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# MID-TERM ASSESSMENT REPORT: REGION 6 AND 10 GUYANA SAFER INJECTION PROJECT

JULY 2008

This publication was produced for review by the United States Agency for International Development. It was prepared by Initiatives Inc.



GUYANA  
MINISTRY OF HEALTH



## Acknowledgements

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July 2008

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The information contained in this report is the product of an evaluation conducted by Initiatives Inc. The report was prepared under the auspices of the Technical Assistance and Support Contract (TASC2 Global Health), implemented by Initiatives Inc. under Task Order No. GHS-I-02-03-00040-00 issued by the U.S. Agency for International Development.

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## **DISCLAIMER**

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## **Executive Summary**

The Guyana Safer Injection Project (GSIP) is a USAID PEPFAR supported effort to reduce the risk of disease transmission due to exposure to contaminated sharps. GSIP is led by Initiatives Inc., supported by the Academy for Educational Development (AED); John Snow International (JSI) and the Program for Appropriate Technology in Health (PATH). The main interventions focus on building capacity to adhere to injection safety and waste management standards, ensuring adequate supply of injection safety equipment, and raising awareness about health workers, community members and patients behavior that could increase risk of accidents.

The project was initiated in 2004 and will run until September 2009. To review the achievements of project interventions, a baseline assessment was conducted in 2006 in two sentinel regions: 6 and 10. A midterm assessment was conducted in 2008 in the same regions to determine the changes in injection safety practices and procedures at 17 health facilities. Teams of GSIP staff and regional consultants used a survey form of 10 instruments, including interviews, observations and record reviews. The data was collected and inputted into an excel program to provide results on focal program areas:

- Availability and use of Policies, Standards and Guidelines
- Management of supplies
- HCW and Supervisory Training Results
- Injection Safety and Waste Management Practices
- Record Keeping
- Risk Reduction
- Community Behavior Change

The results point to marked improvement on GSIP input and outcome indicators. In areas that GSIP has made inputs the results show percentage increases in: staff trained and supervision sessions; the availability of job aids and promotional posters; the presence of recording ledgers for vaccinations and needle stick injuries. These are significant steps in developing systems that will facilitate worker safety after the conclusion of GSIP. These interventions are contributing to greater adherence to injection and waste management practices as well as demonstrated improvement in risk reduction actions, including pre-exposure vaccinations and reporting of needle stick injuries and availing of PEP counseling and care. The efforts related to awareness and behavior change contributed to changes in client preference for tablets and decreasing the number stating they preferred injections.

Although the assessment validated many of GSIP strategies, it also highlighted areas that require additional attention. These include ensuring: the availability and effectiveness of waste management plans; the consistency of supply of bin liners and syringes, and appropriate use and maintenance of personal protective gear; as well as persistent risky practices such as recapping.

GSIP will need to develop refresher training courses and assist regions and facilities to develop strategies for orienting staff. The project will also need to revisit waste management planning and implementation with completed regions. In addition, the effectiveness of supervision and

monitoring will need to be reviewed to reduce incidences of recapping, loss and avoidance of using PPE.

At times, poor habits are so entrenched that extra efforts are needed to understand the reasons for them. The project will benefit from a recently completed evaluation of its behavior change and media approach, an effort led by AED. The results of this survey can shed light on the reasons for continual risky behavior and allow GSIP to strengthen its approaches as it completes activities in the remaining regions and plans to strengthen practices in completed regions

The results also show the need for placing more attention on ordering and supply practices. GSIP is working with MOH and SCMS to develop a medical supply list, which should improve commodity management.

Likewise there is a need to work on reducing the prescription of unnecessary injections, as well as community and client acceptance of non-injectables. The project is collaborating with SCMS and MOH to ensure that the proposed standard treatment guidelines include non-injectables as the first line of treatment. This should improve prescribing practices and hopefully address counseling of clients both through prescriber awareness and our continuing work on medication counseling with pharmacists.

## I. Introduction

The Guyana Safer Injection Project (GSIP) is a USAID/PEPFAR initiative aimed at reducing the spread of blood borne diseases through unsafe injection and sharps disposal practices. In implementing this project, GSIP's approach has been to identify and strengthen the systems that support injection safety improvement, including waste management, commodity management, supervision and monitoring, rational drug use, behavior change communication, pre and post exposure prophylaxis, and pre and in-service training.

National level policy changes and the introduction of new standards for waste management, worker safety and logistics, provided a framework for supporting the systems at the regional and facility level. Regional health officers (RHO) emphasized injection safety in their planning, monitoring, budgeting and waste management and encouraged adherence to the worker safety policy. At the facility level efforts were made to create or strengthen dormant systems to support worker safety, equipment procurement and ordering, dissemination and waste disposal. Wherever possible, collaborations with donors, other PEPFAR projects and civil, public and private sector entities were encouraged to build awareness and behavior change in communities and identify, mobilize resources for effective sharps waste disposal and support rational drug use.

## II. Study Design

*Purpose:* The mid-term assessment was designed to evaluate GSIP's achievements since the baseline assessment, conducted in 2006, in the two designated sentinel regions; 6 and 10.

*Objectives:* The objectives of this mid-term assessment were to:

- Determine if safe injection policies, standards and guidelines were available and in use at health facilities in regions 6 and 10
- Examine the availability of safe injection commodities
- Determine training coverage and effects
- Assess adherence to safe injection and waste disposal standards
- Assess safe injection record keeping such as pre exposure tetanus and Hepatitis B vaccination, NSI reporting and post-exposure prophylaxis
- Determine changes in risk reduction behavior practices
- Evaluate the effectiveness of behavior change initiatives

### Sampling Strategy

#### **Facilities:**

The assessment was completed in the same facilities used in the baseline assessment; the exception being that the three private sector sites were not included in the midterm assessment as these was not part of the regional implementation strategy.

**Table 1: Region 6 and 10 Sentinel Facilities**

<b>Region 6</b>	<b>Baseline</b>	<b>Mid-term</b>	<b>Region 10</b>	<b>Baseline</b>	<b>Mid-term</b>
Port Maurant Health Center	✓	✓	McKenzie Hospital	✓	✓
Mibicuri Hospital	✓	✓	Wismar Hospital	✓	✓
Port Maurant Hospital	✓	✓	Kwakwani Hospital	✓	✓
Psychiatric Hospital	✓	✓	Vivianne Paris Health Center	✓	✓
New Amsterdam Hospital	✓	✓	Old England Health Center	✓	✓
Cumberland	✓	✓	West Watooka Health Center	✓	✓
Edinburgh	✓	✓	Wisroc Health Center	✓	✓
Williamsburg	✓	✓	Ituni Health Center	✓	✓
<b>Guysuco Rosehall</b>	✓		Kwakwani Health Center	✓	✓
<b>Guysuco Skeldon</b>	✓		Aroaima	✓	

*Data Collection Team*

Two teams conducted the assessment, 3 GSIP staff and one regional consultant were sent to region 6 and another group of four to address region 10.

*Data Collection and Analysis*

Ten data collection instruments were used to capture information for the assessment. These instruments included interviews, record reviews, and observations. Table 2 provides a list of data collection instruments used in the mid-term assessment.

**Table 2: Survey Tool Instruments**

<b>Instrument Number</b>	<b>Type</b>	<b>Title</b>
1	Interview	Health Center Manager or Hospital Matron
2	Record review	Hospital Store Keeper or Pharmacy
3	Observation	Injection provider
4	Interview	Injection provider
5	Observation	Injection room
6	Observation	Waste management
7	Interview	Waste handler/clinic attendant
8	Observation/Interview	Laboratory/Phlebotomy Clinic
9	Observation/Interview	Dental Clinic
10	Interview	Client Exit

Following data collection, data were entered into an MS Excel Database for analysis. The data were then cleaned and analyzed mainly for frequencies. Where appropriate, cross tabulations were done to determine the relationship between different variables.

**Table 3: Number of Instruments Administered**

Instrument	Sample
Health Center Manager or Hospital Matron Interview	17
Hospital Store Keeper or Pharmacy Record Review	17
Injection provider Interview	31
Injection provider Observation	31
Injection room Observation	17
Waste management Observation	18
Waste handler/clinic attendant	23
Laboratory/Phlebotomy Clinic	4
Dental Clinic Observation	3
Client Exit Interview	72

### III. Results

#### A. Policies, Standards and Guidelines

At the start of GSIP, no national injection safety policy existed and few sites had standards or protocols for protecting workers against needle stick injuries and the potential for disease transmission. GSIP placed emphasis on working with the Ministry to develop a national framework for injection and worker safety. In collaboration with a host of MOH, municipal and EPA technical experts, a policy for injection safety was formulated and reviewed. The Minister approved the policy and a formal injection safety policy was finalized in August 2007. The policy was launched in December 2007 and a dissemination plan initiated to ensure that workers were informed by senior management of their rights

As Table 4 indicates, at the time of the GSIP baseline assessment, only 5% of sites reported they had the MOH worker safety policy and none (0%) was able to produce the policy for the assessment team. The midterm assessment showed that 71% of sites claimed to have the MOH worker safety policy and 65% of those were able to show the document for the assessment team.

**Table 4: Availability MOH Worker Safety Policy**

Have policy		Policy available	
Baseline (N =19)	Mid-term (N = 17)	Baseline (N =19)	Mid-term (N = 17)
5%	71%	0%	65%

To help providers adhere to safe injection and waste management practices, GSIP developed safe injection and waste management standards. GSIP staff trained providers in these standards and made sure that they were available at injection sites. To gauge the availability of standards and provider awareness of them, the baseline and mid-term assessment asked providers to show the assessment team the standards. As Table 5 indicates, during the baseline assessment only 15% of

providers interviewed were able to produce the safe injection standards whereas 97% of providers interviewed during the mid-term assessment were able to produce the standards.

**Table 5: Availability of Standards for Administering Safe Injections**

<b>Percentage providers interviewed who were able to show interviewers standards for administering injections</b>	
<b>Baseline (N =46)</b>	<b>Mid-term (N = 31)</b>
15%	97%

Furthermore, as Table 6 indicates, while only 11% of facility managers interviewed in the baseline were able to show the assessment team waste management standards, 53% of facility managers interviewed for the mid-term review were able to show the assessment team the facility's waste management plan<sup>1</sup>.

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<sup>1</sup> The baseline and mid-term assessments ask for different documents. The baseline asks that waste management standards be shown while the mid-term asks for the facility waste management plan. Since both questions ask for a document detailing the standards for waste management the results are displayed in comparison.

**Table 6: Availability of Standards for Administering Safe Injections**

Percentage of sites that have waste management standards	Percentage of sites that have a waste management plan
Baseline (N =19)	Mid-term (N = 17)
11%	53%

Awareness of the standards for delivering care or performing services is the first step in helping staff adhere to them; GSIP developed a series of poster-sized job aids to reinforce injection safety practices in the workplace. The job aids were posted at all injection sites in target facilities and included guidance on: administering a safe injection, use of protective gear, tablet promotion and PEP Procedures among others<sup>2</sup>. The mid-term assessment showed a great improvement in the availability of these job aids at injection and waste management sites. Details on the information available are provided in Table 7 below.

**Table 7: Safe Injection and Waste Management Guidance Posted**

Administering a safe injection		Use of protective gear posted		Promotion of tablet use		PEP procedures (posted at injection sites)		PEP procedures (posted at waste management sites)	
Baseline (N=44)	Mid-term (N= 17)	Baseline (N= 18)	Mid-term (N = 18)	Baseline (N=44)	Mid-term (N= 17)	Baseline (N=44)	Mid-term (N= 17)	Baseline (N=18)	Mid-term (N= 18)
11%	100%	6%	83%	0%	53%	25%	100%	6%	83%

## B. Commodity Management

The availability of adequate supplies of syringes, safety boxes and bin liners, and the use of safety syringes facilitate safe injection and disposal practices. Findings from the baseline assessment revealed that most health facilities did not have the appropriate equipment to ensure safer injection and disposal: they consistently reordered the same amount and stocked whatever was available at MMU. In addition, stock outs of specific sizes of syringes were common. As a result, providers encountered difficulties in measuring the specific dosage accurately and were in some cases forced to use the wrong type of syringe to administer an injection. While safety boxes were used for vaccinations, they were rarely provided for curative care leading to risky

<sup>2</sup> Other job aids posted at facilities but not documented in the assessment include: Talking points for counseling patients on oral formulations and segregation of waste.

sharps disposal practices; inadequate or non-existent segregation practices increased the danger to waste handlers handling waste. Complicating the availability of supplies was the fact that no single department was responsible for procurement of supplies, and no system existed for basing ordering on consumption.

To address these issues, GSIP developed a multi-faceted strategy. To improve the ability of health facilities to secure supplies, maintain proper stock records, and stock adequate quantities of safe injection equipment, supplies and commodities, GSIP collaborated with principal partners MMU-MOH and SCMS. GSIP supplied safety boxes to all curative sites and provided high-risk sites, such as units which served HIV and infectious disease patients, with anti needle stick - auto-disabling syringes (Emunio and Vanishing Point). For HCs that lacked adequate means of final disposal of sharps, GSIP introduced needle removers and needle barrels to encapsulate term sharps. Finally, GSIP implemented a system for waste segregation, making red, infectious waste, and black, non-infectious waste, liners available at sites.

The baseline and mid-term assessments collected data on stockouts of key syringes and safety boxes. Data related to these stockouts is displayed in Table 8 below.

**Table 8: Stockouts of Key Commodities in the Last Six Months**

	5L safety boxes (n= 16)	10L safety boxes (n=2)	10ml syringes (n=13)	5ml syringes (n=16)	2ml syringes (n=17)	1cc syringes (n=17)	Retractable syringes (n=2)	Auto-disable syringes (n=2)
Mid-term	13%	0%	23%	13%	6%	12%	100%	50%
Duration: More than one week	50%	NA	100%	100%	100%	50%	100%	100%

Table 8 suggests that with the exception of the retractable and auto-disable syringes, stockouts are relatively rare. However, the data also suggest that when stockouts occur they are prolonged, in most cases taking more than a week and usually a month or more to be resolved. Many of these stockouts were due to poor ordering and distribution practices in the regions. This field challenge is leading SCMS to revise the system for ordering supplies to a push system.

### **C. Training and Supervision**

To ensure that staff at health facilities have the requisite knowledge and skills to follow safe injection and waste management practices, GSIP developed a series of training modules and trained providers and waste handlers in injection safety. Providers were trained in universal precautions, use of a multi-dose vial, use of injection and disposal equipment, segregation of waste, no re-capping of needles, counseling of clients, and pre and post exposure protection, as well as interpersonal communication. Waste handlers received hands on training in waste management practices such as: wearing protective gear, waste segregation, appropriately and safely disposing of sharps, pre and post exposure protection and interpersonal communication. In both the case of providers and waste handlers GSIP achieved a marked improvement in training for the period between the baseline and mid-term assessments. Table 9 illustrates that the

percentage of providers who had received training in injection safety improved from 22% to 91%, while the percentage of waste handlers interviewed who had training in waste management improved from 19% to 91%.

**Table 9: Providers and waste handlers<sup>3</sup> trained in injection safety and waste management**

Percentage providers trained in injection safety		Percentage of waste handlers trained in waste management	
Baseline N = 46	Mid-term N = 31	Baseline N = 26	Mid-term N = 23
22%	90%	19%	91%

In addition to providing training on injection safety and waste management, GSIP worked with MOH management and the National AIDS Program Secretariat (NAPS) to ensure that PEP coverage, support, and counseling were available to staff. As indicated in Table 10, the baseline assessment revealed only 37% of sites had a staff person trained to assist or counsel staff to follow PEP procedures. By contrast, the mid-term assessment showed 53% of sites had a staff person trained to assist or counsel staff to follow PEP procedures. Additionally, all sites were between 2 and 72 hours from a facility with ARVs in compliance with NAPS policy.

**Table 10: Percentage of sites with a staff member trained to assist or counsel staff to follow PEP procedures**

Percentage of sites with a staff member trained to assist or counsel staff to follow PEP procedures	
Baseline (N = 19)	Mid-term (N = 17)
37%	53%

While it is important for staff to have standards and be trained to adhere to them, supervision of staff is key to ensuring continual compliance with safe injection practices. GSIP trained supervisors to observe providers and waste handlers and to provide feedback on performance. Table 11 shows the percentage of providers reporting that they received supervision and the percentage who received feedback from the supervisor.

<sup>3</sup> Represents only those providers and waste handlers interviewed in the baseline and mid-term assessments.

**Table 11: Supervision**

% of providers who report being supervised one or more times in the last 6 months		% of providers supervised who received feedback from the supervisor	
Baseline N = 46	Mid-term N = 31	Baseline N = 46	Mid-term N = 16
30%	62%	34%	94%

At the time of the baseline assessment, only 30% of providers reported being supervised at least once in the last six months and of those, only 34% reported receiving feedback from their supervisor. By contrast, after GSIP interventions, 62% of providers interviewed reported being supervised in the six months preceding the mid-term evaluation and, of those, 94% reported receiving feedback from the supervisor.

**D. Safe injection practices**

*Needle re-use*

Multiple use of needles and syringes can lead to needle sticks and disease transmission. Fortunately, needle re-use in health facility settings was not common practice prior to GSIP interventions. To reinforce single needle use, GSIP trained providers to open needles in front of clients, to use a new needle for each re-constitution and to dispose of needles immediately after administering the injection. Table 12 compares injection practices from the baseline and mid-term assessments.

**Table 12: Injection Practices – Use of New Needle Baseline vs. Midterm**

Needle removed from sealed pack in front of client (obs.)		Sign of needle re-use – needles not opened in front of client (obs.)		Re-use of needle on another client without sterilization. (int.)	
Baseline (n=45)	Mid-term (n=31)	Baseline	Mid-term (n=1)	Baseline (n=31)	Mid-term (n=31)
62%	97%	ND	0%	3%	0%

The results show improved injection safety practices with 97% of providers opening needle packets in front of clients in the mid-term as compared with only 62% in the baseline. For the one provider who did not open the syringe in front of the client, the observer was able to determine that there were no signs of re-use. Together these observations indicate that no providers were re-using syringes. In interviews, providers confirmed that they are not re-using needles, none claimed to have re-used a needle on another client without sterilization.

### *Recapping*

The most common cause of needle stick injuries is recapping. Baseline data, as indicated in Table 13, showed that 20% of providers interviewed recapped needles. GSIP trained providers to dispose of used needles immediately without recapping. The mid-term assessment showed improvement, with only 6% of providers interviewed saying that they recap needles before disposing of them; however three instances of recapping were observed during the assessment. Two were found at one site and one at another; these instances will be investigated.

**Table 13: Recapping**

Percentage of providers who say they ever recap needles before disposing		Percentage of recapping observed	
Baseline (N =46)	Mid-term (N = 31)	Baseline (N =46)	Mid-term (N = 31)
20%	6%	4%	12%

### *Universal precautions*

Providers were also trained in the adherence to universal precautions to prevent cross contamination and further reduce the risk of disease transmission to the recipient. These included hand washing before and after injections and any other procedure, maintaining a clean and sterile injection area, ensuring sterile equipment and using fresh swabs to clean the skin prior to administering the injection. Table 14 shows improvement in adherence to these practices by providers.

**Table 14: Provider Adherence to Universal Precautions**

Provider adherence to universal precautions		
	Baseline (n= 45)	Mid-term (N=31)
<b>Hand washing before injection.</b>	60%	87%
<b>Designated injection area free from contamination</b>	85%	100%
<b>Use of fresh swabs to clean patient's skin prior to administering injection.</b>	ND	97%

Hand washing improved from 60% to 87% from the baseline to mid-term assessment. All providers who did not wash hands (n=3) said that they had forgotten to do so. Preparation of injections on a clean designated table or tray where blood or bodily fluid contamination is unlikely also improved from 85 to 100%. Lastly, the mid-term assessment also showed that 97% of providers used fresh swabs to clean the patient's skin prior to administering the injection.

*Prescriptions*

A principal strategy of GSIP to increase injection safety in Guyana is to reduce the number of unnecessary injections. To this aim, GSIP trained injection providers to counsel clients on tablet use. In general, nurses and doctors in Guyana do very little client counseling. Despite this obstacle, 46% of providers observed giving injections talked to the client about discussing oral substitutes with his/her physician about oral formations, as indicated in Table 15.

**Table 15: Interventions to Foster Client Education**

<b>% providers who counseled clients on oral formulations</b>	
<b>Baseline</b>	<b>Mid-term (n = 26)</b>
ND	46%

### E. Safe waste disposal practices

In an effort to improve safety for providers, waste handlers and the community, GSIP initiated a multifaceted initiative to improve sharps disposal at health facilities. This approach included components aimed at strengthening prevention, sharps management, and waste handler knowledge and practices.

To determine if safe needle disposal practices were being followed, the assessment team observed providers and waste management sites. Observations of providers focused on disposal of used syringes into safety boxes immediately following injections. The data displayed in Table 16 reveal that 96% of providers disposed of syringes immediately into safety boxes during the mid-term assessment. By comparison, only 64% were observed to do so in the baseline assessment.

**Table 16: Immediate Disposal into Safety Box**

<b>Dispose of syringes in a puncture resistant container immediately after use</b>	
<b>Baseline</b> (n=44)	<b>Mid-term</b> (n=31)
64%	96%

Observations of injection rooms collected information on the state of the sharps container (whether it is pierced or overflowing), its accessibility and the segregation of infectious and non-infectious waste. As Table 17 shows, GSIP achieved great improvements in safe waste disposal at the injection site with availability of safety boxes increasing from 52% to 100%, open sharps containers decreasing from 9% to 0% and the use of infectious waste bags improving from 0% to 76%.

**Table 17: Disposal at Injection Site**

<b>Safe Disposal at Injection Site</b>	<b>Baseline</b> (n = 44)	<b>Mid-term</b> (n = 17)
<b>Safety boxes available in each area where injections are given</b>	52%	100%
<b>Sharps container pierced or overflowing.</b>	9%	0%
<b>Sharps in open containers exposing staff to needle stick injuries</b>	9%	0%
<b>Are waste containers with ordinary waste lined with black bags</b>	2%	94%
<b>Are waste containers with infectious waste lined with red bags</b>	0%	76%

Observations of waste management areas also showed improvement in sharps containment and disposal. Existence of sharps around the disposal site declined from 17% at the baseline to 6% at the mid-term. Importantly, while only 22% of waste handlers were observed to be wearing protective gear in the baseline assessment, results from the mid-term assessment show 63% wearing protective gear, as indicated in Table 18.

**Table 18: Waste management at disposal site**

Sharps around disposal site		Waste handler wearing protective gear	
Baseline (n = 18)	Mid-term (n=17)	Baseline (n = 18)	Mid-term (n=17)
17%	6%	22%	63%

To help improve the use of protective gear, GSIP provided gloves, aprons and boots for trained waste handlers to wear when disposing of waste. Of the waste handlers observed wearing gear in the mid-term assessment, 63% wore gloves and 50% wore boots. Interviews with waste handlers suggest that 91% have gloves, 83% have aprons, and 65% have boots. Some reasons cited for lack of adherence included discomfort and lack of necessity.

**F. Record Keeping**

The number of needle stick injuries experienced by providers and waste handlers in Guyana was difficult to establish at the time of the baseline assessment, in part because no facilities kept records on NSIs. Likewise, no documentation existed on the providers vaccinated against tetanus or Hepatitis B, making this important prevention measure difficult to assess. GSIP developed NSI and vaccination registers and trained staff at facilities to record needle stick injuries and their causes as well as the number of providers vaccinated. While the NSI register only captures providers and waste handlers as well as other health staff willing to report their injuries, it is an important step to ensuring better monitoring of needle stick injuries.

Table 19 shows that the availability of NSI improved and vaccination records improved from baseline to mid-term.

**Table 19: Record Keeping**

% of sites with NSI record books		% of sites with Hepatitis B vaccination record books		% of sites with Tetanus vaccination record books	
Baseline N = 19	Mid-term N = 17	Baseline N = 19	Mid-term N = 17	Baseline N = 19	Mid-term N = 17
26%	82%	26%	82%	21%	70%

## G. Risk reduction

GSIP's ultimate aim in improving safe injection and waste management practices is to decrease the risk of needle stick injuries among providers, waste handlers, and community members, and the potential of transmission of blood borne disease. One measure that can lessen the potential for disease transmission is pre-exposure vaccinations. GSIP sought to prevent disease transmission by ensuring staff were vaccinated against Hepatitis B and Tetanus. GSIP collaborated with the MOH Public Health department, responsible for the immunization program in Guyana, to make vaccinations available to staff at health facilities and municipal sanitation workers. GSIP assisted facilities to set up systems for identifying need and tracking staff vaccination compliance. Working with management, the unions and OSH, staff were encouraged to get vaccinated. GSIP conducted follow-up visits to check vaccination and needle stick injury records and to assist analysis of needle stick injury causes.

### *Vaccinations*

The baseline and mid-term tools include interviews of providers and waste handlers to determine how many had received their Hepatitis B and Tetanus shots. The mid-term assessment also reviewed vaccination records to get more comprehensive data on the percentage of providers and waste handlers vaccinated at target sites.

Table 20 shows a marked improvement in provider and waste handler reporting of vaccination. Tetanus vaccination improved from 68% to 100% for providers and from 23% to 91% for waste handlers. Hepatitis B vaccinations went from 88% to 100% among providers and 54% to 91% among waste handlers. Of those ever vaccinated for hepatitis, the percentage receiving the full three-course dose improved from 53% to 84% among providers and from 43% to 95% among waste handlers for the baseline and mid-term assessments.

**Table 20: Interview: Providers and Waste Handlers Vaccinated Against Hep B and Tetanus.**

Tetanus Vaccination			Hepatitis B Vaccination			
			Vaccinated		Of those vaccinated, 3 doses received	
Providers	Baseline (n = 46)	Mid-term (n = 31)	Baseline (n = 43)	Mid-term (n = 31)	Baseline (n = 38)	Mid-term (n = 31)
	68 %	100%	88%	100%	53%	84 %
Waste Handlers	Baseline (n = 26)	Mid-term (n = 23)	Baseline (n = 26)	Mid-term (n = 23)	Baseline (n = 14)	Mid-term (n = 21)
	23%	91%	54%	91%	43%	95%

The assessment team also collected data from vaccination records for the midterm assessment, as indicated in Table 21. This data showed lower coverage than the staff interviews, but the reasons for are not fully understood. Poor record keeping is certainly one contributing factor; in addition, poor reporting on the part of providers and waste handlers may also create an environment of under-reporting. There is also some evidence that some staff do not want the vaccinations, in part

for fear of injections and in part for reasons that are not fully understood. These staff, knowing that they should get vaccinated may verbally report being vaccinated even if they have not been.

**Table 21: Vaccination Record Review: Providers and Waste Handlers Vaccinated Against Tetanus and Hepatitis B (midterm assessment only)**

	<b>Tetanus Vaccination</b>	<b>Hepatitis B % vaccinated with 3 doses</b>
<b>Providers</b>	<b>Mid-term</b> (n = 209)	<b>Mid-term</b> (n = 209)
	41%	70 %
<b>Waste Handlers</b>	<b>Mid-term</b> (n = 41)	<b>Mid-term</b> (n = 85)
	48%	85%

*Needle Stick Injuries (NSI)*

One of the most important indicators that GSIP’s injection safety interventions are effective is the percentage of providers reporting NSIs. Table 22 shows that the percentage of providers interviewed who reported experiencing a needle stick injury in the last six months declined from 13% at the baseline to 3% at the mid-term. Likewise, the percentage of waste handlers interviewed who reported experiencing a needle stick injury in the last six months declined from 23% to 9% respectively.

**Table 22: Providers and Waste Handlers Interviewed Reporting NSI in the Last Six Months**

<b>% of providers who experienced a needle stick injury in the last six months</b>		<b>% of waste handlers who experienced a needle stick injury in the last six months</b>	
<b>Baseline</b> (n = 46)	<b>Mid-term</b> (n = 31)	<b>Baseline</b> (n = 26)	<b>Mid-term</b> (n = 23)
13%	3%	23%	9%

This achievement suggests that the combined efforts of staff training and education; the development of standards, guidelines and job aids; the provision of safer injection commodities such as safety boxes, needle removers, and segregation bags and the provision of gear for safe waste disposal are contributing to a reduction of provider and waste handler needle stick injury risk.

Importantly, of those experiencing needle stick injuries, a greater number are reporting them, receiving counseling, and receiving post exposure prophylaxis. As Table 23 illustrates, the number of needle stick injuries reported by providers interviewed were very small, only 6 in the

baseline and 1 for the mid-term. It is encouraging that the staff member, who experienced a NSI in the six month prior to the mid-term assessment, reported the injury and received counseling. More data are required, however, to determine if this is, in fact, a trend.

**Table 23: Providers Reporting NSIs and Received Counseling**

Number of providers reporting NSI		% providers with NSI reporting them		% providers who received counseling	
Baseline (n = 46)	Mid-term (n = 31)	Baseline (n = 6)	Mid-term (n = 1)	Baseline (n = 4)	Mid-term (n = 1)
6	1	80% (4)	100% (1)	50% (2)	100% (1)

The data from waste handlers interviewed is similar as can be seen in Table 24. Six (6) of 26 waste handlers interviewed experienced a needle stick injury in the baseline assessment as compared with only 2 of 23 in the mid-term assessment. Of those who had a needle stick injury in the baseline, only 67% reported the injury to their supervisor in the baseline while 100% did so in the mid-term and while only 25% of those reporting received counseling in the baseline, 100% reported receiving counseling in the mid-term assessment and received PEP.

**Table 24: Needle Stick Injuries among Waste Handlers**

Had a needle stick injury in the last 6 months		Reported the injury to their supervisor		Received Counseling		Received PEP	
Baseline (N= 26)	Mid-term (N = 25)	Baseline (N= 6)	Mid-term (N = 2)	Baseline (N= 6)	Mid-term (N = 2)	Baseline (N= 6)	Mid-term (N = 2)
23%	8%	67%	100%	17%	100%	0%	100%

*PEP*

GSIP assisted the Ministry of Health to develop a worker safety policy. Part of this policy is the provision of post exposure prophylaxis for work related injuries that put staff at risk of contracting HIV. Since not all facilities are equipped to store PEP, the policy states that all facilities should be within 72 hours of a facility that has PEP. In both the baseline and the mid-term assessments all facilities reported they could access PEP within the 72 hour limit and most within 2 to 36 hours.

**H. Community Behavior Change**

Community members are put at risk of contracting blood borne diseases, such as tetanus, Hepatitis B, Hepatitis C, and HIV from sharps injuries due to unsafe injections and poor disposal of sharps waste. GSIP sought to decrease the demand for injections, increase the demand for

tablets or non-injectables, and improve the knowledge of community members about injection safety.

*Awareness of safe injection issues*

As noted previously, posters encouraging clients to talk with their doctor about using tablets or non-injectables instead of injections were posted at injection sites. In an effort to sensitize community members about potential risks, GSIP partnered with four CIDA funded municipalities (MGMP/CIDA) and local NGOs in Regions 6 and 10 to disseminate messages to communities on injection safety and waste management. Collaboration with the community volunteers in the WIT teams from the CIDA project led to education talks, entertainment theatre and dance as channels for conveying messages about educating and engaging communities in effectively managing sharps in order to prevent sharp injuries and encouraging patients to observe that needles and syringes were taken from a sealed packet.

**Table 25: Community Members’ Attention to Safe Injection Practices**

<b>% community members who said they remember the provider opening a needle and syringe from a sealed package at last visit.</b>	
<b>Baseline (n = 97)</b>	<b>Midterm (n = 72)</b>
77%	82%

GSIP also developed working partnerships with the ILO and UNAIDS to build journalist capacity for reporting on AIDS activities and IS and the project facilitated radio and TV interviews on waste management safe injection practices and patients’ rights with regard to safe injection.

GSIP placed considerable effort on training health personnel to counsel clients about safe injection and the availability of oral medications. GSIP also developed informational posters and posted them at injection sites and client waiting areas in facilities

Interviews with community members suggest that awareness has improved from the baseline to the mid-term assessments. The baseline and mid-term assessments ask different questions about exposure to safe injection messages. The baseline asks if the individual has seen messages on talking to a physician about oral medication. The mid-term asks if the individual has seen or heard messages about injections, needles or syringes. The questions are essentially opposite, but the intention was the same, to determine if community members were being exposed to the GSIP safe injection messages. Taking this broad interpretation of the data as indicated in Table 26, exposure has improved from only 12% at the baseline to 43% at the time of the mid-term assessment.

**Table 26: Exposure to Safe Injection Messages in the Last Six Months**

Have you seen or heard any messages about talking to your physician about oral medication?	Have you seen or heard any messages about injections or needles/syringes?
<b>Baseline (n = 97)</b>	<b>Mid-term (n = 71)</b>
12%	43%

*Community Preference for Injections vs. Tablets*

Client preference for injections or tablets can influence personal and societal risk; exposing one to potential side effects of injections and the community to a larger amount of contaminated needles to be disposed. The baseline assessment revealed that patient preferences for injections were based primarily on the perceived convenience of injections compared to oral medication – having to remember to take tablets was considered to be a burden. In some cases patients had bad experiences with injections. On the other hand, in rural communities, some patients found it more convenient to use tablets rather than travel to clinics to have just one injection. The GSIP baseline assessment found that clients were not aware that alternative oral formulations existed for some injections and that they worked just as well.

Through the dissemination of safe injection information in the form of posters, dramas, and provider counseling, GSIP has sought to reduce the demand for injections. This includes increasing client awareness about the availability and efficacy of tablets. As Table 27 shows, the number of clients interviewed reporting discussions with a physician about the availability of oral formulations increased from 9% in the baseline to 15% in the mid-term.

**Table 27: Community Member Interest**

In the last six months have you asked your doctor about the availability of oral medications for your diagnosis?	
<b>Baseline (n = 90)</b>	<b>Mid-term (n = 72)</b>
9%	15%

Significantly, as Table 28 shows, the percentage of clients expressing a preference for tablets over injections also increased from 59% in the baseline to 66% in the mid-term assessment.

**Table 28: Community Member Preference**

<b>% of community members interviewed who prefer:</b>	<b>Baseline (n = 97)</b>	<b>Midterm (n = 71)</b>
<b>Tablets</b>	59%	66%
<b>Injections</b>	35%	28%
<b>Don't care</b>	6%	6%

#### IV. Conclusions

The objectives of this assessment were to:

- Determine if safe injection policies, standards and guidelines were available and in use at health facilities in regions 6 and 10
- Examine the availability of safe injection commodities
- Determine training coverage
- Assess adherence to safe injection and waste disposal standards
- Assess safe injection record keeping such as pre exposure tetanus and Hepatitis B vaccination, NSI reporting and post-exposure prophylaxis.
- Review changes in risk reduction practices
- Evaluate the effectiveness of behavior change initiatives

The assessment results show marked improvement in the input indicators for which GSIP was responsible, as well the reduction in behaviors and practices that increased risk of needle stick injuries and disease transmission. The percentage of sites with worker safety policies, appropriate placement of job aids and promotional posters, and the presence of ledgers to record vaccinations and needle sticks increased in every instance. This along with training and supervision of compliance with standards facilitated strong results in risk avoidance practices and simultaneously adherence to injection safety and UP standards. Results were also strengthened by continued GSIP monitoring and greater focus on worker safety within the Ministry.

Commodity management is an area in which GSIP has made inroads through training of ward staff on logistics, improved record keeping on consumption, and partnerships with SCMS and MOH to make them aware of the commodities needed for improved safety and better coordination at the Materials Management Unit. Stockouts, however, remain an issue. Bin liners and, at times, safety syringes, have been out of stock. Generally this can be attributed to GSIP research on sourcing better and more reasonably priced liners as well as late deliveries on the promised retractables. Improved supply of liners with a new distributor should improve on site availability and provide a more cost effective approach for the MOH. GSIP will continue to work with SCMS to deal with the field stock related problems.

The focus on record keeping, partnerships with public health, OSHA, and unions has helped increase pre exposure vaccination coverage and needle stick injury reporting and counseling. The percentage of staff vaccinated for Tetanus is 91%, a four fold increase; hepatitis B results are double or more of their baseline figures. Health workers are aware of the procedures to follow when stuck and more likely to take advice on post exposure care. This, too, could be strengthened by a greater reliance on and analysis of data at the facility, region and national level.

Use of protective equipment has improved; waste handlers are three times as likely to be using protective gear. The use of safety boxes for immediate disposal, bin liners for segregation and the adherence to universal precautions is almost 100%.

Awareness raising and behavior change efforts have also impacted the preferences of community members. The number preferring injections decreased from 35% to 6%, while the number stating they talked to their doctors about orals increased from 9 to 15%.

## V. **Lessons Learned**

While the assessment validated many of GSIP strategies, it also highlighted areas that require additional attention. These include ensuring the availability and effectiveness of waste management plans; the consistency of supply of bin liners and syringes, and appropriate use and maintenance of personal protective gear, as well as persistent, although limited, recapping. Changes in rationale drug use need to be linked to the public's growing awareness that non-injectables can be an effective alternative to injections.

To ensure adherence to standards for new and existing staff, GSIP will need to develop refresher training courses and assist regions and facilities to develop orientation sessions and revisit waste management planning with completed regions. In addition the effectiveness of supervision and monitoring will need to be reviewed to reduce incidences of recapping, loss and avoidance of using PPE.

At times poor habits are so entrenched that extra efforts are needed to understand the reasons for them. The project will benefit from a recently completed evaluation of its behavior change and media approach, an effort led by AED. The results of this survey, which included focus group discussions and material reviews, can shed light on the reasons for continual risky behavior and allow GSIP to strengthen its approaches as it completes activities in the remaining regions and plans to strengthen practices in completed regions

The results also show the need for placing more attention on ordering and supply practices. GSIP is working with MOH and SCMS to develop a medical supply list, which should improve commodity management.

Likewise there is a need to work on reducing the prescription of unnecessary injections as well as community and client acceptance of non-injectables. This has been hampered by a lack of standard treatment guidelines (STG). The project is collaborating with SCMS and MOH to ensure that the proposed standard treatment guidelines include non-injectables as the first line of treatment. The STGs are due to be released and prescribers trained on adherence in year five. This should improve prescribing practices and hopefully address counseling of clients both through prescriber awareness and our continuing work on medication counseling with pharmacists

## ANNEX 1: INDICATOR RESULTS ON GSIP KEY INTERVENTIONS

Indicator	Baseline	Mid-term
<b>IEC /Jobs Aids in place</b>		
• % sites with poster: Use PPE	6%	83%
• % sites with poster: Tablet Promotion	0%	53%
• % sites with standards: Administering an Injection	0%	100%
• % of sites with waste management plans	11%	53%
<b>Training</b>		
• % Providers Reporting being Trained	22%	90%
• % Waste Handlers Reporting being Trained	19%	91%
<b>Supervision</b>		
• % Providers reported being supervised 1 or more times in last 6 months	30%	62%
• % providers who received feedback from supervisor	34%	94%
<b>Record Keeping</b>		
• % Sites with needle stick injury record books	26%	82%
• % Sites with Hepatitis B record books	26%	82%
• % sites with Tetanus vaccination record books	21%	70%
<b>NSI Reporting</b>		
• % Provider reporting NSI	80%	100%
• % Providers Receiving counseling	50%	100%
• % WHs Reporting NSI	67%	100%
• % WHs receiving counseling	0%	100%
• % WHs receiving PEP	0%	100%
<b>PEP Assistance</b>		
• % Sites with a staff member trained to assist staff to follow PEP procedures	37%	53%
• % Sites with PEP availability onsite or within MOH criteria		100%
<b>UP</b>		
• % providers hand washing before injection	60%	87%
• % injection sites free from contamination	85%	100%
• % providers cleaning skin with fresh swab prior to injecting	ND	97%
<b>Injection Site</b>		
• % bins with black liners for ordinary waste	2%	94%
• % bins with red liners for infectious waste	0%	76%
<b>Use of PPE</b>		
• % WHs wearing protective gear	22%	63%
<b>Pre Exposure Protection – Interviews</b>		
• % Providers with Tetanus vaccination	68%	100%
• % WHs with Tetanus vaccination	23%	91%
• % providers with Hep B	88%	100%
• % WHs with Hep B	54%	91%
• % providers fully immunized against Hep B	53%	84%
• % WHs fully immunized against Hep B	43%	95%
<b>Client Counseling and Behavior Change</b>		
• % providers who counseling clients on orals	ND	46%
• % Clients asking doctors about orals	9%	15%
• % Preferring Tablets	59%	66%
• % Preferring Injections	35%	6%

**ANNEX 2: GUYANA SAFER INJECTION SURVEY**  
 February 2008: MID-TERM ASSESSMENT

ID Number \_\_\_\_\_ Date: \_\_\_\_\_

Name of Facility: \_\_\_\_\_ Region: \_\_\_\_\_

Type of Facility:

Hospital \_\_\_\_\_ Health Center \_\_\_\_\_ Private Clinic \_\_\_\_\_

Name of Data Collector: \_\_\_\_\_

**Complete before the assessment:**

Needle Remover: Y N # \_\_\_\_\_

Note: If yes, answer all questions on NRs and review each one.

Specialty Syringes: Auto Disable Y N Retractable Y N  
 Ward \_\_\_\_\_

Note: If yes, Conduct an observation on a retractable/auto disable syringe.

Laboratory Y \_\_\_ N \_\_\_

Dental Clinic Y \_\_\_ N \_\_\_

**Instructions:** Check below the instrument used and write the number of interviews conducted for each instrument: Note tool 3 & 4 should be done on same person as well as tool 6 and 7.

Number	Instrument	Suggested sample	Actual Sample
1.	Manager/In-Charge	1	
2.	Storekeeper/Pharmacist	1	
3.	Injection Provider Observation	4 hosp -1-2 HC	
4.	Injection Provider Interview	4 hosp -1-2 HC	
5.	Injection Room Obs.	1	
6.	Waste Handler Obs	2 Hosp – 1HC	
7.	Waste Handler Interview.	2 hosp – 1 HC	
8.	Laboratory	1	
9.	Dental	1	
10.	General Population	7 hosp – 3 HC	



## 1. Health Center Manager or Hospital Matron

<b>INTRODUCE YOURSELF AND READ THE FOLLOWING:</b>	
<i>[Greetings] My name is _____, and I work with the Guyana Safer Injection Project. We are conducting a survey on injection practices. The Project is a cooperation of the MOH and the US Agency for International Development. This facility was chosen to help us learn more about injection safety in order to develop effective strategies to reduce the incidence of HIV due to accidental sharps injuries. Your participation is voluntary - no names will be used. Can I have your cooperation for a few minutes? Please feel free to ask any questions before you agree to take part.</i>	
<b>Standards</b>	
1. Do you have the MOH worker safety policy	1. Yes _____ 2. No _____
2. Can I see it?	1. Available _____ 2. Not available _____ <i>Please note whether it is the 2007 policy signed by STSU : _____</i>
3. Can I see your waste management plan	1. Available _____ 2. Not available _____
<b>PEP</b>	
4. Can I see your ledger for reporting needle stick injuries?	1. Available _____ 2. Not available _____
5. Does the record include a section for describing how and why the incident occurred?	1. Yes _____ 2. No _____ 3. NA ____
6. Are there any NSIs recorded	1. Yes _____ 2. No _____
7. How many NSIs are recorded for the past 6 months	1. _____ 2. NA ____
8. How many incidents were reported in the last 6 months for providers <i>(NOTE COUNT BY POSITION)</i>	1. _____ 2. NA ____
9. How many incidents were reported in the last 6 months for waste handlers <i>(NOTE COUNT BY POSITION)</i>	1. _____ 2. NA ____
10. Are ARVs for post exposure prophylaxis kept at the facility	1. Yes _____ 2. No _____
11. If not, How long does it take to get to the facility where PEP drugs are available	1. Less than 2 hours _____ 2. Between 24 and 72 hours _____ 3. Not applicable (available on site) _____ 4. Don't know _____
12. Do you have a staff person trained to assist or counsel staff to follow the PEP procedures?	1. Yes _____ 2. No _____ 3. Don't know _____
<b>Vaccinations</b>	
13. Can I see your record of staff HEP B vaccinations	1. Available _____ 2. Not available _____
14. How many staff have the complete set of 3 injections	_____
15. How many have 2 doses?	_____
16. How many have 1 dose?	_____
17. Can I see your record of staff tetanus vaccinations	1. Available _____ 2. Not available _____
18. How many staff have tetanus vaccinations	_____

<p>19. Who is responsible for reviewing the information to ensure Hep B and tetanus vaccinations are kept up to date</p>	<p>1. position _____  2. Don't know _____ 3. NA _____</p>
<p>20. Do you find that you have time to remind providers about injection safety  <i>If no or don't know → Go question 23.</i></p>	<p>1. Yes _____ 2. No _____ 3. NA _____</p>
<p>21. What do you think are the most important things to remind injection providers to do?</p>	<p><i>Instructions: Mark only the responses that are mentioned spontaneously by the supervisor. Do not read the list aloud.</i></p> <p>1. Use clean table/tray _____  2. Wash hands _____  3. Wear gloves _____  4. Use new, sealed needle and syringe _____  5. Remove needle from rubber cap of multidose vial after withdrawing each dose _____  6. Use clean barrier, if using ampoule _____  7. Clean patient's skin _____  8. Do not recap needle _____  9/ Be careful of needle sticks _____  10/ Immediately dispose of needles or use a needle remover _____  11. Do not overfill safety boxes _____  12. Check dosage of medications _____  13. Other (specify): _____</p>

**END OF SECTION ONE**

**2. HOSPITAL STOREKEEPER OR PHARMACY:  
INVENTORY OF EQUIPMENT AND SUPPLIES AVAILABLE (conduct only at hospitals or  
health centers with stock ledgers)**

**Ask the stock room to review the ledger**

22. Check to see if there was a stockout of 5 liter safety boxes over the last 6 months	1. Yes ____2. No____ Don't know / don't remember
23. If yes for how long	1. Less than 1 week ____ 2. More than a week but less than 1 month (1-4 weeks) 3. Over 1 month 4. Over 3 months 5. NA
24. Check to see if there was a stockout of 10 liter safety boxes over the last 6 months (only for NA and Linden Hospital)	1. Yes ____2. No____
25. If yes for how long	1. Less than 1 week ____ 2. More than a week but less than 1 month (1-4 weeks) 3. Over 1 month 4. Over 3 months 5. NA
26. Check to see if there was a stock out of 10 ml standard disposal syringes in the last six months	1. Yes ____2. No____ 3. NA _____
27. If yes for how long	1. Less than 1 week ____ 2. More than a week but less than 1 month (1-4 weeks) 3. Over 1 month 4. Over 3 months 5. NA
28. Check to see if there was a stockout of 5 ml standard disposal syringes in the last 6 months	1. Yes ____2. No____
29. If yes for how long	1. Less than 1 week ____ 2. More than a week but less than 1 month (1-4 weeks) 3. Over 1 month 4. Over 3 months 5. NA
30. Check to see if there was a stockout of 2 ml standard disposal syringes in the last 6 months	1. Yes ____2. No____
31. If yes for how long	1. Less than 1 week ____ 2. More than a week but less than 1 month (1-4 weeks) 3. Over 1 month 4. Over 3 months 5. NA
32. Check to see if there was a stockout of 1cc standard disposal syringes in the last 6 months	1. Yes ____2. No____
33. If yes for how long	1. Less than 1 week ____ 2. More than a week but less than 1 month (1-4 weeks) 3. Over 1 month 4. Over 3 months

	5. NA
34. Check to see if there was a stockout of retractables in the last 6 months	1. Yes ____ 2. No ____ 3. NA ____
35. If yes for how long	1. Less than 1 week ____ 2. More than a week but less than 1 month (1-4 weeks) 3. Over 1 month 4. Over 3 months 5. NA
36. Check to see if there was a stockout of auto disable syringes in last 6 months	1. Yes ____ 2. No ____ 3. NA ____
37. If yes for how long	1. Less than 1 week ____ 2. More than a week but less than 1 month (1-4 weeks) 3. Over 1 month 4. Over 3 months 5. NA

**END OF SECTION TWO**

3. **Observation: Injection Provider** (generally a senior nurse in immunizations-EPI, a senior nurse in outpatient department – or a senior nurse on a large ward, e.g. infectious wards)

Ward: \_\_\_\_\_ Staff: Nurse \_\_\_\_\_,

*Introduce yourself [Greetings] My name is \_\_\_\_\_, and I work with the Guyana Safer Injection Project. We are conducting a survey on injection practices. The Project is a cooperation of the MOH and the US Government. This facility was chosen to help us develop strategies to reduce the incidence of HIV and to measure the effectiveness of our interventions. It is voluntary -no names will be used. Can I have your cooperation for a few minutes for an observation of you giving an injection? Please feel free to ask any questions before you agree to take part. **If there are no patients, ask the injection provider to demonstrate how she gives and disposes of injection equipment. Stand where you can observe but not interfere in the process. Ask to interview her afterwards.***

NOTE: Actual demonstration \_\_\_\_\_ Demonstration \_\_\_\_\_

38. Does the provider wash hands before preparing the injection	1. Yes _____ 2. No _____
39. Is the preparation prepared on a clean designated table or tray, where blood or body fluid contamination is unlikely	1. Yes _____ 2. No _____
40. Is the needle and syringe removed from the sealed package in sight of patient	1. Yes _____ 2. No _____
41. If not was there any sign of re-use of the needle or syringe, ( discoloration, bulging)	1. Yes _____ 2. No _____
42. Was the patient's skin cleaned with a clean swab or antiseptic before injection was given	1. Yes _____ 2. No _____ Not observed _____
43. For each reconstitution, was a sterile syringe and needle taken from a sterile unopened pack	1. Yes _____ 2. No _____ 3. NA ____
44. Is the sharps container next to the provider so she can reach it without moving around with the needle	1. Yes _____ 2. No _____
45. Does she remove needles from the syringes before disposing of them <i>(exception: state NA if needle remover is present)</i>	1. Yes _____ 2. No _____ 3. NA ____
<b>46. For sites with needle removers:</b> Does the provider use the needle remover immediately and dispose of the syringes in either a safety box or waste bin lined with red bag	1. Yes _____ 2. No _____ 3. NA ____
47. Does she recap needles before disposing of them	1. Yes _____ 2. NO _____ 3. NA (Uses needle remover) _____
48. Does she dispose of sharps in puncture resistant containers immediately?	1. Yes _____ 2. No _____ 3. NA (Uses needle remover) ____
49. Does the provider counsel the patient on talking to their physician about oral formulations	1. Yes _____ 2. No _____
50. Which of the following (if any) did the provider say to the patient?	1. Talk to the prescriber about oral formulations 2. Follow up instructions given 3. Potential side effects mentioned 4. Patient told how to treat side effects

	<p>5. Patient told what to do if have adverse reaction</p> <p>6. Other topic related to injection safety (specify): _____</p> <p><i>Instructions: Circle the answers that apply to the injection that you observed.</i></p>
<p>51. Did provider use, explain or refer to any communication materials or job aid while the patient was there</p>	<p>1. Yes _____ 2. No _____ 3. NA _____</p>

**END OF SECTION THREE**

#### 4. Interview: Injection Provider (the same person who was observed)

LOCATION (NOTE WARD) \_\_\_\_\_

Interview the person you observed.	
52. Please show me the standards for administering injections	1. Available _____ 2. Not Available _____
53. How many times have you been observed by a supervisor while providing injections in the past 6 months	1. # _____ 2. Don't know _____ 3. NA _____
54. Did the supervisor discuss the observation results with you	1. Yes _____ 2. No _____ 3. NA _____
55. Have you had training on injection safety	1. Yes _____ 2.No _____
56. How long ago was the training	1. Months _____ 2.Years _____ 3. Don't remember _____ 4. NA _____
57. If using retractable or auto disable syringes, were you trained on its use	1. Yes _____ 2. No _____ 3. NA _____
58. Do you ever remove needles from the syringes before disposing of them	1. Yes _____ 2. No _____ 3. NA (Uses needle remover) _____
59. Do you ever recap needles before disposing of them	1. Yes _____ 2. No _____
60. During the last 6 months did you ever re-use a syringe or needle without sterilizing on another patient	1. Yes _____ 2. No _____ 3. NA _____
61. Have you had a tetanus vaccine	1. Yes _____ 2. No _____ 3. Don't know _____
62. Have you had a vaccine against Hep B	1. Yes _____ 2. No _____ 3. Don't know _____
63. How many doses	1. # _____ 2. don't know _____
64. How long does it take you to reach a facility that has access to PEP	1. less than 2 hours _____ 2. Between 24 and 72 hours _____ 3. Not applicable (available on site) _____ 4. Don't know _____
65. In the last 6 months how many needlestick injuries have you had	1. _____ 2. Don't remember _____ 3. NA _____
66. Did you report the injury to your supervisor	1. Yes _____ 2. No _____ 3. NA _____
67. If yes, did you receive counseling or information regarding the actions to take after being stuck	1. Yes _____ 2. No _____ 3. NA _____
68. Did you receive PEP drugs after being stuck?	1. Yes _____ 2. No _____ 3. NA _____
69. Did you take the full regimen of ARV drugs?	1. Yes _____ 2. No _____ 3. NA _____
70. Have you had a stock out of safety boxes in the last six months	1. Yes _____ 2. No _____ 3. Don't remember _____
71. Have you had a stock out of any size needle & syringe in the last six months	1. Yes _____ 2. No _____ 3. Don't remember _____
72. Can you remember which size	1. 2 ml _____ 2. 3 ml _____

	3. 5 ml ____ 4. 10 ml ____ 5. NA ____
73. What do you normally tell patients about injections in general and the ones you give them in specific?	1. Talk to the prescriber about oral formulations 2. Follow up instructions given 3. Potential side effects mentioned 4. Patient told how to treat side effects 5. Patient told what to do if have adverse reaction 6. Other topic related to injection safety (specify): _____  <i>Instructions: Circle the answers that apply to the injection that you observed.</i>
74. In your opinion, when treating a patient with a simple case of fever, is medicine taken by mouth MORE effective, JUST AS effective, or LESS effective than medicine taken by injection?	1. Oral MORE Effective 2. Oral JUST AS Effective 3. Oral LESS Effective 4. Depends on the probable cause of fever 5. Don't know 6. Other (specify) _____  <i>Instructions: Do not read the list aloud.</i>
75. What, if anything, makes it difficult for you to follow safe injection and waste practices for every injection. ( <i>Probe: what else?</i> )	1. Needles/syringes – not enough ____ 2. Medicine – not enough ____ 3. No water/soap to wash hands ____ 4. Gloves – not enough ____ 5. Safety boxes – not enough ____ 6. Recapping – can't stop ____ 7. Other, specify _____ 8. Nothing/Don't know ____  <i>Instructions: Circle all responses</i>
<b>The following questions refer to the observation you just conducted</b>	
76. If the provider didn't tell the client about talking to her/his prescriber about oral formulation during observation, ask: <b>“Could you tell me why you did not suggest to the patient you just saw that s/he should talk to the prescriber about orals.</b>	Specify response _  Or NA _____
77. If she didn't wash her hands ask: <b>why didn't you wash your hands before giving an injection</b>	Specify response _  Or NA _____
78. If she didn't remove the needle and syringe from a sealed package in sight of the patient, ask: <b>Why didn't you remover the needle and syringe from the packet in front of the patient?</b>	Specify response _  Or NA _____
79. If she recapped ask: <b>Why did you recap the needle before disposing</b>	Specify response _  Or NA _____

**END OF SECTION: FOUR**

5. **Observation: Injection Room** (*you may need to go around with a staff person to ensure each injection site is reached*)

Ask to see all injection sites

If needle removers are used – ask to see all of them

Determine if safety boxes are available at all injection sites

Injection Room	
80. <b>IF needle removers:</b> Are needle removers available at all injection sites	1. Yes _____ 2. No _____ 3. NA (no needle remover) _____
81. Are puncture proof, leak proof safety boxes in each area where injections are given (( <b>note: you will need to ask where the sites are, and determine if the safety boxes are in place before answering this</b> ))	1. Yes _____ 2. No _____ 3. NA _____
82. Are any safety boxes overflowing, or pierced?	1. Yes _____ 2. No _____ 3. NA _____
83. Are any safety boxes improperly assembled	1. Yes _____ 2. No _____ 3. NA _____
84. Are all full safety boxes waiting for disposal/incineration sealed ( <i>Ask to see the store room if necessary; Say NO if they are not properly sealed</i> )	1. Yes _____ 2. Some but not all _____ 3. None _____ 4. NA _____ (uses other device)
85. Are all full safety boxes waiting for disposal/incineration stored in an unsecured area with easy access to the public	1. Yes _____ 2. Some but not all _____ 3. None _____ 4. NA _____ (uses other device)
86. Are there any sharps in <b>open</b> containers exposing staff to needlestick injuries	1. Yes _____ 2. No _____
87. Are waste containers for ordinary trash lined with black plastic liners	1. Yes _____ 2. No _____
88. Are waste bins for medical waste lined with red plastic liners	1. Yes _____ 2. No _____
89. Are PEP procedures posted in the injection room	1. Yes _____ 2. No _____
90. Are there any posters promoting use of tablets in this room	1. Yes _____ 2. No _____
91. Is there a safe injection administration poster/ job aid with the steps for injecting	1. Yes _____ 2. No _____

**END OF SECTION FIVE**

## 6. Observation: Waste Management

### Identify a waste handler and conduct the facility review and interview

*[Greetings] My name is \_\_\_\_\_, and I work with the Guyana Safer Injection Project. We are conducting a survey on injection practices. The Project is a cooperation of the MOH and the US Government. This facility was chosen to help us develop strategies to reduce the incidence of HIV through accidental needle stick injuries. Your participation is voluntary—no names will be used. Can I have your cooperation for a few minutes to review the waste management system and ask you a few questions?*

*Please feel free to ask any questions before you agree to take part.*

### Visit final disposal site

<b>OBSERVATION OF SITE – (you may want to do this with a staff member)</b>	
92. Are there any used sharps around disposal site or health center ( <b>Observe</b> )	1. Yes _____ 2. No _____
93. Are there any sharps not fully burnt around the final dump site	1. Yes _____ 2. No _____
94. Ask to see the main disposal site: and respond what method is used for sharps	1. open burning on ground ____ 2. open burning in hole or enclosure ____ 3. incinerator ____ 4. burial ____ 5. sharps barrel ____ 6. dumping in protected pit ____ 7. dumping in unsecured pit ____ 8. dumping in river, etc ____ 9. transport off site ____ 10. other (specify) ____
95. Observe whether waste handler is wearing gloves <b>when carrying waste</b>	1. Yes _____ 2. No _____ 3. NA ____
96. Observe whether waste handler is wearing boots when carrying waste outdoors	1. Yes _____ 2. No _____ 3. NA ____
97. Are PEP procedures posted in the area where waste handlers work?	1. Yes ____ 2. No _____
98. Are posters promoting use of WH protective gear in the area where waste handlers work	1. Yes ____ 2. No _____

## END OF SECTION SIX

## 7. Interview: Waste Handler/Clinical Attendant

99. Have you had training on waste management	1. Yes _____ 2. No _____ 3. Don't remember _____
100. How long ago was it?	1. Months _____ 2. _____ years 3. Don't remember _____ 4. NA _____
101. Has your supervisor provided you with any feedback regarding your work in the last 6 months	1. Yes _____ 2. No _____ 3. NA _____
102. Do you use protective clothing when handling waste?	1. Yes _____ 2. No _____
103. What gear do you have	1. Gloves _____ 2. apron _____ 3. Boots _____ 4. other _____ 5. None _____  <i>Check all that apply</i>
104. What gear do you use regularly	1. Gloves _____ 2. apron _____ 3. Boots _____ 4. other _____ 5. None _____  <i>Check all that apply</i>
105. For the equipment not used, ask why	1. Improper fit _____ 2. Too hot _____ 3. Uncomfortable _____ 4. Not necessary _____ 5. Other _____ 6. Don't know _____ <i>Check all that apply but do not read.</i>
106. Have you had a tetanus vaccine	1. Yes _____ 2. No _____ 3. Don't know _____
107. Have you had a vaccine against Hep B	1. Yes _____ 2. No _____ 3. Don't know _____
108. How many doses	1. # _____ 2. don't know _____
109. How many times have you been stuck by a used needle within the last six months	1. # _____ 2. Don't know _____
110. Did you report the injury to your supervisor	1. Yes _____ 2. No _____ 3. NA _____
111. If yes, did you receive counseling or information regarding the actions to take after being stuck	1. Yes _____ 2. No _____ 3. NA _____
112. If stuck, did you receive PEP drugs?	1. Yes _____ 2. No _____ 3. NA _____
113. How long does it take you to reach a facility that has access to PEP	1. less than 2 hours _____ 2. More than 24 hours _____ 3. More than 48 hours _____ 4. More than 72 hours _____ 5. Don't know _____ 6. Not applicable _____
114. What if anything prevents you from following the procedures you were taught for handling waste	1. Needles/syringes – no segregation _____ 2. Gloves – not enough _____ 3. No boots/goggles/other protective gear _____ 4. No incinerator _____

	<p>5. Safety boxes – not enough ____ 6. No means of transportation ____ 7. Fuel – not enough ____ 8. Other, specify _____ 9. Nothing/Don't know <i>(Do not read answers-- Probe by asking what else? And mark all that apply)</i></p>
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**END OF SECTION SEVEN**

## 8. Observation/Interview: Laboratory/Phlebotomy Clinic ONLY FOR SITES WITH LABORATORIES

*[Greetings] My name is \_\_\_\_\_, and I work with the Guyana Safer Injection Project. We are conducting a survey on injection practices. The Project is cooperation between the MOH and the US Agency for International Development. This facility was chosen to help us to develop strategies to reduce the incidence of HIV through sharps injuries. Your participation is voluntary-- no names will be used. Can I have your cooperation for a few minutes? Please feel free to ask any questions before you agree to take part.*

<b>Observe</b>	
112. Are there sharps containers within arm's reach of the phlebotomist	1. Yes _____ 2. No _____
113. Are there any sharps containers open, pierced or overflowing?	1. Yes _____ 2. No _____
114. Does the phlebotomist wash hands before and after procedures	1. Yes _____ 2. No _____
115. Does s/he change gloves after each patient	1. Yes _____ 2. No _____
116. Does she put contaminated gloves in red lined bin	1. Yes _____ 2. No _____
117. Does s/he clean skin with an alcohol swab before inserting needle	1. Yes _____ 2. No _____
118. Does she put contaminated swabs in red lined bin	1. Yes _____ 2. No _____
119. Does the phlebotomist immediately dispose used needles in safety box	1. Yes _____ 2. No _____
120. Is there a post exposure prophylaxis procedures for accidental needle stick injuries	1. Yes ____ 2. No ____
121. Are there any posters or job aids promoting reporting of needle stick injuries	1. Yes _____ 2. No ____
<b>Ask</b>	
122. Have you been trained in injection safety	1 Yes _____ 2. No
123. When did you receive training?	1. Months ____ 2. years ____ 3. Don't remember ____ 4. NA _____
124. Do you always use vacutainer tubes?	1. Yes _____ 2. No _____ 3. Sometimes
125. If no, do you recap	1. Yes _____ 2. No _____
126. How do you separate the needle from syringe	1. Forceps _____ 2. Hands ____ 3. Other ____
127. Have you had a sharps injury in the last 6 months	1. Yes ____ 2. No _____
128. Did you report the incident to your supervisor	1. Yes ____ 2. No _____
129. Did the supervisor provide you with counseling regarding the next steps to take for getting care	1. Yes _____ 2. No _____ 3. NA __

**END OF SECTION EIGHT**

## 9. Dental Clinic Interview/Observation – ONLY FOR SITES WITH DENTAL CLINICS

*[Greetings] My name is \_\_\_\_\_, and I work with the Guyana Safer Injection Project. We are conducting a survey on injection practices. The Project is cooperation between the MOH and the US Agency for International Development. This facility was chosen to help us to develop strategies to reduce the incidence of HIV through sharps injuries. Your participation is voluntary-- no names will be used. Can I have your cooperation for a few minutes?*

*Please feel free to ask any questions before you agree to take part.*

130. Were you trained in injection safety and waste management	1. Yes ____ 2. No ____
131. How long ago were you trained	1. Months ____ 2. ____ years 3. Don't remember ____ 4. NA ____
132. Is there a poster on PEP procedures	1. Yes ____ 2. No ____
133. How many NSI have you had in the last 6 months	1. # ____ 2. NA ____
134. Did you report the incident to your supervisor or counselor	1. Yes ____ 2. No ____ 3. NA __
135. Did the supervisor or counselor provide you with guidance regarding the next steps to take for getting care	1. Yes ____ 2. No ____ 3. NA __

**END OF SECTION NINE**

### 10. General Population Interview:

*Explain the purpose of the survey is to improve injection safety and waste management and reduce disease transmission, including HIV. Ask if they can spare 5 minutes to answer some questions about injection practices. This should be conducted as the patient is leaving the facility. We require only those between 15 and 49 for this survey.*

<p>136. Of the following age groups to which do you belong. <b>Read the choices</b></p> <p><b>ONLY INTERVIEW THOSE BETWEEN 15 &amp; 49- SAY THANK YOU TO ALL OTHERS &amp; MOVE ON</b></p>	<p>1. under 15 ___                  2. 15-49 ___                  3. over 49 ___</p>
<p>137. Gender</p>	<p>1. Male _____ 2. Female _____</p>
<p>138. Can you remember whether the provider opened the needle and syringe from a sealed package</p>	<p>1. Yes _____                  2. No _____                  3. Don't know/remember _____</p>
<p>139. When you are sick with a fever, do you prefer tablets or injections</p>	<p>1. Tablets _____                  2. Injections _____                  3. I don't care _____</p>
<p>140. What are the reasons for your preference</p>	<p>1. Faster ___                  2. Better/stronger ___                  3. Know/feel it working ___                  4. Don't like needles/injections ___                  5. Shorter treatment ___                  6. Pills are hard to swallow ___                  7. Pills taste bad ___                  8. Other (state) _____                  9. No reason ___                  10. Don't know ___  <i>(check all that are stated, do not read)</i></p>
<p>141. In the last 6 months have you asked your doctor about the availability of oral medications for your diagnosis</p>	<p>1. Yes _____ 2. No _____ 3. NA ___</p>
<p>142. What can you do to make sure that your family receives safe injections</p>	<p>1. Make sure needle and syringe come from a new, sealed package ___                  2. Go only to a trained/professional provider ___                  3. Bring own needle/syringe ___                  4. Nothing ___                  5. Don't know ___                  6. Other (specify): _____</p>
<p>143. What can you and your family do to avoid getting stuck by used needles/syringes</p>	<p>1. Don't touch / pick up any needles / syringes                  2. Tell children to stay away                  3. Wear shoes                  4. Dispose of them in pit / latrine / Dispose of them safely                  5. Burn them                  6. Don't bring used needles home                  7. Don't use injections; use orals                  8. Other, (specify): _____</p>

	<p>9 Nothing 10. Don't know</p>
144. Have you seen or heard any messages about injections or needles or syringed in the last 6 months	<p>1. Yes _____ 2. No _____</p>
145. What information or ideas do you remember seeing or hearing about injections or needles or syringes	<p><i>DO NOT READ, Mark all spontaneously mentioned:</i></p> <p>1. Safer Injections __ 2. Unsafe injections can transmit HIV/AIDS ____ 3. HEP B/hepatitis C ____ 4. Use/ask for a new needle syringe every time you need an injection ____ 5. Orals/pills are as effective as injections ____ 6. Ask for orals/pills when you need medicine (don't ask for/demand injections) ____ 7. Trust the doctor/do what the doctor says __ 8. Trust the pharmacist/do what the pharmacist says ____ 9. Injection waste is dangerous/stay away from injection waste/keep children away from medical waste ____ 10. Safely dispose of diabetic home use needles 11. Other (specify) _____ 12. Don't know/don't remember/nothing</p>
146. From what sources did you see or hear this information or ideas?	<p><i>DO NOT READ, Mark all spontaneously mentioned:</i></p> <p>1. Health Staff/personnel __ 2. Pharmacy ____ 3. Friends/neighbors/relatives 4. Political leader/community leaders 5. School 6. Church/mosque/religious leaders 7. Women's group 8. Radio ____ 9. TV ____ 10. Newspaper/magazine ____ 11. Poster ____ 12. Drama group ____ 13. Video/film ____ 14. Booklet/brochure 15. Other (specify) _____ 16. Don't know/don't remember/none ____</p>
147. From which of the following sources did you see or hear information about injections, needles or syringes in the last 6 months? <b>Instructions: READ EACH ONE THAT WAS NOT MENTIONED IN Q. 146. CHECK THOSE THAT THEY SAY "YES" TO.</b>	<p>1. Community Health/WIT staff ____ 2. Health Staff/personnel __ 3. Pharmacy ____ 4. Community/Women's group 5. Radio ____ 6. TV ____</p>

	7. Newspaper/magazine ____ 8. Poster __ 9. NA ____
148. From what ONE source that you mentioned did you see or hear this information or ideas most often?  <b>Instructions SKIP QUESTION IF ONLY ONE OR NO SOURCES MENTIONED IN Q. 147 OR 148.</b>	1. Community Health/WIT staff ____ 2. Health Staff/personnel __ 3. Pharmacy ____ 4. Friends/neighbors/relatives 5. Political leader/community leaders 6. School 7. Church/mosque/religious leaders 8. Community/Women's group 9. Radio ____ 10. TV ____ 11. Newspaper/magazine ____ 12. Poster ____ 13. Drama group ____ 14. Video/film ____ 15. Booklet/brochure 16. Other _____ 17. Don't know/don't remember/none __ 18. NA

**END OF SESSION TEN**