

## Fact Sheet 11 HIV and the workplace and Universal Precautions

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##### • Introduction:

HIV and other blood borne illnesses such as Hepatitis B may be transmitted in the health care setting from patient to health care worker, patient to patient, or from health care worker to the patient. HIV has been isolated from: blood, semen, vaginal and cervical secretions, urine and faeces, wound secretions, saliva, tears, breastmilk and cerebrospinal, amniotic, synovial, and pericardial fluids. HIV is likely to be present in other body fluids, particularly where visible blood is present. However, blood is the only fluid known at this time to be associated with HIV transmission in the health care setting (see Fact Cheetah). The risk of transmitting HIV and other blood borne diseases is dependent upon health care personnel practices, the prevalence of the illness, and the amount and frequency of exposure. The occupational risk of becoming HIV infected from patients in health care settings is low (approximately 0.3%) and in most cases is associated with needle-stick injuries from a patient with HIV. Patient-to patient transmission results primarily from contaminated equipment that has been incorrectly (or inadequately) disinfected, or from blood transfusions.



*Many forms of contact with HIV/AIDS patients do not require the use of Universal Precautions. (Credit: WHO/Waak)*

**Most patient care does not involve any risk of HIV transmission. Therefore, routine HIV testing of all health care workers or patients is NOT recommended.** Most HIV-infected health care workers are infected through sexual contact, and, to a lesser degree, through intravenous drug use, blood transfusions and invasive surgical procedures, including organ transplantation. Occupational exposure is rare. To minimize the risk of occupational transmission of HIV (as well as other infectious diseases), all health care workers should adopt appropriate infection, risk assessment and accident prevention procedures.

##### These include:

Understand and use Universal Precautions with all patients, at all times, in all settings, regardless of the diagnosis;

Reduce unnecessary blood transfusions, injections, suturing, invasive procedures such as episiotomies and other questionable surgical procedures;

Make adequate supplies available to comply with simple standards of infection control, even in resource poor settings;

Adopt locally appropriate policies and guidelines for the proper use of supplies, and for the education and supervision of staff;

## • Risk of HIV transmission in the health care setting

HIV can be transmitted in the following ways:

### To patients

through contaminated instruments that are re-used without adequate disinfection and sterilization; transfusion of HIV-infected blood, skin grafts, organ transplants; HIV-infected donated semen; and contact with blood or other body fluids from an HIV-infected health care worker.

### To health care workers

skin piercing with a needle or any other sharp instrument which has been contaminated with blood or other body fluids from an HIV infected person; exposure of broken skin, open cuts or wounds to blood or other body fluids from an HIV infected person; and splashes from infected blood or body fluids onto the mucous membranes (mouth or eyes).

## • Creating a safe work environment

The context and environment in which health care is provided influence not only the quality of care delivered, but also the safety and well being of care providers. Measures that promote a safe and supportive work environment include:

education of employees about occupational risks (Fact Sheet 9), methods of prevention of HIV and other infectious diseases (Fact Sheet 12), and procedures for reporting exposure;

provision of protective equipment such as gloves, goggles, plastic aprons, gowns, and other protective devices;

provision of appropriate disinfectants to clean up spills of blood and other body fluids;

increasing the accessibility of puncture resistant "sharps" containers;

maintaining appropriate staffing levels;

ensuring that Universal Precautions are implemented, monitored and evaluated;

providing post-exposure counselling (Fact Sheet 7), treatment, follow-up and care;

implementing measures that reduce and prevent stress, isolation and burnout;

controlling shift lengths and providing supervision of inexperienced staff;

addressing the healthcare, compensation and financial needs of HIV positive health care workers;

providing flexible work allocation for HIV positive personnel and continuing their employment for as long as possible. Their participation will be dependent upon their condition, job demands, and the need to protect them from other infections such as

tuberculosis ;

providing dispute settlement mechanisms for HIV infected personnel.

In many resource poor situations, it might not be possible to meet all of the above requirements. However, working toward these goals should be the responsibility of nurses and midwives, other health care workers and their employers. Preventive measures are difficult to practice when supplies and protective equipment are not always available. Priorities must be set and low-cost alternatives sought. Yet, even when supplies are available, the use of Universal Precautions may be influenced by management policy, personal practices, attitude and complacency of staff.

Prevention of occupational exposure to HIV also includes risk assessment and risk reduction activities such as:

using Universal Precautions;

wearing heavy-duty gloves when disposing of "sharps";

assessing protective and other equipment for risk and safety;

adopting safe techniques and procedures, such as disposing of needles without recapping, or recapping using the single-handed method, using sterile nasal catheters and other resuscitation equipment, using a separate delivery pack for each delivery, and not using episiotomy scissors to cut the umbilical cord.

making appropriate disinfectants and cleaning materials available;

sterilizing equipment properly;

eliminating unnecessary injections, episiotomies, and laboratory tests; avoiding, or covering, breaks in the skin, especially the hands.

## • Universal Precautions

Universal Precautions are simple standards of infection control practices to be used in the care of all patients, at all times, to reduce the risk of transmission of blood borne infections. They include:

careful handling and disposal of "sharps";

hand washing with soap and water before and after all procedures; use of protective barriers such as gloves, gowns, aprons, masks, goggles for direct contact with blood and other body fluids;

safe disposal of waste contaminated with blood or body fluids;

proper disinfection of instruments and other contaminated equipment;

proper handling of soiled linen.

### **Safe handling and disposal of "sharps"**

The greatest hazard of HIV transmission in health care settings is through skin puncture with contaminated needles or "sharps". Most "sharps" injuries involving HIV transmission are through deep injuries with hollow-bore needles. Such injuries frequently occur when needles are recapped, cleaned, disposed of, or inappropriately discarded.

Although recapping needles is to be avoided whenever possible, sometimes recapping is necessary. When this is the case, a single-handed scooping method should be used. To do this, place the needle cap on a hard, flat surface and remove your hand. With one hand, hold the syringe and use the needle to scoop up the cap. When the cap completely covers the needle, use the other hand to place the cap firmly on the hub of the needle.

Puncture-resistant disposal containers must be available and readily accessible for the disposal of "sharps". Many easily available objects, such as a tin with a lid, a thick plastic bottle, or a heavy plastic or cardboard box, can work as suitable "sharps" containers. These can be burned in a closed incinerator, or can be used to transport the "sharps" to an incinerator. It is important to empty containers when they are 3/4 full, to wear heavy-duty gloves when transporting "sharps" containers, to incinerate used equipment at a hot enough temperature to melt the needles. Where the sharp container is not burned, bury it in a deep pit. Added precautions to prevent "sharp" injuries include wearing gloves, having an adequate light source when treating patients, locating sharps containers directly at the point of use, never discarding "sharps" in general waste, and keeping "sharps" out of the reach of children. Whenever possible, needle holders should be used when suturing.

### **"Sharps" accidents**

Each health care facility should develop standards, policies and procedures to be followed in case of "sharps" injury or other exposure. Many health care workers neglect to report such injuries. This can lead to inaccurate data on health care worker exposure and more importantly, to a lack of follow-up counselling, testing, treatment and care (Fact Sheet 7). Following a "sharps" injury, immediate first aid should be given, such as flushing the site with running water, hand washing with soap and water, and, where there is bleeding, allowing the site to bleed briefly. Any exposed mucous membranes should be flushed with large amounts of water. Antiseptic solutions can have a caustic effect and have not been proven to be effective. However, in the absence of water, antiseptic solutions should be used. Following exposure, the type of exposure and the actions taken should be recorded and the appropriate authorities notified. Accident forms should be completed including information about the type of injury, any witnesses and the name of the patient if known. The accident victim should then report to the accident or emergency department for further care and advice. Voluntary confidential counselling should be available immediately, and HIV testing and follow up counselling made available (Fact Sheet 7). Post exposure prophylaxis (PEP) with antiretroviral treatments (ARV) can reduce the risk of becoming infected. PEP should be guided by local policies and is dependent upon the availability of drugs. If available, a combination of ARV should be taken as soon as possible after the accident (within 24 hours) and for four weeks following exposure. Many health care workers find reporting and undergoing voluntary testing and counselling stressful, and some chose to remain silent. This silence is often due to the fear, stigma and discrimination associated with HIV (Fact Sheet 6).

### **Evaluating "sharps" practices**

If the same accident occurs more than twice, "sharps" practices must be evaluated. Methods for avoiding "sharps" use should be considered, for example, drugs might be given by methods other than injection; stapling rather than suturing; using adhesive tape or skin closure strips; and avoiding

unnecessary incisions such as episiotomies.

## • Safe decontamination of equipment

Efficient cleaning with soap and hot water removes a high proportion of any microorganisms. All equipment should be dismantled before cleaning. Heavy gloves should be worn for cleaning equipment and if splashing with body fluid is likely, then additional protective clothing such as aprons, gowns, and goggles should be worn. The following table helps in selecting the method for decontamination:

Level of Risk	Items	Decontamination Method
High risk	Instruments which penetrate the skin/body	Sterilization, or single use of disposables
Moderate risk	Instruments which come in contact with non-intact skin or mucous membrane	Sterilization, boiling, or chemical disinfection
Low risk	Equipment which comes in contact with intact skin	Thorough washing with soap and hot water

## Sterilization and disinfection

### All forms of sterilization will destroy HIV.

Recommended methods of sterilization include steam under pressure (e.g., autoclave or pressure cooker), or dry heat such as an oven. Disinfection will usually inactivate HIV. Two commonly used disinfection methods are boiling and chemical disinfection. If boiling, equipment should be cleaned and boiled for 20 minutes at sea level, and longer at higher altitudes. Chemical disinfection is not as reliable as sterilizing or boiling. However, chemical disinfection can be used on heat sensitive equipment, or when other methods of decontamination are not available. Equipment should be dismantled, thoroughly cleaned and rinsed after disinfection. Chemicals that have been found to inactivate HIV include chlorine-based agents (for example, bleach), 2% glutaraldehyde, and 70% ethyl and isopropyl alcohol.

### Cleaning

Detergents and hot water are adequate for the routine cleaning of floors, beds, toilets, walls, and rubber draw sheets. Following a spillage of body fluids, heavy-duty rubber gloves should be worn and as much body fluid removed with an absorbent material. This can then be discarded in a leak proof container and later incinerated or buried in a deep pit. The area of spillage should be cleaned with a chlorine-based disinfectant and the area thoroughly washed with hot soap and water.

All soiled linen should be handled as little as possible, bagged at the point of collection and not sorted or rinsed in patient care areas. If possible, linen with large amounts of body fluid should be transported in leakproof bags. If leakproof bags are not available, the linen should be folded with the soiled parts inside and handled carefully, with gloves.

### Safe disposal of waste contaminated with body fluids

Solid waste that is contaminated with blood, body fluids, laboratory specimens or body tissue all should be placed in leak proof containers and incinerated, or buried in a 7 foot deep pit, at least 30

feet away from a water source. Liquid waste such as blood or body fluid should be poured down a drain connected to an adequately treated sewer or pit latrine.

## • Planning and management

Proper planning and management of supplies and other resources are essential in reducing the occupational risk of HIV infection. Such measures should include risk assessment, setting of standards and protocols that address safety, risk reduction, post-exposure follow-up and first-aid. In addition, occupational risks can be reduced by introducing measures to prevent or reduce stress, maintain an optimum workload, orientate new staff and provide education and supervision. Staff burnout, characterized by feelings of depletion, loss of vitality, energy, and motivation is a major occupational hazard and can lead to increased risk for occupational exposure to HIV. In addition, fear of occupational exposure to HIV in health care settings may discourage potential recruits from pursuing nursing and midwifery as a career, thus reducing the future supply of trained professionals. Strategies that address these concerns include:

### Gaining and maintaining adequate supplies and resources

Nurses/midwives need to explore different approaches to meet their resource needs, such as:

Finding out what can be obtained from government and non governmental sources, through regular distribution systems;

Finding out what is locally available and can be bought. To what extent can patients and their relatives contribute?

Reviewing the quality of available supplies;

Developing or improving systems for ordering, transporting, and storing, and ensuring there is not an oversupply that will be wasted;

Developing a schedule for obtaining and maintaining supplies which includes taking into consideration travel, delivery time, and weather;

Establishing sustainable acquisition and payment procedures.

### Developing creative strategies

In resource poor settings, some supplies may not be available. In such cases, nurses/midwives must creatively about how to manage care. Can plastic bags or condoms be used instead of gloves; can cooking utensils be used for boiling equipment; are there herbal and traditional alternatives to detergents and soaps? Can leaves, thimbles, or plastic wrap be used instead of bandaids to protect cuts? Are the resources that are available being used appropriately? For example, if gloves are in short supply, prioritize -- they are less necessary for giving routine injections and making beds than for deliveries and suturing.

One way to assign priorities is to classify the commonly performed procedures into low, medium and high risk, and allocate resources accordingly. Consideration should be given to cost

effectiveness as opposed to cost containment noting that the cheapest equipment is not always the safest or most cost effective in the long run. In home care settings, nurses/midwives will need to be even more creative in finding solutions to infection control. Wherever possible, a home care kit should be available to all health care personnel working in the community and in homes. This kit should include disinfectants, soap, utensils for boiling, gloves, protective garments, and containers for safe disposal of equipment and waste.

### **Setting and maintaining standards, and political action**

Nurses and midwives should be active in developing and maintaining quality assurance programs, and in developing and participating in infection control committees. Nurses and midwives must also develop, maintain, and evaluate standards, procedures and protocols for safe, adequate and effective control of infections. In addition, nurse managers should exert political pressure upon employers and upon national and international agencies to provide funds for essential supplies and equipment for providing safe quality care.

### **Care for the care giver**

Understandably, many nurses and midwives fear becoming infected with HIV. Stigma, prejudice and discrimination surrounding HIV and its life threatening effect may compromise their ability to provide quality care, and even their commitment to remain in the profession (Fact Sheet 6). There should be adequate insurance and compensation for HIV-infected health workers. However, such compensation will depend upon the country's ability to pay, the place of employment and the employer. Particular attention should be given to:

### **Continued employment**

Being HIV-infected is not a cause for termination of employment, regardless of whether HIV was acquired on the job or not. As with any other illness, HIV-infected nurses/midwives should be allowed to work as long as they are fit, provided they practice universal precautions. HIV infected health care workers can make considerable contributions to care by helping to educate others, reducing the stigma and discrimination associated with HIV, and providing sensitivity training, support and counselling. Employers should provide work assignments that both support the HIV infected worker's ability to perform tasks and enable them to avoid infections (particularly TB).

### **Workplace issues**

Health care workers, like the general population, may feel fear, stigma and discrimination towards HIV-infected individual (see Fact Sheet 6). In fact, HIV- infected health care workers are often subjected to severe sanctions from their colleagues. As a result, many careworkers are reluctant to be tested and to enter into counselling, treatment and care. This is problematic, because if nurses/midwives do not know their HIV status, they can put themselves and others in the health care setting at risk. Therefore, employers should develop policies that:

- protect the privacy of the HIV-infected employee;
- prevent social isolation of the HIV-infected employee by co-workers;
- keep HIV-positive personnel in a supportive occupational setting as long as possible;
- educate all employees, management and union leaders about the rights and care of HIV-infected health care workers.

### **Initiating a package of services**

Depending on the stage of the disease and the resources that are available, HIV positive nursing/midwifery personnel require a package of services that might include:

convincing employers, managers and insurance agencies not to discriminate against HIV positive personnel;

providing support, legal assistance and referral;

fostering networking with other HIV positive employees;

counselling on career change and job retraining opportunities;

advising about continued practice and the disclosure of their HIV status;

developing and disseminating position statements on issues such as mandatory testing (not supported), ethical obligations for HIV positive personnel, and ethical treatment by health care workers for people living with HIV;

providing up-to-date and accurate information about compensation benefits, occupational risks, and follow-up care;

clarifying professional ethical norms and obligations in regard to health care and HIV.

### Questions for reflection and discussion

**What resources would you consider essential to provide safe care to patients and staff?**

**How might you go about making sure these resources are available?**

**Reportings of needle stick injuries and other accidents that might lead to HIV infection are very low. What might you consider to help improve this situation? Why is this important?**

**What creative ideas do you have to improve Universal Precautions in resource poor areas?**

**What actions might you consider to make your work environment a safer place?**

**What do you think the essential elements are in providing adequate care for the caregiver?**

**What role might you play in ensuring adequate care for the**

caregiver?

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