Publish by :
OCCUPATIONAL HEALTH UNIT,
Disease Control Division
Ministry of Health Malaysia,
Level 6, Block E10, Parcel E,
Federal Government Administration Complex,
62590 PUTRAJAYA.

2007 First Edition

ISBN 978-983-3433-21-6

SHARPS
Injury Surveillance

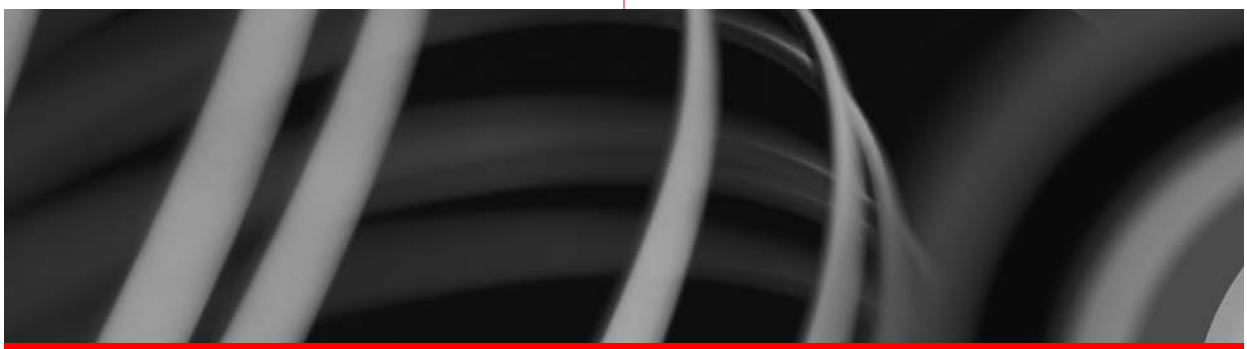
MANUAL

Occupational Health Unit Ministry of Health Malaysia

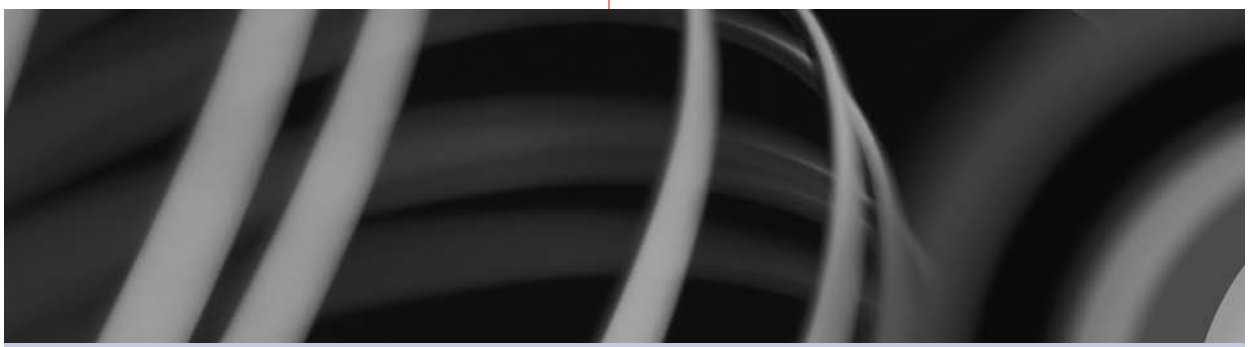
Sharps Injury Surveillance

MANUAL

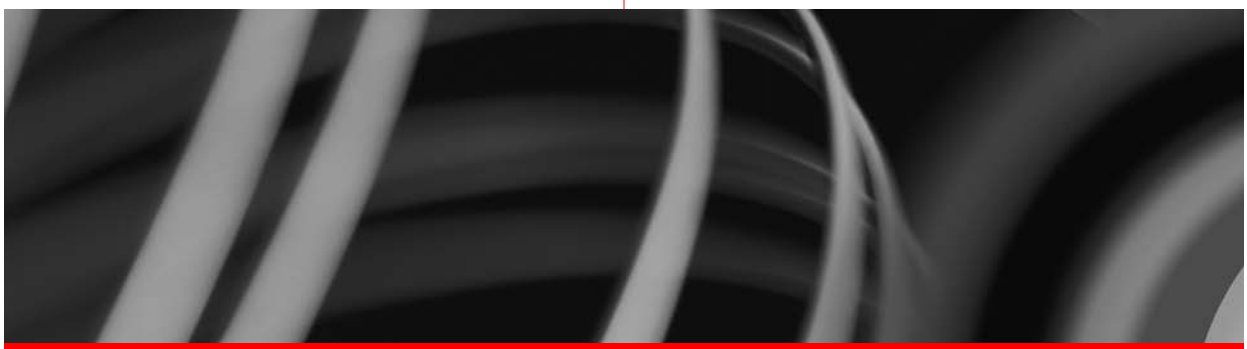
Occupational Health Unit Ministry of Health Malaysia 2007



Contents



Appendix



Foreword

DIRECTOR – GENERAL OF HEALTH MALAYSIA

Well-managed information and knowledge, along with the right attitude has always been the key to sustained development and this dictum holds true in the medical and health sciences too.

Although sharps injuries are one of the most common types of injuries incurred by health care workers, the estimated rates of injury can vary due to uncertainties about under reporting. Instances of occupational blood-borne virus transmission have been reported widely, but assessments of transmission incidence and absolute risk of infection have rarely been published. Besides physical injury, estimates of risk of viral transmission to non-immune health care workers vary from 22% for Hepatitis B, 1.8% for Hepatitis C and 0.3% for HIV. This sharps injury surveillance manual is an attempt made by the Occupational Health Unit of Ministry of Health, Malaysia to facilitate the process of notification of injuries due to sharps within the facilities of the Ministry of Health.

It is my sincere hope that this manual will be used judiciously to enhance notification and surveillance of sharps injuries. I would like to take this opportunity to congratulate members of the unit for producing this manual.

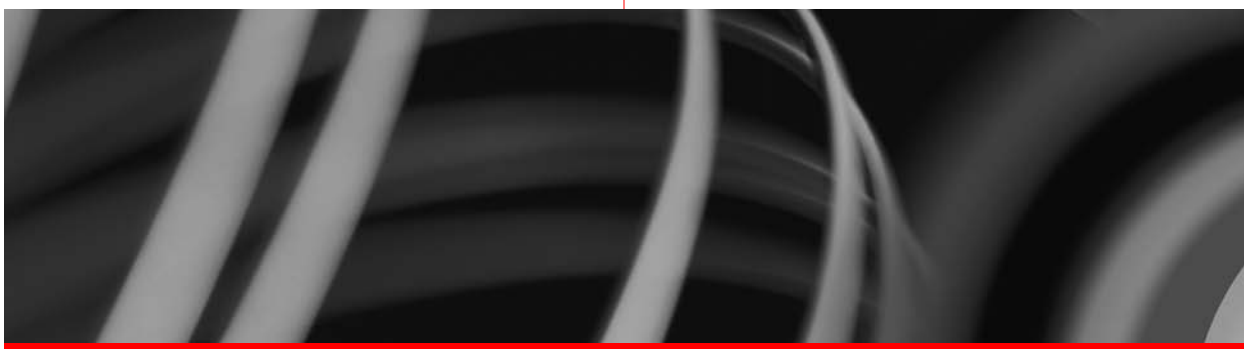
Thank you.

Tan Sri Datuk Dr. Hj Mohd. Ismail Merican,
Director General of Health, Malaysia,
July 2007

Chapter One

SHARPS INJURY NOTIFICATION

Occupational Health Unit Ministry of Health Malaysia **2007**



Sharps Injury Surveillance

INTRODUCTION

Health care workers exposures to blood borne pathogens as a result of injuries caused by needles and other sharps devices are a significant public health concern. Referring to the data collected by Occupational Health Unit, Ministry of Health from 1998-2005, needlestick injury is the major cause of injuries among the Ministry of Health personnel which contributes to a total of 74.9 % of all injuries. Among the personnel, nurses sustained the highest number of needlestick injuries. In the United States of America, the U.S Centers for Disease Control and Prevention (CDC) estimates that between 600,000 and 800,000 percutaneous injuries from contaminated sharp devices occur each year in health care nationwide and approximately half are sustained by hospital workers.

Sharps injuries are preventable and under the Occupational Safety and Health Act 1994 (OSHA), employers, employees and self employed persons have a duty of care towards their own safety and health, and to that of others at their workplace. Therefore comprehensive programs should be implemented to reduce these injuries. Elements of a successful sharps injury prevention program (as outlined by CDC) include: promoting an overall culture of safety in the workplace, eliminating the unnecessary use of needles and other sharps devices, using devices with sharps injury prevention features (safety devices), employing safe workplace practices and training health care personnel. Sharps injury surveillance is also a key component of a comprehensive sharps injury prevention program.

OBJECTIVE

i) To provide a basis for a registry on sharps injuries among healthcare workers in Ministry of Health, Malaysia.

ii) To provide data for policies, strategies and program development in the prevention of occupational related diseases.

APPLICATION

The sharps injury surveillance format must be completed in case sharps injuries occur to health care workers. This format consists of two sections namely the OHU/SIS-1 and OHU/SIS-2. OHU/SIS-1 is the "epidemiology section" and is to be filled by the staff from the Infection Control Team or the Occupational Health Unit, if the injury happens in the hospital setting or the Location Supervisor if the injury happens in the health clinic setting. Alternatively, OHU/SIS-2 is the "management of the exposed health care worker section". This section is further divided into two parts; OHU/SIS-2a which is the risk assessment part and OHU/SIS-2b which is the treatment and follow-up of the exposed health care worker part. OHU/SIS-2 is to be filled by the attending physician.

DEFINITION

Sharps

- includes all sharps instruments/devices used in healthcare facilities (e.g. all types of needles, scalpel, trochar, broken glass, lancet and other sharps devices.)

Healthcare workers include

- Ministry of Health staff
- Ministry of Health trainees
- Medical students
- Health facilities support service workers

PROCESS FLOW ON SHARPS INJURY SURVEILLANCE IN HOSPITAL / DENTAL CLINIC IN HOSPITAL

i) Figure 1, summarizes the process of data / information collection, feedback of information, responsible persons and time frame in the hospital / dental clinic in hospital.

ii) If a sharps injury occurs, the personnel involved should inform the location supervisor immediately (within 24 hours). During office hours, the location supervisor is the Sister in-charge of the ward / clinic OR the Concession Company Safety Supervisor (if the concession company's worker is involved) OR the Head of Unit (if no Sister in charge e.g. Laboratory, Pharmacy). After office hours, the location supervisor is the Sister 'on-call' OR the Concession Company Safety Supervisor 'on-call' (if the concession company's worker is involved) OR Officer 'on call' in the respective unit (e.g. Laboratory, Pharmacy).

iii) The location supervisor should immediately refer the injured personnel to the designated doctor in the Medical Department for assessment and post-exposure prophylaxis if required (Please refer Chapter 2 on "Sharps Injury Management" for further details on its management flow).

iv) At the same time the location supervisor should fill in two notification forms namely the 'Incident Reporting Form' and the 'WEHU A1 and WEHU A 2' forms respectively.

v) The location supervisor is then responsible to submit the 'Incident reporting form' to the Quality Unit in the hospital for further action to be taken.

vi) The location supervisor is also responsible to submit the WEHU A1 & A2 forms to the Occupational Safety and Health Committee Secretary.

vii) The Occupational Safety and Health Committee Secretary should review the WEHU A1 & A2 forms for completeness.

viii) It is the responsibility of the Occupational Safety and Health Committee Secretary to submit the completed WEHU A1 & A2 forms to the State Occupational Health Unit within one (1) week of the date of notification.

ix) At the same time, the Occupational Safety and Health Committee Secretary should inform the Infection Control Team / Occupational Health Unit by sending a copy of the WEHU A1 form.

x) Upon receiving the notification, the Infection Control Team / Occupational Health Unit should review the forms and investigate the sharps injury incident and fill in the OHU/SIS-1 form (Epidemiology section) of the Sharps Injury Surveillance format.

xi) The Infection Control Team / Occupational Health Unit should enter relevant data from the OHU/SIS-1 form into the registry and submit the completed OHU/SIS-1 form and the completed registry to the State Occupational Health Unit within one(1) month and six(6) month respectively after the incident.

xii) The State Occupational Health Officer should submit the completed registry once a year before 31st January every year to the Occupational Health Unit, Disease Control Division, Ministry of Health.

xiii) The OHU/SIS-2a and OHU/SIS-2b forms should be kept at the health facilities.

Figure 1 : Process flow on notification of sharps injuries in hospital/ dental clinic in hospital

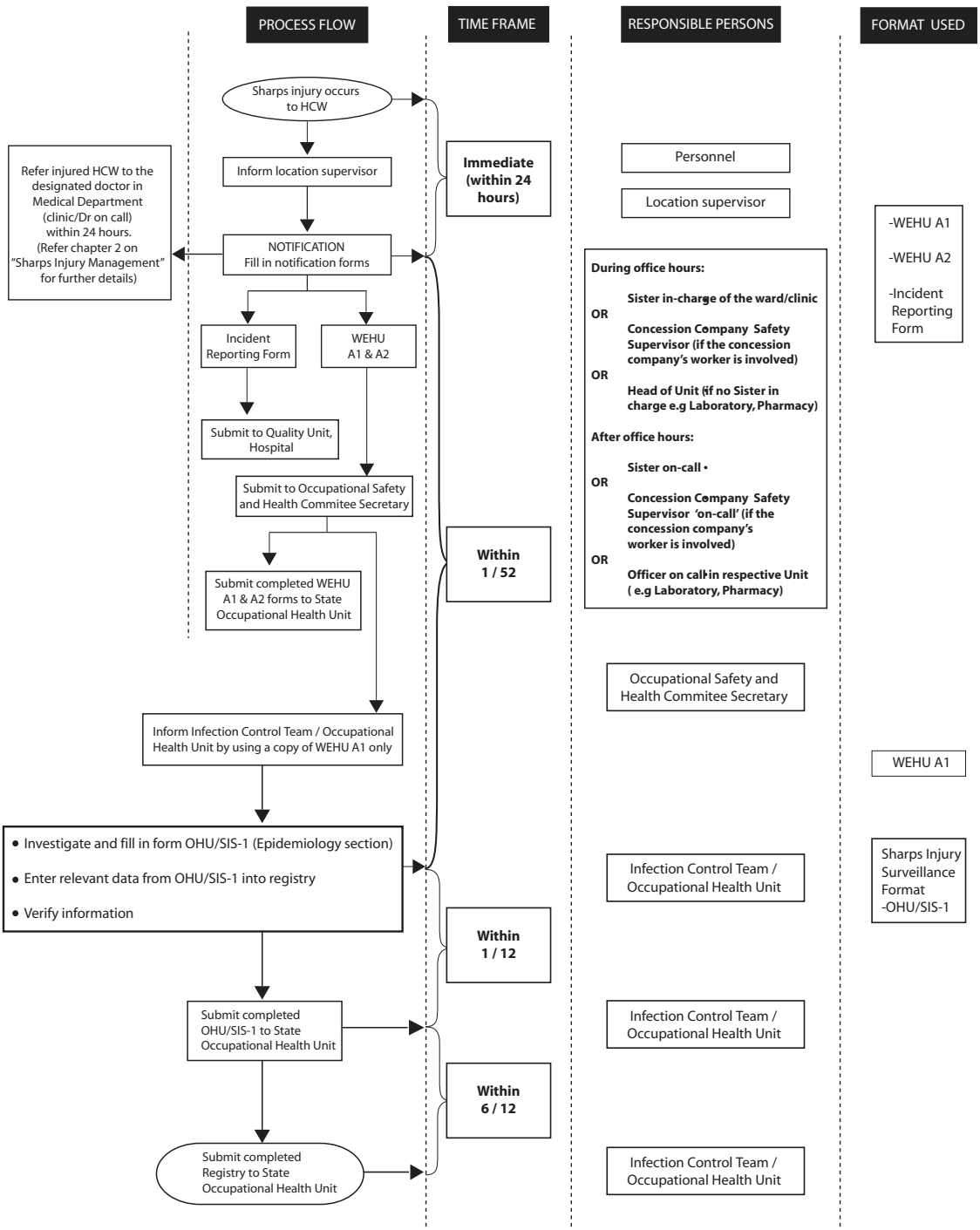
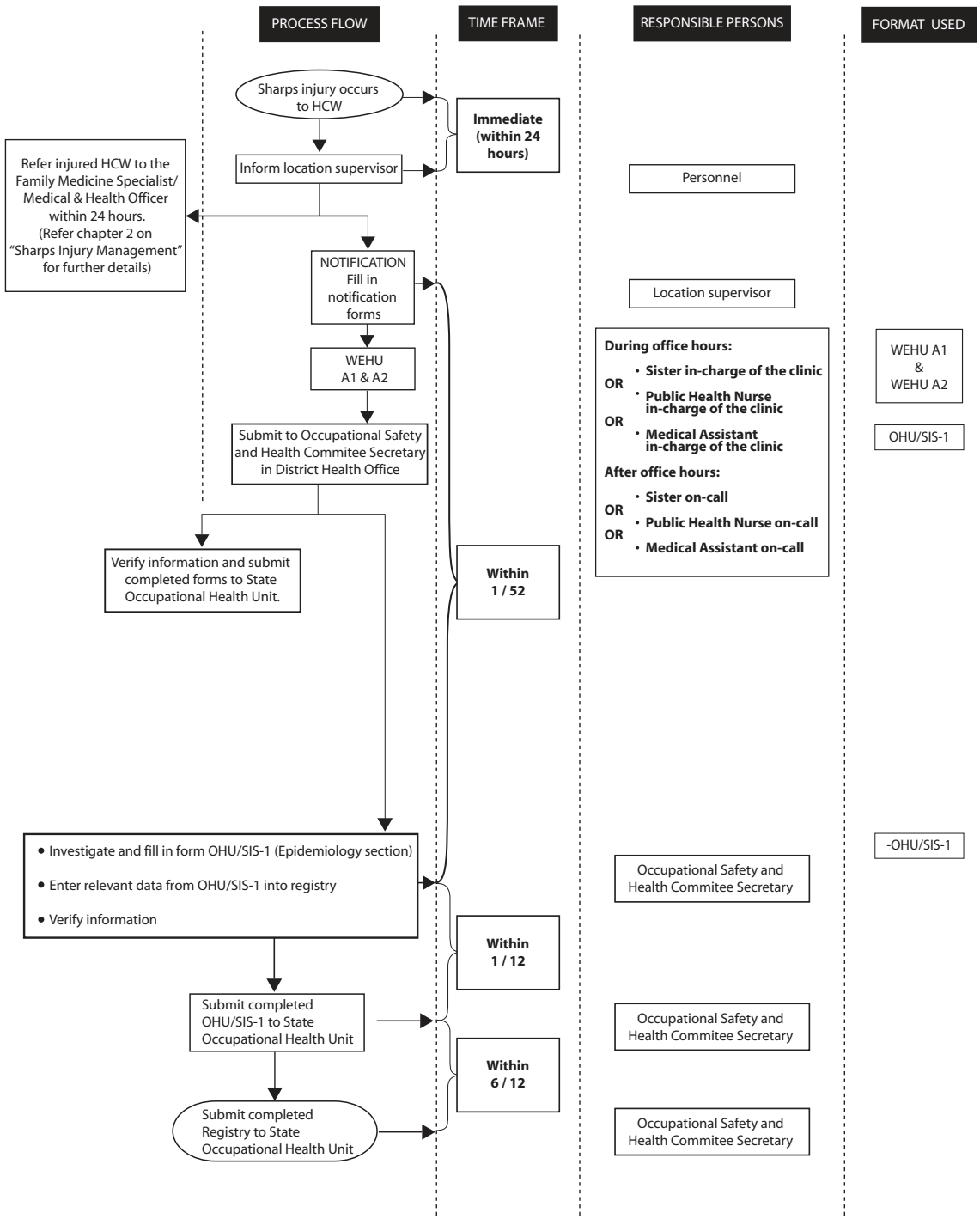


Figure 2 : Process flow on notification of sharps injuries in health clinic / dental clinic in primary care setting



Process flow on sharps injury surveillance in health clinic / dental clinic in primary care setting

i) Figure 2, summarizes the process of data / information collection, feedback of information, responsible person and time frame in health clinic / dental clinic in health side.

ii) If a sharps injury occurs, the personnel involved should inform the location supervisor immediately (within 24 hours). During office hours, the location supervisor is the Sister in-charge of the clinic OR the Public Health Nurse in-charge of the clinic OR the Medical Assistant in-charge of the clinic. After office hours, the location supervisor is the Sister 'on-call' OR the Public Health Nurse 'on-call' OR the Medical Assistant 'on-call'.

iii) The location supervisor should refer the injured personnel involved immediately (within 24 hours) to the Family Medicine Specialist (FMS) for assessment and post-exposure prophylaxis if required. (Please refer Chapter 2 on "Sharps Injury Management" for further details on its management flow).

iv) At the same time the location supervisor should fill in notification forms ('WEHU A1 and WEHU A2').

v) After completing the WEHU A1 & A2 forms, the location supervisor should submit these forms to the Occupational Safety and Health Committee Secretary in the District Health Office.

vi) The Occupational Safety and Health Committee Secretary in the District Health Office should review the WEHU A1 & A2 and OHU/SIS-1 form for completeness before submitting these forms to the State Occupational Health Unit. This should be done within one (1) week after the date of notification.

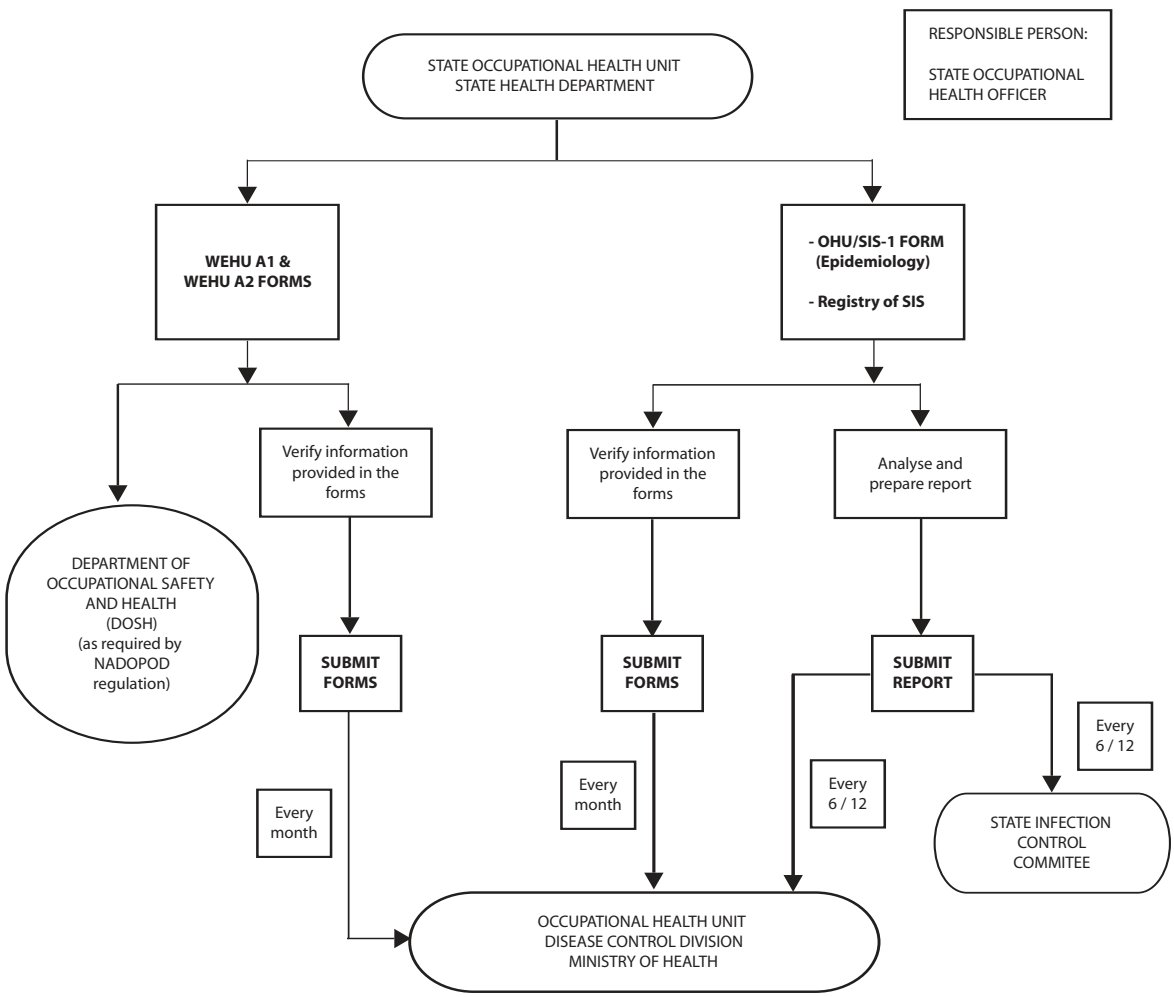
vii) The Occupational Safety and Health Secretary should also investigate the sharps injury incident and fill in the OHU/SIS-1 form (Epidemiology section) of the Sharps Injury Surveillance format.

viii) The Occupational Safety and Health Secretary should review the OHU/SIS-1 form, enter relevant data into registry and submit the completed OHU/SIS-1 and the completed registry to the State Occupational Health Unit within one (1) month and six (6) month respectively after the incident happens.

ix) The State Occupational Health Officer should submit the completed previous year registry annually before 31st January every year to the Occupational Health Unit, Disease Control Division, Ministry of Health.

x) The OHU/SIS-2a and OHU/SIS-2b forms should be kept at district health office.

Figure 3 : Process flow on sharps injuries reporting and surveillance at state level



Data management on sharps injury surveillance at State level

i) Figure 3, summarizes the process of data management, responsible person and time frame at the state level.

ii) The responsible person on sharps injury surveillance at state level is the State Occupational Health Officer.

iii) He/she will receive the WEHU A1 (JKKP 6) & WEHU A2 forms, the Sharps Injury Surveillance form and the Registry of Sharps Injury Surveillance.

iv) Firstly, the State Occupational Health Officer has to review the completeness of the WEHU A1 & A2 forms and send one copy of WEHU A 1 (JKKP 6) to the Department of Occupational Safety and Health (DOSH) as required by the Notification of Accident, Dangerous Occurrence, Occupational Poisoning and Occupational Disease (NADOPOD) Regulations 2004. He also has to submit one copy of WEHU A1 & WEHU A2 forms to the Occupational Health Unit, Disease Control Division, Ministry of Health, monthly.

v) Secondly, the State Occupational Health Officer should review the completeness of the Sharps Injury Surveillance form and submit a copy of the form to the Occupational Health Unit, Disease Control Division, Ministry of Health, monthly. However, he also has to analyze the data of the sharps injury surveillance and prepare a report, which should be submitted every six (6) monthly to the Occupational Health Unit, Disease Control Division, Ministry of Health and the State Infection Control Committee.

vi) The State Occupational Health Officer has to submit the completed registry once a year before 31st January every year to the Occupational Health Unit, Disease Control Division, Ministry of Health.

Data management on sharps injury surveillance at the Ministry level

i) Figure 4, summarizes the process of data management and responsible person at the Ministry level.

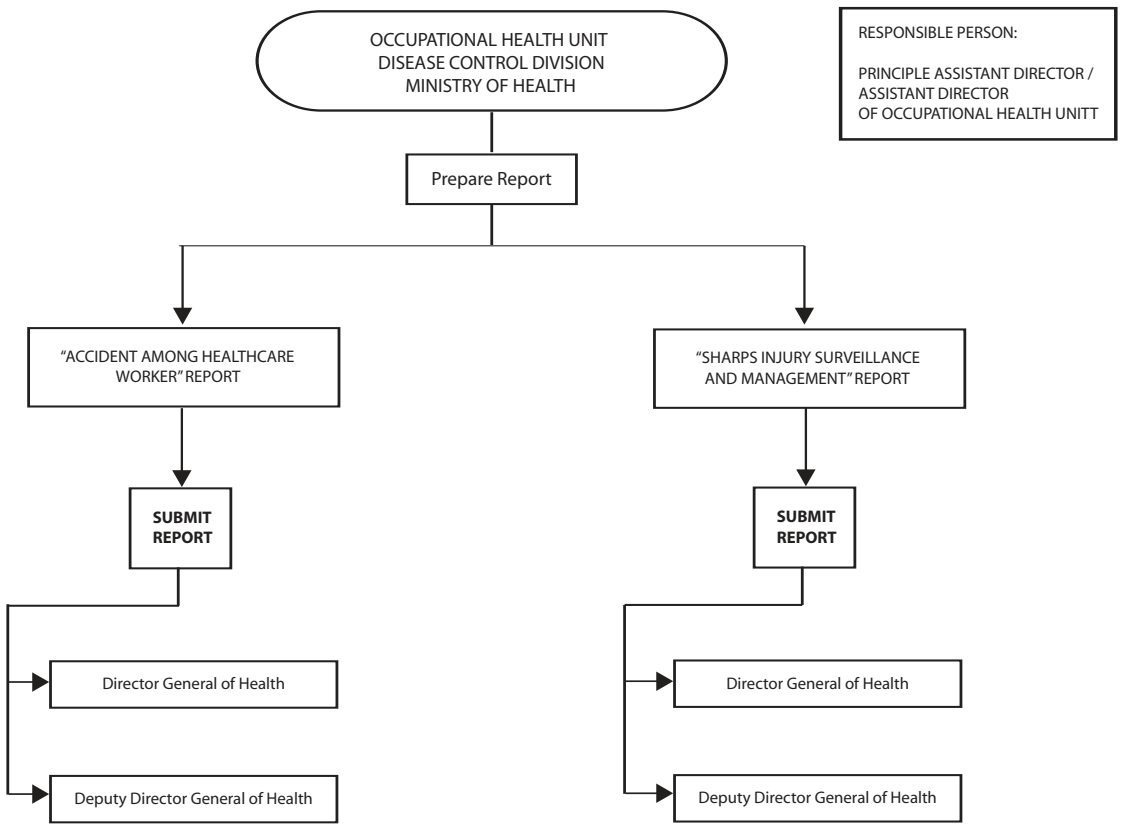
ii) The responsible person on sharps injury surveillance at Ministry level is the Principle Assistant Director / Assistant Director of Occupational Health Unit.

iii) The Principle Assistant Director / Assistant Director of Occupational Health Unit has to analyze all the raw data that he receives on “Accident among healthcare workers” (WEHU A1 & A2) and “Sharps Injury Surveillance and Management” (OHU/SIS-1 & Sharps Injury Management Registry).

iv) The yearly reports on “Accident among healthcare workers” and the “Sharps Injury Surveillance and Management” have to be submitted to the Director General of Health and all the Divisional and State Directors of Health.

.

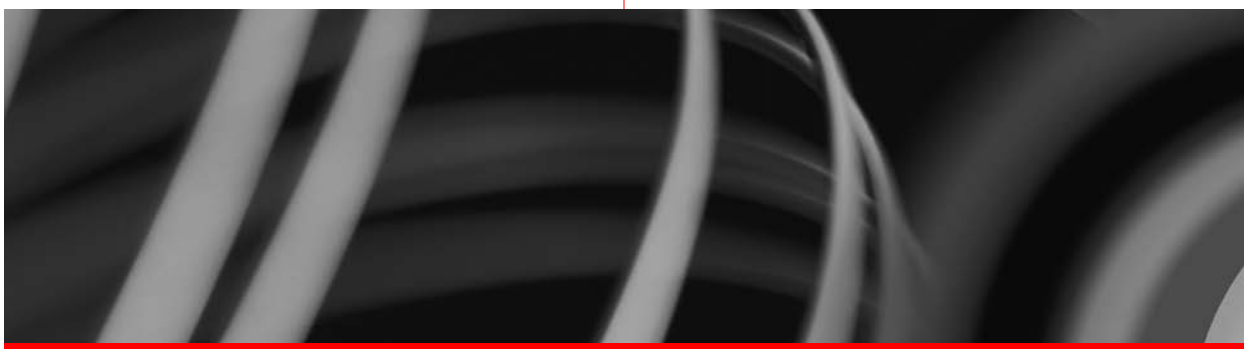
Figure 4: Process flow on sharps injuries surveillance at ministry level



Chapter Two

SHARPS INJURY MANAGEMENT REGISTRY

Occupational Health Unit Ministry of Health Malaysia **2007**



SHARPS INJURY MANAGEMENT REGISTRY

OBJECTIVES

The objectives of this registry are:-

- To ensure that all HCW who sustain sharps injuries, complete their post exposure management (Post-exposure prophylaxis and follow-up).
- To ensure that all HCW who have seroconverted are referred to the relevant physicians for clinical management
- To ensure that all HCW who seroconverted are given occupational intervention as needed.

SCOPE

The sharps injury management registry will capture all healthcare workers sustaining sharps injuries in the hospitals and primary health clinics. This registry will be kept at the local level that is by each individual hospital and district health office. This is to ensure monitoring and implementation of the management needed by the injured healthcare workers.

METHODOLOGY OF IMPLEMENTATION

Data Flow

The collection of data for the registry will follow the flow as in page 21 using the following forms:-

SIS-1 : Epidemiological data and data of injury.
SIS-2a : Data on risk assessment for transmission of disease.
SIS-2b : Data on the post-exposure management.
SIS-3 : Data on occupational intervention if the healthcare worker becomes infected.

Data entry will be done by the registry managers who are:-

- The Infection Control Team/ the Occupational Health Unit in the Hospital.
- The Occupational Safety and Health Committee Secretary in the District Health office.

Baseline data

Relevant data is entered directly by the registry managers once he/she:-

- Completes the investigation of the injury (by using the SIS-1).
- Receives the SIS-2a from the attending doctor who has assessed the risk of disease transmission.

Follow-up data

SIS-2b as worksheet and notification form

If the SIS 2-a indicates that post-exposure management is needed, the registry manager has to ensure that the attending doctor uses the SIS-2b as the work sheet for the management of the injured healthcare worker.

The registry manager must then keep the worksheet in between visits and provide it to the attending doctor for every clinic visit. After each visit, relevant data from the SIS-2b will be entered by the registry managers into the sharp injury management registry.

Therefore, from the registry, the registry manager will know and anticipate the action needed in order to ensure the injured healthcare workers are followed-up and treated accordingly (post-exposure prophylaxis).

SIS-3 as worksheet and notification form

At the end of the post-exposure management, the completed SIS-2b will indicate whether the healthcare worker has developed seroconversion. If so, the registry manager must ensure that patient has been referred:-

- To the relevant physician(hepatologist or infectious disease physician) for clinical management; and
- To the hospital director/medical officer of health for occupational intervention.

The registry manager must ensure that the hospital director/medical officer of health uses SIS-3 as the worksheet for occupational intervention. The worksheet will be kept by the registry managers and made available to the hospital director/medical officer of health as needed. Relevant data in SIS-3 will be entered in the registry accordingly.

Therefore, from the registry, the registry manager and the hospital director/medical officer of health will know and anticipate the action needed in order to ensure that the infected healthcare workers are occupationally managed.

Variables in the Registry

The variables that will be collected for this registry are listed in the appendix 5.

LEGAL ASPECTS AND CONFIDENTIALITY

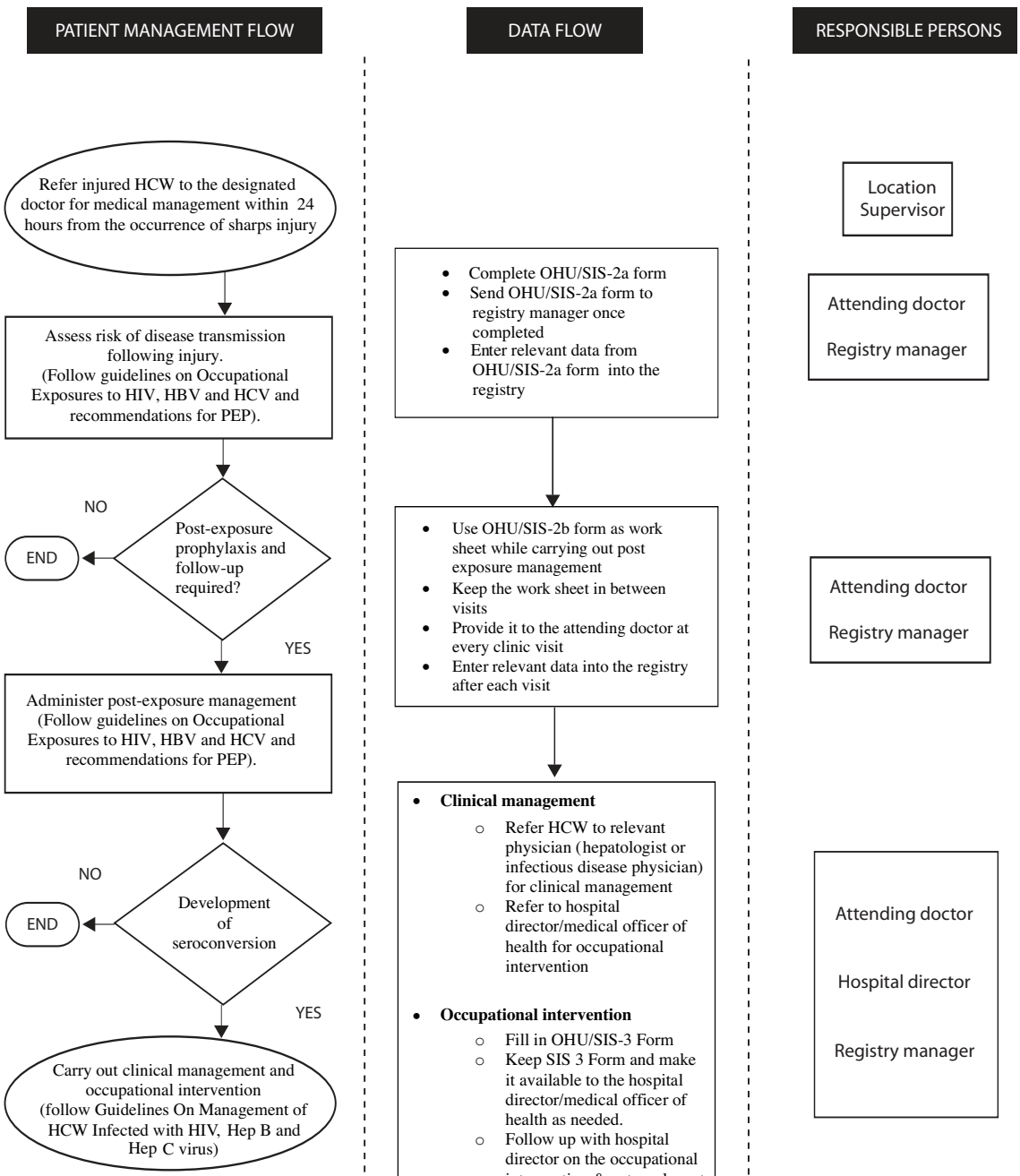
Data collected and entered in the registry is sensitive and confidentiality has to be maintained as such, with access only to authorized personnel such as the registry manager and the hospital director/ medical officer of health.

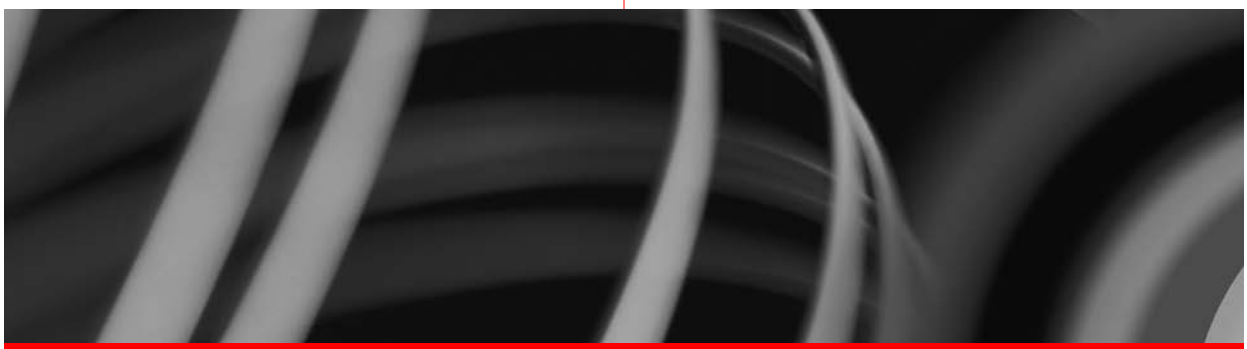
DATA ANALYSIS AND OUTPUT

Data analysis (with the registry software) will only be conducted by authorized personnel (the registry manager and the hospital director/ medical officer of health) at the local level. This is to maintain data security and also accuracy of final data. The registry will be used by each hospital/district health office to asses its performance in terms of sharps injury management of the health care workers.

This will also serve as returns to the Occupational Health Unit in the State Health Department where the soft copy of the registry will be sent to the Occupational Health Unit in the State Health Department six (6) monthly with the name deleted. Health care workers will be identified by their identification card (I/C) number.

Data Flow





Appendix 1

OHU/SIS-1 FORM

OHU/SIS-1

EPIDEMIOLOGY SECTION
(to be filled by staff from Infection Control Team / Occupational Health Unit / Occupational Safety and Health Committee Secretary)

PARTICULARS OF AFFECTED PERSON

(Please tick (✓) where applicable)

» 1. Name :

» 2. Gender : Male : ☐ Female : ☐

» 3. NRIC : New : ☐☐☐☐☐☐ ☐☐ ☐☐☐☐

Old : ☐☐☐☐☐☐☐☐

4. Nationality : .....

5. Age on the 1st of January : ☐☐ Years

6. Department Presently attached to : .....

7. Contact number : .....

» 8. Date of injury : *month* ☐☐ *day* ☐☐ *year* ☐☐

Time : ..... *am / pm

9. Date of first reporting to Medical / ID Team : *month* ☐☐ *day* ☐☐ *year* ☐☐

Time : ..... *am / pm

10. Duration of employment in Ministry of Health : ☐☐ *month (s) / Year (s)

11. Duration of work in handling sharps : ☐☐ *month (s) / Year (s)

(*) delete where is not applicable
(») to be filled in the registry

»**1. JOB CATEGORY**
(Please tick (✓) where applicable)

* Medical Officer / Medical and Health Officer / House Officer	☐
* Matron / Sister / Staff Nurse / Assistant Nurse / Midwife / Community Nurse	☐
* Medical Assistant	☐
* Specialist / Consultant (please specify speciality) :	☐
DENTAL	
Dental Specialist	☐
Dental Officer	☐
Dental Nurse	☐
Dental Surgery Assistant	☐
Dental Technician	☐
Dental Attendant	☐
* Pharmacist / Pharmacy Assistant	☐
* MLT / Lab Assistant	☐
Radiology Staff	☐
Hospital Support Service Staff	☐
Kitchen Staff	☐
Administration Staff	☐
Public Health Overseer	☐
Health Inspector	☐
Health Attendant	☐
Driver	☐
Storekeeper	☐
Trainee (please specify) :	☐
Others (please specify) :	☐

(*) delete where is not applicable
(») to be filled in the registry

»**2. WHERE DID THE SHARPS INJURY OCCUR?**
(Please tick (✓) where applicable)

Ward (please specify) : ☐ .....

At patient's bedside	☐
Side room/nurses table	☐
Elsewhere in the ward (please specify) :	☐
Operating Theatre	☐
* Health Clinic / Polyclinic	☐
Accident & Emergency	☐
Dental Clinic	☐
Labour Room	☐
Intensive Care Unit	☐
Specialist Clinic	☐
Laboratory	☐
School / College / Faculty	☐
Others (please specify) :	☐

(*) delete where is not applicable
(») to be filled in the registry

3. HOW DID THE SHARPS INJURY OCCUR?

(Please tick (✓) where applicable)

(3a) While handling patient or needle / sharps :

While inserting needle in line	☐	While inserting needle in patient	☐
While manipulating needle in line	☐	While manipulating needle in patient	☐
While withdrawing needle from line	☐	While withdrawing needle from patient	☐
Passing / Transferring equipment	☐		

(3b) While in operative field or during suturing procedures or autopsy :

Suturing	☐	*Palpating / Exploring	☐
Incising	☐	Manipulating suture needle in holder	☐
Tying sutures	☐	*Passing / receiving equipment	☐

(3c) Handling equipment / specimens :

Processing specimens	☐	*Passing / tranferring equipment	☐
Recapping (missed / pierced cap)	☐	Cap fell off after recapping	☐
Activating safety device	☐	Disassembling device / equipment	☐
During clean-up	☐	In transit to disposal	☐
Opening / breaking glass containers	☐	Decontamination / processing of used equipment	☐
Handling equipment on tray / stand	☐	*Transferring blood / body fluids into specimen container	☐

(*) delete where is not applicable

(3d) Collision / contact with sharps object :

Collided with co-worker or other person	☐
Sharps instrument dropped	☐
Collided with sharps instrument	☐
Struck by detached IV line needle	☐

(3e) Disposal related :

Injured by sharps being disposed	☐	While manipulating sharps bin	☐
Injured by sharps already in sharps bin	☐	Over-filled sharps bin	☐
Punctured sharps bin	☐	Protruding from opened sharps bin	☐
While transporting the sharps to collection center			☐

(3f) Sharps in unusual locations :

In trash	☐
Left in bed / mattress	☐
In linen / laundry	☐
On floor	☐
* Left on table / tray	☐
In pocket / clothing	☐
Other unusual locations (please describe) :	☐

(3g) Other circumstances (please describe):

.....

.....

(*) delete where is not applicable

»4. WHICH TYPE OF DEVICE CAUSED THE INJURY?

(Please tick (✓) where applicable)

(4a) Needle :

Hypodermic needle	☐
IV Catheter stylet (Venofix / Branula)	☐
Needle on IV line e.g piggy back, IV line connector	☐
Central line catheter introducer needle	☐
Spinal / epidural needle	☐
Butterfly needle	☐
Bone marrow needle	☐
Biopsy needle	☐
Others (please describe) :	☐

(4b) Glass :

Medication ampoule	☐	Capillary tube	☐
Vacuum tube (glass)	☐	Specimen / test tube (glass)	☐
Pipette (glass)	☐	Medication / IV bottle (large volume)	☐
Glass slide	☐	Other glass item (please describe) :	☐

(4c) Surgical instruments or other items :

Lancet ☐	Specimen / test tube (plastic) ☐	Explorer ☐
Finger nails / teeth ☐	Scalpel ☐	Razor ☐
Scissors ☐	Pipette (plastic) ☐	*Retractor, Skin / bone hook ☐
Bone chip ☐	Staple / steel suture ☐	Wire (suture / fixation / guide wire) ☐
Towel clip ☐	Microtome blade ☐	Electro-cautery device ☐
Trocar ☐	Tenaculum ☐	*Pickup / Forceps / Hemostat / Clamp ☐
Histology cutting blade ☐	Suture Needle ☐	Vacuum tube (plactic) ☐
Other sharps item (please describe) : ☐		

(4d) Was the device contaminated?

Contaminated (known exposure to patient or contaminated equipment) ☐
Uncontaminated (no known exposure to patient or contaminated equipment) ☐
Unknown ☐

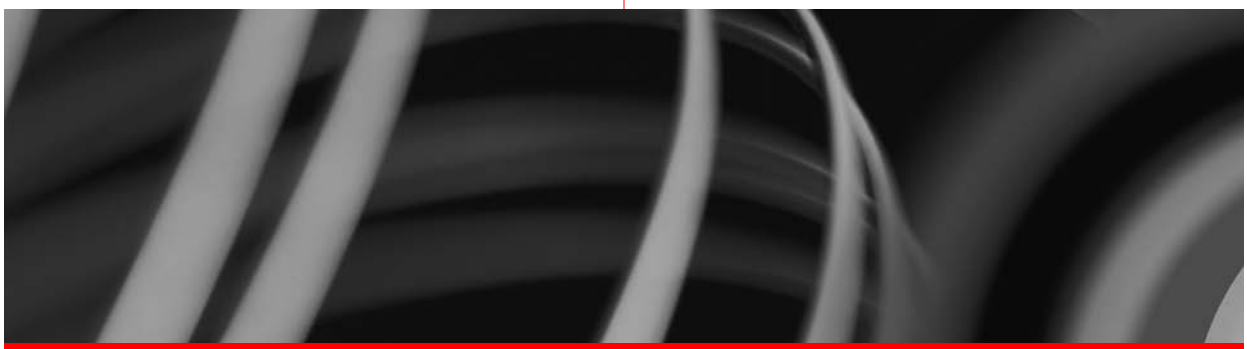
(*) delete where is not applicable
(››) to be filled in the registry

»**5. WHAT WAS THE PROCEDURE CONDUCTED?**

(Please tick (✓) where applicable)

Unknown / not applicable	☐
Injection- * IV / IM / SC	☐
Heparin or saline flush	☐
Other injections into (or aspiration from) IV injection sites or IV ports	☐
Drawing venous blood sample	☐
Drawing arterial blood sample	☐
Starting IV or setting up Heparin block (IV catheter or butterfly type needle)	☐
Connecting IV line (intermittent IV line / piggy back / other IV connections)	☐
Placing an arterial / central line	☐
* Finger stick / Heel stik (e.g to do glucometer)	☐
Suturing	☐
Dissecting	☐
Drilling	☐
Electrocautery	☐
Obtaining body fluid or tissue samples *(CSF / Peritoneal fluid / Pleural fluid / Biopsy)	☐
Non medical procedures (please describe) :	☐
Others (please describe) :	☐

(*) delete where is not applicable
(››) to be filled in the registry



Appendix 2

OHU/SIS-2a FORM

OHU/SIS-2a

MANAGEMENT OF THE EXPOSED HEALTH CARE WORKER SECTION
(to be filled by staff from Infection Control Team / Occupational Health Unit / Occupational Safety and Health Committee Secretary)

OHU/SIS-2a : Risk assessment of disease transmission following sharps injury
PARTICULARS OF EXPOSED HEALTH CARE WORKERS

(Please tick (✓) where applicable)

1. Name :

2. Gender : Male ☐ Female ☐

3. NRIC : New: ☐☐☐☐☐☐ ☐☐ ☐☐☐☐
   Old: ☐☐☐☐☐☐☐☐

4. Nationality : .....

5. Age on the 1st of January : ☐☐ Years

6. Department presently attached to : .....

7. Contact number : .....

8. Date of injury : month ☐☐ day ☐☐ year ☐☐
   Time : ..... *am / pm

9. Date of first reporting to Medical / ID Team : month ☐☐ day ☐☐ year ☐☐
   Time : ..... *am / pm

10. Duration of employment in Ministry of Health : ☐☐ *month (s) / Year (s)

11. Duration of work in handling sharps : ☐☐ *month (s) / Year (s)

(*) delete where is not applicable

1. RISK ASSESSMENT OF THE INJURY

1.1 Type of injury / exposure :
(Please tick (✓) where applicable)

1.1.1 Mucous membrane / skin integrity compromised : ☐

- Large Volume
  (e.g. several drops, major blood splash and / or longer duration i.e. several minutes or more) ☐
- Small Volume (e.g. few drops, short duration) ☐

1.1.2 Intact skin : ☐

- Yes ☐
- No ☐

1.1.3 Percutaneous exposure : ☐

- More Severe (e.g. large-bore hollow needle, deep puncture, visible blood on device, or needle used in sourse patient's artery or vein) ☐
- Less Severe (e.g. solid needle, superficial scratch) ☐

1.2 If the injury was to the hands, did the sharp item penetrate :
(Please tick (✓) where applicable)

- Double pair of gloves ☐
- Single pair of gloves ☐
- No gloves ☐

2. RISK ASSESSMENT OF THE SOURCE

2.1 Source :
(Please tick [✓] where applicable)

- Known ☐ (Proceed to Q.2.2-2.10)
- Unknown ☐ (Proceed to Q.3)

2.2 Name : .....

2.3 NRIC No : .....

2.4 Ward / Clinic : .....

2.5 Admitted / Walk-in for : .....

»2.6 Risk factors (if any) :
(Please tick [✓] where applicable)

- IVDU ☐
- Had unprotected sex ☐
- Blood products recipient ☐
- Elevated liver enzymes ☐
- Dialysis ☐
- Others : ☐

2.7 If source patient known but not tested, what is the reason?

.....

2.8 For HIV infected source patient :
(Please tick (✓)where applicable)

2.8.1 On antiviral treatment :

- Yes ☐
- No ☐

(») to be filled in the registry

2.8.2 If yes (on antiviral treatment) :

2.8.2.1 Drugs used (current) :.....

2.8.2.2 Drugs used in the past :.....

2.8.2.3 Latest viral load :.....

»2.9 Results of tests :
(Please tick (✓) where applicable)

Pathogen	Test	Result	Date & Time drawn
HIV	Anti-HIV	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year Time : .....
Hepatitis B	HBsAG	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year Time : .....
Hepatitis C	Anti-HCV	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year Time : .....
Others :		☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year Time : .....

2.10 Results disclosed to source patient :
(Please tick (✓) where applicable)

- Yes ☐
- No ☐

2.10.1 Date results disclosed : ☐☐ ☐☐ ☐☐ Day Month Year

(») to be filled in the registry

3. RISK ASSESSMENT OF THE EXPOSED HEALTH CARE WORKER

3.1 Source :
(Please tick (✓) where applicable)

- Married ☐
- Single ☐
- Divorced ☐

3.2 Pregnancy status:
(Please tick (✓) where applicable)

- Yes ☐
- No ☐
- Not Applicable ☐

3.3 Hepatitis B immunization status:
(Please tick (✓) where applicable)

3.3.1 History of hepatitis B immunization before the exposure :

- No ☐
- One dose ☐
- Two doses ☐
- Three doses ☐

3.3.2 Level of antibody to hepatitis B (anti-HBs), if tested : ..... mIU/ml

3.3 3 Date of anti-HBs blood test (as in 3.3.2) : ☐☐ ☐☐ ☐☐
Day Month Year

»3.4 Baseline blood test :
(Please tick (✓) where applicable)

Pathogen	Test	Result	Date & Time drawn
HIV	Anti-HIV	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year Time : .....
Hepatitis B	HBsAG	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year Time : .....
Hepatitis C	Anti-HCV	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year Time : .....
Others :		☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year Time : .....

3.5 Is Post-exposure prophylaxis started ?
(Please tick (✓) where applicable)

- Yes ☐
- No ☐

»3.6 Is follow-up required ?
(Please tick (✓) where applicable)

- Yes ☐
- No ☐

3.7 Assessment done by :

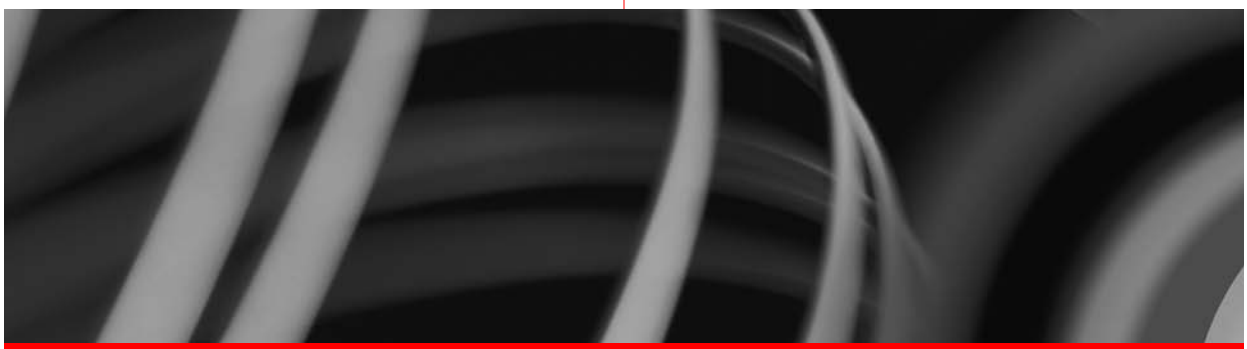
Name of Physician / Medical Officer : .....

Department : .....

Hospital : .....

Date : .....

(») to be filled in the registry



Appendix 3

OHU/SIS-2b FORM

OHU/SIS-2b

MANAGEMENT OF THE EXPOSED HEALTH CARE WORKER SECTION

(to be filled by staff from Infection Control Team / Occupational Health Unit / Occupational Safety and Health Committee Secretary)

OHU/SIS-2b : Post-exposure Management (Treatment and follow-up of the exposed health care worker)
to be filled by the attending physician

Management of the Exposed Health Care Worker

»1.1 Post exposure Prophylaxis (PEP) given:
(Please tick (✓) where applicable)

- Yes ☐
- No ☐

(Please tick (✓) where applicable)

PEP	Requirement	Date Given	Date Completion	Duration/ Medication/ Comments
HBIG	☐ 1 dose	☐☐ Day ☐☐ Month ☐☐ Year	☐☐ Day ☐☐ Month ☐☐ Year	
	☐ 2 doses	☐☐ Day ☐☐ Month ☐☐ Year	☐☐ Day ☐☐ Month ☐☐ Year	
HIV PEP	☐ Basic regime	☐☐ Day ☐☐ Month ☐☐ Year	☐☐ Day ☐☐ Month ☐☐ Year	
	☐ Expanded regime	☐☐ Day ☐☐ Month ☐☐ Year	☐☐ Day ☐☐ Month ☐☐ Year	
Others :		☐☐ Day ☐☐ Month ☐☐ Year	☐☐ Day ☐☐ Month ☐☐ Year	

(») to be filled in the registry

»1.2 Hepatitis B Immunization Needed:
(Please tick (✓) where applicable)

- Yes ☐
- No ☐

(Please tick (✓) where applicable)

Immunization	Dose	Date given	Medication/ Duration/ Comments
Hepatitis B (Immunization)	☐ First dose ☐ Second dose ☐ Third dose	☐☐ ☐☐ ☐☐ Day Month Year ☐☐ ☐☐ ☐☐ Day Month Year ☐☐ ☐☐ ☐☐ Day Month Year	

Test	Result	Date Drawn
Anti-HBs (1-2 months after completing Hepatitis B immunization)	..... mIU/ml	☐☐ ☐☐ ☐☐ Day Month Year

(») *to be filled in the registry*

»1.3 Follow-up blood test :
(Please tick (✓) where applicable)

Pathogen	Test	Result	Date drawn
HIV	Anti-HIV (At 6 weeks post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year
	Anti-HIV (At 3 months post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year
	Anti-HIV (At 6 months post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year
Hepatitis B	HBsAg (at 6 weeks post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year
	HBsAg (at 3 months post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year
	HBsAg (at 6 months post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year
Hepatitis C	Anti-HCV (At 6 weeks post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year
	HCV RNA (At 6 weeks post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year
	Anti-HCV (At 3 months post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year
	Anti-HCV (At 6 months post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year
Others:		☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year

(») to be filled in the registry

1.4 Comments and subsequent actions based on the results :
(Please tick (✓) where applicable)

1.4.1 Seroconversion status:

- Yes ☐
- No ☐

1.4.2 If yes, referral to:

- Physician from relevant discipline for further clinical management

  Name of Physician : .....

  Department : .....

  Hospital : .....

- Hospital Director / District Medical Officer of Health for assessment of work task involving 'exposure prone procedure' (EPP)

  Hospital Director/
  District Medical Officer of Health:

  .....

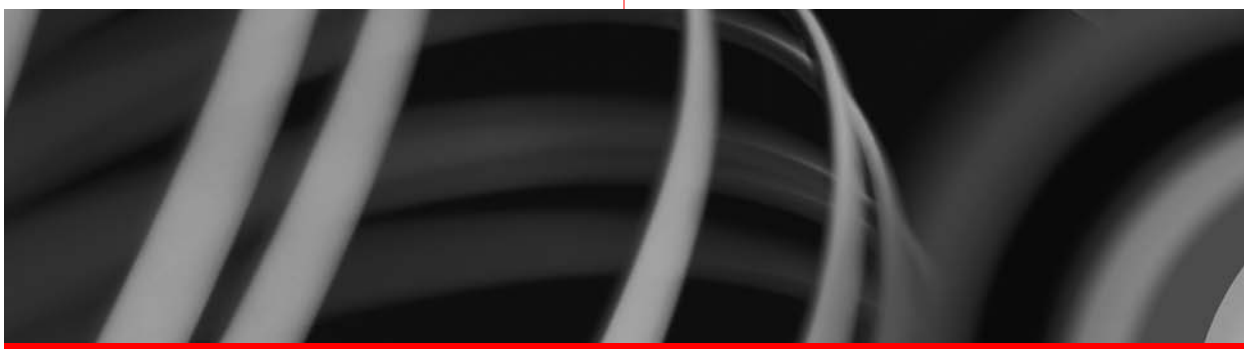
  Date of appointment : .....

Name of attending Medical Officer : .....

Department : .....

Hospital : .....

Date: .....



Appendix 4

OHU/SIS-3 FORM

OHU/SIS-3

Occupational Intervention Form For Infected Health Care Workers Following Sharps Injury

(To be filled up by Hospital Director or District Medical Officer of Health. This form needs to be sent to Occupational Health Unit/Infection Control Unit in the hospital or District Occupational Health Unit/ Safety and Health Committee Secretary)

PARTICULARS OF INFECTED HEALTH CARE WORKERS

1. Name of Health Care Worker (HCW)
2. NRIC : New : ☐☐☐☐☐☐ – ☐☐ – ☐☐☐☐
   Old : ☐☐☐☐☐☐☐☐
3. R/N :

INFORMATION

»1. Date of notification of the status of infection to Hospital Director or district Medical Officer of Health	☐☐ – ☐☐ – ☐☐☐☐
»2. Type of infection	☐ HIV ☐ Hepatitis B ☐ Hepatitis C
»3. Particulars of the treating physician	Name : _____ Department : _____ Hospital : _____
»4. Date of assessment of HCW's work task	☐☐ – ☐☐ – ☐☐☐☐

(») to be filled in the registry

»5. Is the HCW's work task involving Exposure Prone Procedure (EPP)?	☐ Yes ☐ No ……. (End here)
»6. Does the serological result allow HCW's to continue EPP?	☐ Yes ; For Hepatitis B-Periodical Monitoring (Refer to appendix: periodical monitoring for Hepatitis B) ☐ No
»7. Is local arrangement for work modification done?	☐ Yes ☐ No……..Continue to no. 9 ☐ Not indicated
8. Work modification done	☐ Yes - date: ☐☐ – ☐☐ – ☐☐☐☐ - Specify the modification……
»9. Date of referral to Advisory Panel	☐☐ – ☐☐ – ☐☐☐☐
»10. Date of decision made by Advisory Panel	☐☐ – ☐☐ – ☐☐☐☐
»11. Decision made on work modification during the Advisory Panel meeting	☐ Need work modification ☐ Do not need work modification ☐ Others, specify……..
12. Has the work modification advised by the Advisory Panel been done?	☐ Yes ; specify …….. ☐ No
»13. Date of starting modification of work	☐☐ – ☐☐ – ☐☐☐☐ (End here)
»14. Has the HCW requested for referral to Appellate Medical Board (3 months after the date of decision by Advisory Panel)?	☐ Yes ; specify the date ☐☐ – ☐☐ – ☐☐☐☐ ☐ No ……. (End here)
»15. Decision made on work modification during the Appellate Medical Board	☐ Need work modification ☐ Do not need work modification ☐ Others, specify……..
»16. Has the work modification advised by the Appellate Medical Board been done?	☐ Yes ; specify …….. ☐ No

(») to be filled in the registry

Comments or suggestions :

Name of Hospital Director / District Medical Officer of Health :

Name of Hospital/ District Health Office:

Official stamp : Date :

Appendix:
Periodical monitoring For Hepatitis B

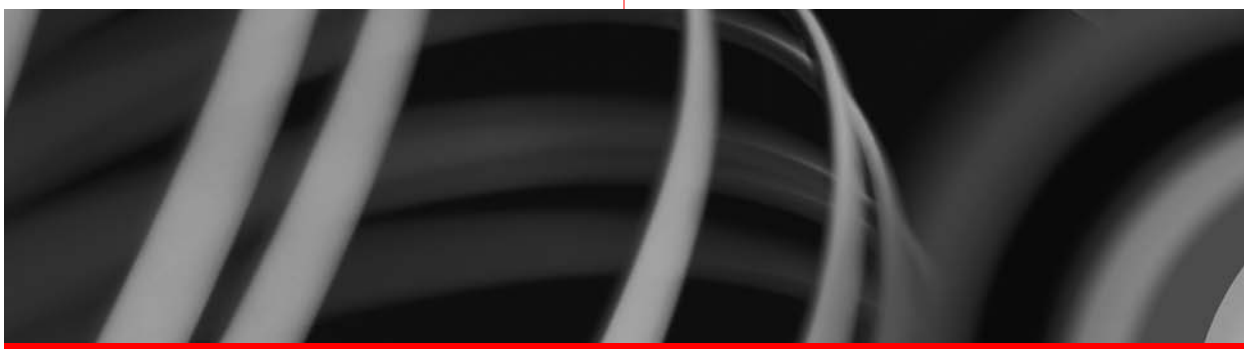
Table 2: Risk Assessment of Disease Transmission

Date of blood test done	Blood test result		Serological result fulfilled the criteria to continue with PEP (Yes/No)	Job modification done			
	HBeAg (Positive/ Negative)	(<10^4 copies/ml/ ≥10^4 copies/ml)		Yes		No (/)	Not indicated (/)
				Date of commencement	Action taken (specify)		

Note :

1) Periodical monitoring to be done 3 monthly

2) Once job modification indicated but not done, refer to Advisory panel and re-complete the occupational intervention form (starting from no. 9)



Appendix 5

REGISTRY FORMAT

SHARPS INJURY MANAGEMENT REGISTRY, MINISTRY OF HEALTH

Table 1: Identification data & Data of incident

Name : (SIS1-No.1)		I/C Number : (SIS1-No.3)
Gender : (SIS1-No.2)	Address of work place :	
Job category : (SIS1-Q1)		Date of injury : (SIS1-No.8)
Type of device : (SIS1-Q4)		
Procedure conducted : (SIS1-Q5)		Location of incident : (SIS1-Q2)

Table 2: Risk Assessment of Disease Transmission

Source Patient					Health Care Worker				
High risk behavior (SIS 2a-Q2.6)	Test results (SIS 2a-Q2.9)				Baseline Test Results (SIS 2a-Q3.4)				Requirement for follow-up (SIS 2a-Q3.6)
	Anti-HIV (ELISA)	HBsAg	anti-HCV	Not tested	Anti-HIV (ELISA)	HBsAg	Anti-HBs (if required)	anti-HCV	
° Yes ° No	° Positive ° Negative	° Positive ° Negative	° Positive ° Negative	° Unknown source ° Patient refuse ° Patient died ° Others	° Positive ° Negative	° Positive ° Negative	° Positive ° Negative	° Positive ° Negative	° Required ° Not required

Table 3: Post-exposure Management

Post-exposure prophylaxis (PEP) SIS 2b-Q1.1					
HBIG			HIV PEP		Not indicated
Requirement of 1 dose (Date given)	Requirement of 2 doses (Date given)		Date of commencement	Date of completion	

Table 3: Post-exposure Management (continue)

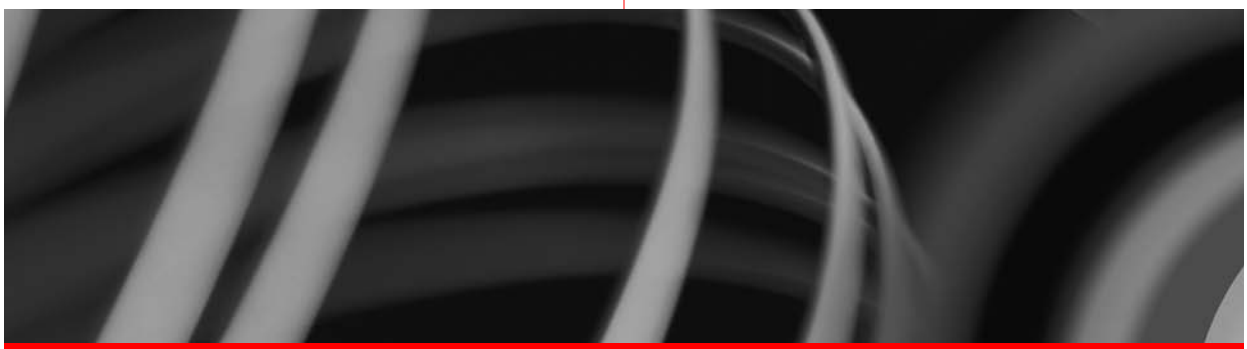
Results of follow-up blood test (SIS 2b-Q1.3)										Developed sero-conversion (SIS 2b-Q1.4)	
6 months				3 months			6 weeks			Yes	No
Anti-HIV ° Positive ° Negative	HBsAg ° Positive ° Negative	Anti-HCV ° Positive ° Negative	HCV RNA ° Positive ° Negative	Anti-HIV ° Positive ° Negative	HBsAg ° Positive ° Negative	Anti-HCV ° Positive ° Negative	Anti-HIV ° Positive ° Negative	HBsAg ° Positive ° Negative	Anti-HCV ° Positive ° Negative	° HIV ° Hepatitis B ° Hepatitis C	No

Table 4 : Occupational Intervention

Date of notification of the status of infection (SIS 3-Q1)	Type of infection ∑ HIV ∑ Hep B ∑ Hep C (SIS 3-Q2)	Particulars of the treating physician Name Department Hospital (SIS 3-Q3)	Work Task assessment		HIV/Hepatitis C		Hepatitis B				Date of referral to Advisory Panel (SIS 3-Q9)
							Test 1 (Date.....)		Test...(Date.....)		
			Date of assessment (SIS 3-Q4)	Does work taking involve HCP (SIS 3-Q5)	Serological result fulfils criteria to continue with HCP (SIS 3-Q6) ° Yes ° No	Local arrangement for work modification done (SIS 3-Q7) ° Yes ° No ° Not indicated	Serological result fulfils criteria to continue with HCP (SIS 3-Q6) ° Yes ° No	Local arrangement for work modification done (SIS 3-Q7) ° Yes ° No ° Not indicated	Serological result fulfils criteria to continue with HCP (SIS 3-Q6) ° Yes ° No	Local arrangement for work modification done (SIS 3-Q7) ° Yes ° No ° Not indicated	

Table 4 : Occupational Intervention (continue)

Advisory Panel			Appellate Medical Board		
Date of decision made (SIS 3-Q10)	Decision (SIS 3-Q11) ° Need work modification ° Do not need work modification ° Others, specify	Date of work modification done (SIS 3-Q13)	Date of decision made (SIS 3-Q14)	Decision (SIS 3-Q15) ° Need work modification ° Do not need work modification ° Others, specify	Date of work modification done (SIS 3-Q16)



Appendix 6

GUIDELINES FOR COMPLETING "SHARPS INJURY SURVEILLANCE" FORM (OHU/SIS-1 and OHU/SIS-2)

GUIDELINES FOR COMPLETING OHU/SIS-1 FORM (EPIDEMIOLOGY SECTION)

This section is to be completed by the staff from the Infection Control Team / Occupational Health Unit if the sharps injury happen in hospital / dental clinic in hospital OR Occupational Safety and Health Committee Secretary if the sharps injury happen in health clinic / dental clinic in health side.

Particulars

1. Name : Fill in full name as in NRIC.
2. Gender : Please clearly tick ☑ in the appropriate box.
3. NRIC No : Insert the NRIC of affected HCW into the box.

   New | 6 | 7 | 0 | 9 | 1 | 0 | – | 0 | 1 | – | 5 | 0 | 3 | 6 |

   Old | A | 0 | 6 | 7 | 6 | 3 | 5 | 6 |

4. Nationality: Fill in nationality as in NRIC.
5. Age on the 1st January: Insert the completed age on the 1st January.
6. Department presently attached to : Fill in the name of the department where the staff is working currently.
7. Contact number: Fill in the staff's telephone number that can be contacted.
8. Date of injury and time : Insert the date of into the box.
   Fill in the time of injury and delete where is not applicable.
9. Date of first reporting to Medical / ID team and time:
   - Insert the date when the injury was first reported to Medical / ID team.
   - Fill in the time of reporting and delete where is not applicable.
10. Duration of employment in Ministry of Health:
    - Insert the duration of employment in Ministry of Health of the affected HCW into the box.
11. Duration of work handling sharps:
    - Insert the duration of handling sharps for the affected HCW into the box.

1. Job Category :

Please clearly tick ☑ in the appropriate box.
In answer which has (*), please delete where it is not applicable.

2. Where did the sharps injury occur? :

Please clearly tick ☑ in the appropriate box.
In answer which has (*), please delete where it is not applicable.
Fill in the blank noted "(please specify)" for places not mentioned.

3. How did the sharps injury occur? :

Please clearly tick ☑ in the appropriate box.
In answer which has (*), please delete where it is not applicable.
Fill in the blank noted "(please describe)" for sharps in unusual locations.

4. Which type of device caused the injury?

Please clearly tick ☑ in the appropriate box.
In answer which has (*), please delete where is not applicable.
Fill in the blank where noted "(please describe)" for other types of needles and instruments.

5. What was the procedure conducted?

Please clearly tick ☑ in the appropriate box.
In answer which has (*), please delete where is not applicable.
Fill in the blanks noted "(please describe)" for other procedures.

GUIDELINES FOR COMPLETING OHU/SIS-2 FORM (MANAGEMENT OF THE EXPOSED HEALTH CARE WORKER SECTION)

OHU/SIS - 2a (Risk Assessment)

This section is to be completed by the attending physician.

1. Risk Assessment of the Injury

Please clearly tick ☑ in the appropriate box.

2. Risk Assessment of the Source

Please clearly tick ☑ in the appropriate box.

Fill in the blanks where necessary.

3. Risk Assessment of the Exposed Health Care Worker

Please clearly tick ☑ in the appropriate box.

Fill in the blanks where necessary.

OHU/SIS- 2b (Treatment And Follow-Up Of The Exposed Health Care Worker)

This section is to be completed by the attending physician

1. Treatment of the Exposed Health Care Worker

Please clearly tick ☑ in the appropriate box.

Fill in the blanks where necessary.