practice the required procedure of waste disposal and disinfection before incineration of all the infectious materials including blood products and body fluids.

3.6 Record keeping

Records were kept properly in secure places in registers and also backups were available on the computers in both the laboratories.

3.7 Quality Control System (QC)

While PHL had internal as well as external QC in place, they had no individual responsible for the QC, which might compromise the quality and consistency of the QC. The clinical laboratory had a good QC system in place with a person responsible for regular quality control for STI testing.

3.8 Confidentiality

All the staff in both the laboratories had excellent knowledge and experience in maintaining confidentiality and there had been no breach in confidentiality till date.

3.9 Utilization of the Services

The laboratories together performed 14,788 STI tests and 8,224 HIV tests in the last twelve months. The labs also dealt with the referral cases.

Table 3.1a

	Clinical Laboratory (JDWNRH)	**Public Health Laboratory (JDWNRH)**
I. Laboratory tests conducted	This is moderate and needs appropriate up gradation for STI testing to meet the standards of national reference laboratory	Excellent and meets the standard to be the National referral laboratory for HIV testing
II. Facility setup and supplies a. Infrastructure	This is good but the space is inadequate. New hospital area might take care of this problem	Is moderate and need more space and regular running water supply. The facility needs to be upgraded
b. Equipments and materials	This is good but do not have -70°C refrigerator	This is good but do not have adequate numbers of -70°C refrigerators for storing samples
c. Reagents/Kits and chemicals	The laboratory has adequate reagents throughout the year and in case of shortages is supplied immediately from the supply unit (DVED), which is located near by	The laboratory does not have adequate supply of HIV kits and kits usually have short expiry dates when it reaches the laboratory
d. Other laboratory supplies	The laboratory has adequate supplies such as glassware, tubes, masks, etc.	The laboratory has adequate supplies such as glassware, tubes, masks, etc.
III. Personnel	Excellent, but needs qualified bio-medical engineer	Good but need a independent cleaner for the laboratory and a qualified bio-medical engineer

IV. Universal precaution and waste disposal a. Genera infection prevention practices	Staff have good knowledge on standard universal precaution which they follow	Moderate. The staff do not follow universal precautions and hand washing
b. Safe handling of needles and sharp instruments	Sharps are collected in sharp boxes and incinerated	Sharps are collected in sharp boxes and incinerated
c. Decontamination, cleaning and sterilization of instruments	Decontamination and sterilization of instruments are carried out well but the instruments are dipped for longer period than required. Re-training of the staff need to be carried out to reinforce knowledge and practice	Decontamination and sterilization of instruments are carried out well but the instruments are dipped for longer period than required. Re-training of the staff need to be carried out to reinforce knowledge and practice
d. Waste disposal	Excellent and follows standard norms of waste disposal	Excellent and follows standard norms of waste disposal
V. Record keeping	Good but require additional computer for the purpose	Records are maintained properly in a safe place and computer backups are also kept
VI. Quality Control System	They have a good QC system in place and have a responsible person for the QCS	Although they have a QC system in place they do not have responsible person for the QC. The lab needs to appoint a person for QC
VII. Confidentiality	The staff have excellent knowledge on confidentiality and no breach of confidentiality till date	The staff have excellent knowledge on confidentiality and no breach of confidentiality till date

Table 3.1b

	Clinical Laboratory (JDWNRH)	**Public Health Laboratory (JDWNRH)**
I. Laboratory tests conducted	C	A
II. Facility setup and supplies a. Infrastructure	B	C
b. Equipments and materials	B	B
c. Reagents/Kits and chemicals	A	B
d. Other laboratory supplies	A	A
III. Personnel	A	B
IV. Universal precaution and waste disposal a. Genera infection prevention practices	A	C
b. Safe handling of needles and sharp instruments	A	A
c. Decontamination, cleaning and sterilization of instruments	B	B
d. Waste disposal	A	A
V. Record keeping	A	A
VI. Quality Control System	A	C
VII. Confidentiality	A	A

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement)

IV. The Regional Referral Hospital Laboratories (RRHL)

The two regional referral hospital laboratories (Gelephu and Mongar) serve as the regional referral centers for the district hospitals in the respective regions. Gelephu

Regional Referral Hospital Laboratory caters to the central region and Mongar Regional Referral Hospital Laboratory serves the eastern region as the referral center. These laboratories were assessed for their capacities to be the regional referral laboratories using pre-set questionnaires. The findings are as follows: Refer table 3.1c for comparative details and table 3.1d for Grades.

4.1 Laboratory test conducted

Mongar regional laboratory was found to have good capacity to conduct tests for HIV/STI diagnosis and provide laboratory services to the HIV patients in the eastern region.

The laboratory tests conducted in Gelephu for HIV/STI diagnosis and services for the HIV regional hospital was found to be inadequate. Although it had the capacity to perform basic STI tests, it was not up to the standards of a regional reference laboratory. There was no equipment for measuring CD4 counts.

4.2 Facility set up and supplies

Infrastructure – Mongar laboratory had adequate space with continuous water supply, autoclave and access to incinerator. Whereas Gelephu laboratory, although had access to autoclave, the laboratory space was inadequate; there was no regular water supply and no access to incinerator.

Equipments and materials – Mongar laboratory had most of the required equipments and materials except for inadequate numbers of -20°C and -70°C refrigerators. Gelephu laboratory did not have equipment for measuring CD4 counts, -20°C and -70°C refrigerators and printers for report printing.

Reagents/Kits and Chemicals – Mongar did not have adequate HIV test kits and other STI reagents. The kits usually arrived with the short expiry date and often had to discard in short period of time leading to shortage of test kits for stretched period of time. Therefore, the laboratory used the expired kits, within six months of expiry, after testing for validity which is a serious concern and never recommended by any international standards. However, Gelephu laboratory has adequate kits and reagents to test for HIV/STI.

Other laboratory supplies – Both the laboratories had adequate other required supplies such as glassware, tubes, needles and syringes, masks, etc.

4.3 Personnel

Mongar laboratory is headed by a microbiologist and supported by laboratory technologist and technicians. Other than the need to train the laboratory staffs on specific testing skills for HIV/STI tests, the laboratory was managed well by existing manpower except the lab requires a qualified bio-medical engineer for timely maintenance of the equipments.

Laboratory technicians who were not trained on the specific HIV/STI tests provided service in Gelephu laboratory. The skills they had for those tests were from their pre-service training. The laboratory did not have a microbiologist or a laboratory technologist; neither did it have a trained bio-medical engineer. Therefore, the personnel section was found to be poor, and needs considerable improvement.

4.4 Universal precaution and waste disposal

General Infection prevention practices – Mongar laboratory staffs were aware of standard universal precaution practices, which they follow in their laboratory but the laboratory had no PEP system in place. They did not have the current universal precaution guideline on site.

Gelephu laboratory staffs were also aware of standard universal precaution practices and they follow it in their laboratory. They had PEP system in place as well. However, they also did not have the current universal precaution guideline on site.

Safe handling of needles and sharp instruments – Both the labs collected needle and sharps in sharp / needle box and dispose them appropriately.

Decontamination, cleaning and sterilization of instruments – The standards of decontamination, cleaning and sterilization of the instruments were followed in both the laboratories but the staff of Gelephu laboratory did not know the duration for dipping the instruments for disinfection. However, they dip it for longer period than required which is better than keeping it for shorter duration than required.

Waste disposal – Mongar laboratory practiced excellent procedure of waste disposal of disinfection. All infectious materials are autoclaved before dumping into city disposal and blood products and body fluids were disinfected before pouring to the underground drainage.

Gelephu laboratory did have established procedure for waste disposal within the laboratory such as coding of the buckets, collection of needles in the sharp boxes and disinfection of infectious materials but there was no proper place to dispose the waste once it leaves the laboratory. The infectious materials such as body fluids and blood

soaked cotton were soaked in disinfectants, burnt and then disposed in the city garbage disposal. The liquid clinical waste was led to underground without disinfecting.

4.5 Record keeping

The records were kept properly in secure place in registers and also backups were available on the computers in Mongar but in Gelephu the records were maintained in registers and kept in secure place but no computer backup were maintained.

4.6 Quality Control System (QC)

Mongar had internal as well as external QC in place; the microbiologist is responsible for the QC. Whereas, Gelephu laboratory had no responsible person for QC and the respondent could not answer how the QC is done in their laboratory.

4.7 Confidentiality

All the staff in both the laboratories had excellent knowledge and experience in maintaining confidentiality and there had been no breach in confidentiality till date.

4.8 Utilization of services

Mongar laboratory performed 63 STI tests and 946 HIV tests in the last twelve months; whereas Gelephu laboratory performed 827 STI tests and 756 HIV tests in the last twelve months. Both the labs dealt with the referral cases from the district hospitals.

4.9 General recommendation (Laboratories)

Clinical laboratory in JDWNRH needs to upgrade the facility for STI testing and PHL needs to upgrade the infrastructure. General infection control practices in the PHL need improvement. Common problem in the PHL and Mongar RRHL is inadequate reagents to test STI and HIV, which require immediate action. All laboratories require additional (-20°C and -70°C) refrigerators for storing samples for a longer duration.

While Mongar Regional Referral Laboratory was well set up and functioning well, Gelephu RRHL needs improvement in infrastructures, laboratory supplies and QC system. A considerable improvement in personnel section and waste disposal system has to be done to be able to efficiently cater to the central region, in terms of STI/HIV testing services, as the regional referral laboratory for the central region.

Specific Recommendations (Laboratories)

1. Since the clinical laboratory at the JDWNRH is the apex laboratory for STI testing it needs to upgrade its facility for conducting the tests for all types of STIs. It also needs to develop standard operating procedures for STI testing for other laboratories in the country and strengthen its capacity to perform inter-laboratory quality control for the other laboratories.
2. The national laboratories need to have an ISO certification (ISO15189).
3. Infrastructure of the PHL needs to be upgraded for the optimal functioning of the laboratory as the national reference laboratory for HIV and other STI testing.
4. The PHL need to develop standards for the HIV test (same kits for the whole country) with proper forecasts for the country and streamline the procurement procedure to minimize wastage of HIV and other kits due to short expiry.
5. HIV/STI programme should look into procurement of adequate number of (-20°C and -70°C) refrigerators for all the national and regional reference laboratories in the country to enable the laboratories to store samples for longer periods.
6. Training of staffs on specific tests and sample shipping and storage needs to be carried out particularly in Gelephu and also in all other laboratories. Personnel need to be trained on bio-safety measures and universal precautions.
7. Gelephu laboratory needs special attention in infrastructure improvement, supplies and QC system and considerable improvement in personal section and waste management to meet the standards of a regional referral hospital laboratory.
8. Internal and external QC system for HIV/STI testing should be strengthened in all the laboratories to ensure quality testing.
9. Serum should be stored for at least seven days in all the labs in the country for future tests if required

Table: 4.1a

	Gelephu Laboratory (Central Region)	**Mongar Laboratory (Eastern Region)**
I. Laboratory tests conducted	This is moderate and needs appropriate up gradation for HIV/STI testing to meet the standards of regional reference laboratory	Good and meets the standard to be the regional referral laboratory for HIV/STI testing but needs to follow the national guideline for testing HIV
II. Facility set up and supplies	This is moderate. The lab space is inadequate and do not have adequate supply	Is excellent. The lab doesn't has access to incinerator but has a large common

a. Infrastructure	of water. These facilities need to be upgraded	autoclave and infectious wastes are autoclaved before disposal
b. Equipments and materials	This is good but do not have -70°C refrigerators. As a referral lab. -70°C refrigerator is a must and needs to be procured	This is good but do not have adequate numbers of -70°C refrigerators for storing samples. Programme needs to allocate fund for the procurement
c. Reagents/Kits and chemicals	This is excellent	This is moderate and lab does not have adequate supply of HIV kits and disinfectants
d. Other laboratory supplies	This is good	Excellent
III. Personnel	This area is poor. There is no microbiologist or a lab technologist	Good but the lab technician needs training on specific tests
IV. Universal precaution and waste disposal a. General infection prevention practices	Good but the lab does not have universal guidelines on site or a PEP system in place	Good but the lab does not have universal guidelines on site or a PEP system in place
b. Safe handling of needles and sharp instruments	Sharps are collected in sharp boxes and buried in deep pits	Sharps are collected in sharp boxes and incinerated
c. Decontamination, cleaning and sterilization of instruments	Good. However, the staffs have no knowledge on how long the instruments need to be dipped	Excellent, staffs have good knowledge on decontamination, cleaning of the instruments which they follow
d. Waste disposal	Excellent and follows standard norms of waste disposal	Excellent and follows standard norms of waste disposal

V. Record keeping	Good but require additional computer for the purpose	Records are maintained properly in a safe place
VI. Quality Control System	This is moderate and needs to institute internal and external QC in system in place with a responsible person for the task	Although they have a QC system in place they do not have a responsible person for the QC
VII. Confidentiality	The staff have excellent knowledge on confidentiality and no breach of confidentiality till date	The staff have excellent knowledge on confidentiality and no breach of confidentiality till date
VIII. Utilization of services	The lab carried out 827 STI tests and 756 HIV tests in the last 12 months and it also deals with referral cases	The lab carried out 63 STI tests and 946 HIV tests in the last 12 months and it also deals with referral cases

Table: 4.1b

	Gelephu Regional Laboratory (Central)	**Mongar Regional Laboratory (East)**
I. Laboratory tests conducted	C	B
II. Facility setup and supplies a. Infrastructure	C	A
b. Equipments and materials	B	B
c. Reagents/Kits and chemicals	A	C
d. Other laboratory supplies	B	A

III. Personnel	D	B
IV. Universal precaution and waste disposal a. Genera infection prevention practices	B	B
b. Safe handling of needles and sharp instruments	B	B
c. Decontamination, cleaning and sterilization of instruments	B	A
d. Waste disposal	D	A
V. Record keeping	B	A
VI. Quality Control System	C	A
VII. Confidentiality	A	A

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement)

V. Health Information Service Center (HISC)//VCT Centers

Voluntary Counselling and Testing (VCT) was started in Bhutan in the two major towns (Thimphu and Phuntsholing) in 2006 to cater to the general as well as the vulnerable population in those two cities. The facility was aimed to provide VCT service at convenient timings (10 Am-7PM) and was named Health Information and Service Center (HISC) to minimize the stigma associated with HIV testing. Health information is also provided in the Centers in addition to VCT services.

The HISCs were assessed for their capacity to cater to the catchment population in Thimphu and Phuntsholing towns. The Findings from the assessments of these Centers are given below. Refer table 4.1a for comparative details and table 4.1c for the Grades:

5.1 Nature of services provided in the VCT Center

The nature of services provided at HISC, Thimphu was found to be excellent, the Center performed counselling and testing services as per the national guidelines. The Center also catered to population with high-risk behaviours for HIV such as taxi drivers, sex workers, karaoke bars and army.

The service provided in Phuntsholing HISC was good and it also followed national guidelines for counselling and testing. The Center did not provide group counselling mainly because they did not have adequate clients for group counselling at a time, therefore counselling at this Center was mostly carried out individually.

However, there were instances whereby the Centers had conducted more than five pre-test counselling and had seen more than ten clients in a day which is more than the international standard. This could compromise quality of services .In such cases, group counselling needs to be carried out. Also while referring clients to other centers, only verbal consent was taken for release of information where a written consent practice needs to be adopted

5.2 Physical set up of the HISC/VCT

The facility set up of Thimphu HISC was excellent with all the required amenities such as waiting area, adequate water supply and separate blood collection area. Strict privacy was maintained during the counselling sessions and the Center had room available for group counselling. Phuntsholing HISC also had adequate facility setup that met the needs of VCT services in the town except it had no regular supply of water that needs to be provided.

5.3 Personnel

Receptionist and Counsellor(s) - Counsellors who were trained abroad for adequate period of time provide VCT service in Thimphu HISC. They also serve as resource for in-country training for other counsellors; this added responsibility often impinged on their availability for providing VCT services and therefore compromises service quality at the Center. The third counsellor, who was providing VCT services when the key counsellors were not available, was trained in country for only 4-5 days, which is not adequate to provide proper counselling services to the clients. There was no receptionist at the Center but the health workers at the Center greet and direct the clients on their arrival to the Center, which works well.

Both the counsellors at the Phuntsholing HISC were trained in country as well as abroad for counselling and they were well versed with the counselling procedures. The Center had a receptionist to greet and direct the clients.

Laboratory technologist/technicians – Both the Centers did not have lab technologist or a technician. The counsellor/health workers who were adequately trained in country on specific tests performed the tests, which worked well to deliver adequate services to the clients.

Support staff (cleaner/attendant) - Both the Centers had cleaners and they practiced proper bio safety measures while handling infectious materials.

Doctor/Prescriber - Health workers who were adequately trained for providing VCT services provide required VCT services at both the Centers and there was no doctor or prescriber at the Center. However, both the Centers had good referral linkages with the hospitals in case other services were required for the clients.

5.4 Procedures at the VCT Center

In Thimphu HISC, VCT counselling procedures were followed as per national guideline. Clients were made comfortable and proper counselling session is carried out for each client. Condom demonstration was also carried out at the Center, often in groups. Appropriate time was given for pre and post-test counselling sessions. However, there was no PEP system in place in case of accidental needle injuries while drawing blood.

Phuntsholing HICS also followed standard procedures similar to Thimphu and the Center had PEP system with a person who deals with the PEP system. ARV was available for PEP through referral in both the Centers.

5.5 Availability and adherence to protocols

Both Thimphu and Phuntsholing HISC had most of the required guidelines such as National guideline for VCT, HIV testing protocol and written procedures on confidentiality. Both the Centers did not have guidelines on universal precaution and PEP.

5.6 Record keeping system

In both the Centers, records were kept properly in registers in secure places but computer backups were not available in both the Centers.

5.7 Health education materials

Thimphu HISC had health education materials such as VCT, HIV risk reduction and STI pamphlets and leaflets for display and distribution. Adequate numbers of condoms were available and the Center was never out of stock of condoms in the last year.

In Phuntsholing, although the Center was also never out of stock of condoms in the last year and has adequate numbers of condoms, it did not have most of the leaflets and pamphlets except for HIV risk reduction posters and leaflets.

5.8 HIV testing infrastructures

Both the Centers had adequate HIV testing infrastructures and supplies and adequate kits and gloves in stock. Both the Centers followed the HIV testing algorithms for testing and reports of the tests were given on the same day.

5.9 Universal precaution and waste disposal

General infection prevention practices - Staff in both the Centers had good knowledge on standard universal precaution practices, which they follow at work.

Waste disposal – In Thimphu HSC, the sharps were collected in closed sharp containers and incinerated with the other infectious materials.

In Phuntsholing HISC, although sharps were collected in the sharp boxes and buried in deep pits, there was no bucket coding for other wastes and liquid wastes were led to underground without disinfection.

5.10 Confidentiality

All the staff in both the Centers had excellent knowledge and experience in maintaining confidentiality and there had been no breach in confidentiality till date.

5.11 Linkages with other organizations

Thimphu HISC referred its clients when required to the JWNRH- the national referral hospital. The clients were referred with an improvised referral slip with the name of the HISC on it and referrals were recorded in a register.

In Phuntsholing, although they refer the clients when required to the Phuntsholing district hospital and maintain good records, the Center did not have referral slip for referring clients.

5.12 Monitoring quality of VCT Center

There was no regular monitoring system in place for monitoring quality of the VCT services in the country. The monitoring was conducted on an ad hoc basis, as and when the officials and programme people happen to drop by.

Other than regular staff meeting being carried out in both the Centers and some irregular patient satisfaction assessment carried out by Thimphu HISC, there was no institutionalized monitoring of the quality of VCT services.

The reference laboratories in the respective districts however, performed quality control for HIV tests for the Centers at regular intervals. Both the Centers had 1-2 ad hoc visits in the last year and all recommendation made during the visit had been followed up by the Center staffs.

5.13 Utilization of VCT Center

In both the Centers, 100% of clients who underwent testing received pre-test counselling and more than 90% of clients who were tested received post-test counselling. The proportion for post-test counselling is lower because some of the clients did not want to wait till the report time on the same day or did not come to collect their report at all. However, if the test was found to be positive, the staff called the clients to the Center, counselled them and managed accordingly.

Recommendations (HISC):

1. Regular water supply should be made available at the Phuntsholing HISC.
2. The health worker/ANM in the Thimphu HISC needs to be adequately trained on VCT.
3. Universal precaution guidelines should be made available at both the HISCs.
4. Written PEP protocols should be developed in both the HISCs and there should be a responsible person for PEP in Phuntsholing HISC.
5. Standard referral slips should be made available in both the HISCs in order to facilitate patient referral between the HISCs and other facilities.
6. The waste management need to be improved in Phuntsholing HISC.
7. Regular quality monitoring of the HISC/VCT services needs to be institutionalized to ensure quality of VCT in the country.
8. Group counselling needs to be encouraged in Centers where more number of clients need counselling to maintain international standard of <5 clients for counselling and less than 10 ceases per day.

Table: 5.1a

	Thimphu HISC	**Phuntsholing HISC**
I. Nature of services provided in the VCT Center	Excellent except they do not take written consent for release of patient information to other centers for referral. The written consent format need to be developed and used in the	Good but do not have appointment system for the patients and only verbal consent is taken from the clients for release of

	Center for patient information release while referring clients to other facilities	information. The Center should develop and use written consent for patient information release while referring to other facilities
II. Physical set up of the HISC/VCT	Excellent, all the amenities are available for service provision	Good except for availability of regular water supply
III. Personnel	Excellent, two of three counsellors are trained adequately except for one who was trained only for 4-5 days	Excellent, both the counsellors are trained adequately
IV. Procedures at the VCT Center	Excellent, all the procedures are followed as per the national guideline	Excellent, procedures at VCT followed as per national guidelines
V. Availability and adherence to the protocols	Moderate, universal precaution and PEP guidelines are not available. These guidelines should be made available by the programmes	Moderate, universal precaution and PEP guidelines are not available. These guidelines should be made available by the programmes
VI. Record keeping systems	Excellent, records are kept in a secure place under lock and key in a register. No computer backups kept. The center should be encouraged to maintain computer records as a backup	Excellent, records are kept in a secure place under lock and key in a register. No computer backups kept. The center should be encouraged to maintain computer records as a backup
VII. Health education materials and condoms	Excellent, except for materials on positive living for HIV. HIV/AIDS programme and ICB should look into production and distribution of	Moderate, except for the HIV risk reduction posters and pamphlets, there are no other pamphlets or leaflets. HIV/AIDS programme and

	relevant IEC materials through the VCTs.	ICB should look into production and distribution of relevant IEC materials through the VCTs.
VIII. HIV testing infrastructure and supplies	Excellent, all necessary infrastructure and supplies are available	Excellent, all necessary infrastructure and supplies are available
IX. Universal precautions: (a) General infection control practices	The staff follow standard infection control practices	The staff follow standard infection control practices
(b) Waste disposal	Excellent, all infectious wastes including blood and blood products are sent to JDWNRH for incineration	Good but there is no colour coded buckets and all infectious wastes are sent to Phuntsholing hospital and managed as per hospital waste management guidelines. Waste segregation need to be taught to the staffs at the Center
X. Confidentiality	Excellent, all staff have knowledge and experience in maintaining confidentiality	Excellent, all staff have knowledge and experience in maintaining confidentiality
XI. Linkages with other organizations	Excellent, all clients are referred appropriately with referral slips to the JDWNRH	Moderate, all clients are referred appropriately but with no referral slips to Phuntsholing hospital
XII. Monitoring quality of the VCT Center	Moderate. There is no system of monitoring quality of the VCT. Monitoring happens ad hoc. Monitoring system for quality control of the VCTs needs to be institutionalized at all levels	Moderate. There is no system of monitoring quality of the VCT. Monitoring happens ad hoc. Monitoring system for quality control of the VCTs needs to be institutionalized at all

		levels
XIII. Utilization f the VCT Center	The Center is optimally utilized and standard services are provided to the people	The Center is optimally utilized and standard services are provided to the people

Table: 5.1b: Grades

	Thimphu HISC	**Phuntsholing HISC**
I. Nature of services provided in the VCT Center	A	B
II. Physical set up of the HISC/VCT	A	B
III. Personnel	A	A
IV. Procedures at the VCT Center	A	A
V. Availability and adherence to the protocols	C	C
VI. Record keeping systems	A	A
VII. Health education materials and condoms	A	C
VIII. HIV testing infrastructure and supplies	A	A
IX. Universal precautions: (a) General infection control practices	A	A
(b) Waste disposal	A	B
X. Confidentiality	A	A
XI. Linkages with other organizations	A	C
XII. Monitoring quality of the VCT Center	C	C
XIII. Utilization f the VCT Center	A	A

*A- Excellent (does not require change); B- Good (may require change); C- Moderate (will require appropriate modification for improvement); D-Poor (will require considerable improvement)

6. STI Patient Satisfaction

Thirteen STI clients were interviewed to assess patient satisfaction while seeking STI treatment services at various levels of health facilities. Six STI clients were interviewed at the national referral hospital in Thimphu and another six clients at the district hospitals, one at the BHU-I and four at the BHU-II.

All the STI clients reported that they had a place to sit while waiting to consult the health worker at the health facility. All except one STI client felt comfortable when prescribers asked questions related to the disease. 84.6% (11/13) reported that their prescribers gave answers to questions. All the ten clients who were physically examined felt comfortable. Similarly all the nine clients whose biological samples for STI testing were taken also felt comfortable.

It appeared that prescriber-patient communication was good. All the thirteen clients reported that prescribers were friendly to them. Except for one STI clients, remaining twelve (92.3%) clients mentioned that the prescribers clearly explained the meaning of their diseases. 30.8% (4) responded that they were not sure whether their prescribers were knowledgeable although the remaining (69.2%) believed that the prescribers were knowledgeable.

Of the eleven STI clients who got the STI test results, five (45%) of them did not intend to discuss their test results with their partners while the others wanted to discuss with their partners.

7.7% (1) of the STI clients reported that staff members were not helpful and supportive. However, 100% (13) of the STI clients said that they were satisfied with the services they received at the facilities and intended to tell to others about this facility.

92.30% (12) of the STI clients reported that they had a clear idea of how to protect themselves and their partners from STI/HIV while one STI client responded of being unclear.

83.8% (10/12) of the STI clients reported that prescribers used gloves while in 16.6% (2/12) clients reported that prescribers did not use gloves. This corresponds to the glove use practices reported by the health worker interviews.

It seems that health workers give the test results at the earliest. 100% (6/6) of the STI clients, whose HIV/STI tests have been done during the visit, have received their test results.

It is also important to focus onto the other members in the hospital team to improve interactions with the patients. Asked for any general suggestions from the STI clients, 23.1% (3/13) suggested that receptionists at the facilities should improve their

conversational skill. One client suggested that facility needed additional staffs. 69.2% (9/13) did not have any suggestions.

7. VCT Client Satisfaction

VCT Client satisfaction was assessed for both Thimphu and Phuntsholing HISC using preset questionnaires. Three random clients from each center were interviewed on the day of health facility assessment and the findings are provided below.

Of the six clients interviewed in two centers, generally all were found to be satisfied with the services provided at the centers and all perceived the service standard good. All six individuals (100%) said they had a place to sit at the VCT Centers, were greeted by the staff members within 15 minutes of arrival and the staff were supportive. They were also explained of the procedures that would happen at the centers. All of the interviewees said that the counsellors appeared knowledgeable, were comfortable answering questions and answered all their questions fully. However, one out of six individuals (about 17%) said that he/she did not feel comfortable when the counsellor asked questions.

All those interviewed had undergone blood testing and said that they felt comfortable while blood samples were collected and the staff wore gloves while drawing blood samples. However, only 83.3 % (5) said the counsellor explained the meaning of the test result clearly. 100% of the interviewees said that they received their test results on the same day. 100% said they have clear idea of how to protect themselves and their partners and are willing to change their behaviours but only 83.3% (5) said they intend to share their result with their partners. All said they would tell others about the VCT services at the HISC.

Limitation of the VCT/STI patient satisfaction assessment

The sample size was very small due to time pressure during the facility assessment. The findings from the patient satisfaction assessment may not be generalisable. However, it gives an idea of the services provided at the HISC when correlated with the findings from the facility assessment.

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