

NATIONAL AIDS PROGRAMME MANAGEMENT

**MODULE 6
IMPLEMENTATION OF HIV PREVENTION,
CARE AND TREATMENT STRATEGIES**

**SUBMODULE 6
PREVENTION OF HIV TRANSMISSION THROUGH BLOOD**



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Submodule 6.6: Prevention of HIV transmission through blood



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Copies may be requested from:

HIV Unit, Department of Communicable Diseases

World Health Organization Regional Office for South-East Asia

Indraprastha Estate, Mahatma Gandhi Marg, New Delhi 110 002, India

Fax: +91 11 23370197; e-mail: hiv@searo.who.int

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Prevention of HIV transmission through blood

LEARNING OBJECTIVES

After completing this submodule, participants will be able:

Part I. Ensure a safe blood supply

1. To review guidelines, assess practices and plan activities for recruitment of low-risk donors.
2. To review guidelines, assess practices and plan activities for screening of blood and blood products for HIV.
3. To review guidelines, assess practices and plan activities for appropriate use of blood.
4. To state the role of the national programme in coordination of activities.

Part II. Prevent HIV transmission in health-care and other settings.

5. To review guidelines, assess practices and plan activities for ensuring universal infection control in health-care and other setting.

INTRODUCTION

Three interventions make up the strategy for prevention of HIV transmission through blood:

- by ensuring a safe blood supply;
- by ensuring aseptic conditions for invasive, skin-piercing, surgical and dental procedures;
- by preventing unsafe drug behaviours.

This submodule discusses how to plan activities related to providing a safe blood supply and safe medical procedures. The submodule is divided into two parts:

- Part I examines the three components for ensuring a safe blood supply:
 - motivate, recruit and retain low-risk donors
 - screen blood and blood products for HIV
 - use blood appropriately to reduce the number of unnecessary blood transfusions
- Part II enumerates steps in universal precautions for invasive, skin-piercing, surgical and dental procedures to prevent HIV transmission in health-care and other settings.

PART I: ENSURE A SAFE BLOOD SUPPLY

Safe blood supply, which is a part of the National Blood Transfusion Service (NBTS), is the responsibility of the Ministry of Health or the responsibility may be delegated to a non-profit nongovernmental organization (NGO), such as the Red Cross Society. The role of the national AIDS programme (NAP) manager is to stress on the importance of government commitment and to recommend and coordinate HIV-related plans and activities within the NBTS.

Some of the problems associated with providing a safe blood supply include:

- safety and quality of blood varies greatly in developing countries;
- efficiency of transmission through blood transfusion is very high – more than 90%;
- risk of transmitting HIV varies considerably depending on the prevalence rate in the blood donor population; and
- the number of voluntary non-remunerated donors has not yet reached 100% in many countries.

Preventing HIV transmission through blood transfusion is an achievable goal. It requires following guidelines for establishing and maintaining a safe blood supply, strengthening efforts to improve general health, and developing basic health-care facilities.

This section focuses on the three aspects of ensuring a safe blood supply.

1. Motivate, recruit and retain low-risk donors
2. Screen blood and blood products for HIV
3. Use blood appropriately

The NBTS is responsible for ensuring the implementation of these components of the safe blood supply. The NAP manager coordinates with the NBTS for maintaining a safe blood supply. However, funds of the NAP are not meant to be the sole source of funding for blood safety programmes. Blood safety is a much broader issue than HIV testing and requires more effort than the approaches identified in this module.

OBJECTIVE 1: To review guidelines, assess practices and plan activities for recruitment of low-risk donors

Low-risk donors are the cornerstone of a safe blood supply. They are voluntary, non-remunerated donors who donate blood regularly of their own free will and are chosen from low-risk populations. They do not receive any payment, either in cash or in kind. Donations from those at risk of HIV infection must be avoided to improve the safety of blood. Family replacement donors do not belong to the group of low-risk donors.

REVIEW RECOMMENDED GUIDELINES FOR IDENTIFYING AND RECRUITING LOW-RISK DONORS

The following are recommendations for developing a source of safe donors.

- Establish a programme to motivate, recruit, and retain low-risk donors.
- Develop media campaigns stressing on the need to donate regularly and to self-defer if any risk factors exist.
- Recruit donors who are not likely to have HIV infection.
- Discourage people at risk of HIV infection from donating blood.
- Develop a registry of low-risk donors.
- Assess risk status of all potential donors.
- Maintain donor confidentiality.
- In case of a positive test result for HIV infection, refer donor for follow-up, where appropriate facilities exist.
- Promote donor retention.

ASSESS CURRENT DONOR RECRUITMENT PRACTICES

Given below are a set of questions that will help in assessing current donor recruitment practices for determining areas of strength and discrepancies.

- Who is in-charge of blood donation recruitment campaigns?
- What are the existing plans to increase the numbers of low-risk donors? For example, mass media campaigns and campaigns in schools, factories and other areas with low-risk donors.
- Are there cultural constraints against blood and blood donations?
- Are donors paid? Do families pay donors to serve as “family replacement” donors? In many hospitals, a patient is given blood transfusion only if family members donate an equal number of blood units. Sometimes families pay someone else to donate blood.

- How are low-risk donors recruited?
- Which group of population tends to donate blood the most?
- Are the donation sites accessible to low-risk donors?
- Is there a process of self-deferral?
- Are mobile donation sites well organized?
- What systems exist to maintain records of blood donors, protect confidentiality, and facilitate donor recall?
- Do donor sites provide privacy during the interview and physical examination?

PLAN ACTIVITIES TO MOTIVATE, RECRUIT AND RETAIN LOW-RISK DONORS

The following are the key activities to motivate, recruit and retain low-risk donors.

- Carry out media campaigns encouraging people with low risk to donate blood.
- Carry out campaigns in schools and workplaces to promote blood donations from low-risk individuals.
- Change from the paid donor system as well as family replacement system to a system emphasizing voluntary non-remunerated regular donations.
- Compile lists of potential donors from schools, factories, offices and general public.
- Devise standard questionnaires for use in all blood banks.
- Train health workers to appropriately interview and clinically examine potential donors.
- Establish individual and confidential donor records and counselling referral service.
- Establish separate sites for voluntary counselling and testing (VCT).

IDENTIFY ORGANIZATIONS TO IMPLEMENT DONOR RECRUITMENT ACTIVITIES

Typical organizations involved in implementing donor recruitment activities include the NBTS and NGOs, such as the Red Cross Society and voluntary blood donor organizations.

Questions to consider while identifying organization to be involved in recruitment activities include:

- How is the NBTS coordinating with the NGOs that recruit low-risk donors?
- Is there a clear delineation of responsibilities between the organizations involved?
- Is there a recognized authority responsible for all aspects of donor recruitment?
- Is there a firm commitment from the NGOs to carry out the planned activities?

4. Does your country have:

- a blood donor recruitment officer to coordinate the activities?
- adequate funding to support donor recruitment and retention efforts?
- sufficient staff to maintain records?

If answer to any of these is “no”, what can be done to improve the situation?

Inform your facilitator when you are ready for country group discussions.

OBJECTIVE 2: To review guidelines, assess practices and plan activities for screening of blood and blood products for HIV

The second component of providing a safe blood supply is to screen all blood donations for HIV and other infectious agents. Continuous screening is vital to maintain the effectiveness and credibility of the blood transfusion services. The effectiveness of blood services in developing countries is often hampered by a variety of factors that may need to be addressed when planning screening activities.

Some of the typical problems are given below:

- Lack of organized blood services.
- Inappropriate selection of the testing reagents, such as the use of ELISA (enzyme-linked immunosorbent assay) instead of simple/rapid tests in peripheral facilities.
- Inability to perform the tests on donated blood at the centres.
- Lack of organized stock control of screening assays.

REVIEW RECOMMENDED GUIDELINES FOR SCREENING OF BLOOD

Recommendations for screening of blood and blood products include:

- Conduct the appropriate test, whether simple, simple/rapid or ELISA, polymerase chain reaction (PCR) or nucleic acid test.
- Develop and/or maintain a quality assurance scheme to ensure good laboratory practice.
- Provide for confidentiality of test results.
- If a result is inconclusive and needs to be re-checked, refer donated blood for appropriate follow-up.
- If the result is positive, provide for follow-up of the donor.

ASSESS CURRENT BLOOD SCREENING PROCEDURES

Given below are a set of questions that will help in the assessment of blood screening procedures for determining the areas of strength and discrepancies.

- Which screening tests are used and why?
- What kind of training is provided on screening procedures?
- What record-keeping procedures are in place for screening activities?

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- Do blood transfusion sites have an adequate and uninterrupted supply of HIV test kits?
- How are the procurement, storage and distribution of HIV test kits managed?

PLAN ACTIVITIES FOR SCREENING OF BLOOD AND BLOOD PRODUCTS

Examples of the key activities for screening include:

- coordinating procurement, storage and distribution of test kits;
- determining appropriate types of tests to be used at each site;
- trained personnel to perform tests and administer follow-up procedures;
- developing laboratory protocols and standard operating procedures (SOPs) for blood transfusion service including HIV testing;
- establishing record-keeping procedures to provide confidential test results to donors.

OBJECTIVE 3: To review guidelines, assess practices and plan activities for appropriate use of blood

Blood transfusion can be life saving. However, transfusions have the potential to transmit HIV, hepatitis B and other infectious agents. Moreover, blood is often scarce and expensive. Establishing and adhering to guidelines for the appropriate use of blood is necessary to ensure an adequate blood supply.

REVIEW RECOMMENDED GUIDELINES FOR THE APPROPRIATE USE OF BLOOD

Recommendations for the appropriate use of blood include:

1. Transfuse blood or blood products only when it is absolutely necessary to save life or to treat major illness.
2. Transfuse blood which has been obtained only from appropriately selected donors and which has been screened for infectious agents.
3. Use plasma substitutes such as crystalloids or colloids, whenever possible.
4. Improve basic health-care facilities, maternal and child health (MCH) and family planning programmes to reduce the need for blood transfusions. For example, provide good antenatal care and ensure the availability of iron, folic acid, antimalarial and antihelminthic drugs to avoid anaemia.

ASSESS THE CURRENT USE OF BLOOD SUPPLY

Given below are a set of questions that will help in assessing the current use of blood for determining areas of strength and discrepancies.

- When and why is blood transfused?
- Is a national assessment on blood usage being carried out?
- Is the use of blood being monitored and evaluated?
- Are guidelines available for the appropriate use of blood?

PLAN ACTIVITIES TO PROMOTE THE APPROPRIATE USE OF BLOOD

Key activities to promote appropriate use of blood include:

- review blood usage patterns and update criteria for transfusions, if necessary;
- develop and distribute national blood use guidelines;
- train medical students and doctors in appropriate use of blood;
- strengthen health-care services to reduce the need for blood transfusions by improving antenatal care and prevention and management of anaemia; and
- Promote and provide plasma substitutes (crystalloids and colloids).

OBJECTIVE 4: To state the role of the national programme in coordination of activities

IDENTIFY THE ORGANIZATIONS

First identify the organizations involved in the various aspects of blood safety. Then review the activities planned to provide a safe blood supply and designate the responsible organizations, departments or individuals. A table such as the following could be used for this purpose.

Example

Activity	Organization	Department or individual
Devise standard questionnaire for use in all blood banks	NBTS	NBTS Director
	Blood banks	Donor Recruitment Officer
	National health authority	
Determine appropriate tests to be used at each site	NBTS	NBTS Director
	Blood banks	Pathologist
		Chief Laboratory Technician
Develop guidelines for appropriate use of blood	NBTS	NBTS Director
	Blood transfusion committee	Director, Health Services

ESTABLISH A TIMETABLE TO IMPLEMENT ACTIVITIES

Page 15 shows a sample timetable of activities designed to provide a safe blood supply.

Sample timetable: Activities to prevent HIV transmission through blood, 2007

Activity	Tasks	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Recruit low-risk donors	Identify target groups	X											
	Prepare recruiting materials, presentations		X	X									
	Recruit donors				X	X	X	X	X	X	X	X	X
Establish donor management system	Prepare guidelines for interviews and physical check-ups	X											
	Train staff to do physical check-ups and donor deferral		X										
	Establish donor record and confidentiality procedures, self-deferral system		X										
Screen blood and blood products	Select tests to be used	X											
	Develop laboratory protocols, guidelines and quality assurance procedures	X	X										
	Define and establish support systems: procurement, storage, distribution			X		X	X		X	X			X
	Establish record keeping and confidentiality procedures			X									
	Train staff				X	X	X						
Plan appropriate use of blood	Review blood usage pattern	X											
	Develop national blood use guidelines			X	X	X							
	Provide education workshops on "appropriate use of blood"					X	X	X	X	X	X		
	Monitor and evaluate guidelines											X	X

EXERCISE B

(Country group work followed by intercountry group discussion)

In your country group, select one component of providing a safe blood supply (recruiting safe donors, screening blood and blood products, or using blood appropriately) which needs to be addressed in your country. Answer the following questions about the component selected. Countries will share their responses in a large group discussion.

1. Component to be discussed:

2. Review the recommended guidelines listed in the module for the component chosen. List any discrepancies between current practices in your country related to the component and the recommended guidelines.

For example, one discrepancy may be in the use of ELISA technology instead of simple/rapid tests in areas where small number of blood units are being tested.

3. Identify activities to reduce or eliminate any discrepancies.

4. Which organizations in your country would be responsible for implementing activities in this component?

Inform your facilitator when your country team is ready for intercountry group discussions.

PART II: PREVENT HIV TRANSMISSION IN HEALTH-CARE AND OTHER SETTINGS

This section deals with the second intervention related to preventing HIV transmission through blood: provide universal infection control procedures for invasive, skin-piercing, surgical and dental procedures.

HIV may occasionally be transmitted from one person to another through blood in health-care setting via contaminated medical equipment, from patient to health worker via accidental exposures, and from health worker to patient via accidental exposures. Accidental exposures may result from needle pricks, scalpel cuts or splashes in the mouth or eyes. HIV may also be transmitted at homes, pharmacies or other sites through such practices as tattooing, immunizations, circumcisions and home births.

Transmission through these procedures is extremely rare in both health-care and other settings. Nonetheless, adherence to universal precautions can help to prevent transmission by any of these modes. Blood and other body fluids are considered to be infectious, regardless of whether laboratory tests are positive, negative or not conducted.

Proper cleansing of hands and appropriate sterilization of all instruments that come in contact with the body fluids are important to prevent transmission of the virus. HIV is easily destroyed, and standard methods of sterilization and disinfection designed to inactivate other viruses, such as the hepatitis B virus, will inactivate HIV.

The NAP manager's role is to work with the Ministry of Health to establish effective guidelines for universal precautions in health-care and other settings.

OBJECTIVE 5: To review guidelines, assess practices and plan activities for ensuring universal infection control in health-care and other settings

REVIEW RECOMMENDED GUIDELINES

Guidelines for universal precautions need to be reviewed in all health-care settings. The recommendations for universal precautions include:

- Wash hands before and after performing each procedure, between each patient, and before and after using gloves. *This is probably the most important step.*
- Disinfect surface where procedure will be performed or instruments will be placed.
- Wear gloves, eye-protection and other protective clothing while performing procedures which require them or if open wounds or infectious drainage are present.
- Sterilize skin-piercing instruments and dental equipment with heat. Do the best possible. If you cannot autoclave, boil. If you cannot boil, disinfect. If you cannot disinfect, wash thoroughly with soap or detergent and water.
- Place contaminated disposable materials in containers to be burned or buried in a deep pit with a strong disinfectant, such as Lysol.
- Dispose liquid wastes such as bulk blood, suction fluids, excretions and secretions in a sewer system or pit latrine that has been treated with a strong disinfectant.
- Place needles and other sharp instruments in a rigid plastic, glass or metal container and dispose them appropriately, either by destruction or sterilization.
- Carry safe containers for disposal of contaminated equipment and materials when procedures are carried out at home or other settings.

ASSESS CURRENT PRACTICES IN HEALTH-CARE AND OTHER SETTINGS TO DETERMINE DISCREPANCIES WITH RECOMMENDED GUIDELINES

Given below are a set of questions that will help in assessing the universal precautions.

- Do health workers understand the concept of universal precautions?
- What precautions are health-care providers using to prevent HIV transmission?
- Are health-care providers following universal precautions even if they perceive the patient has a low risk of HIV infection?
- Is there proper equipment for sterilization?
- Are there quality assurance programmes in place to see if health-care providers are following sterilization procedures?

- Are gloves available in sufficient quantities in health-care settings? Are health-care providers using gloves when required?
- How are needles and other sharp instruments handled after use? Are they being recapped or placed in containers? Most needle stick injuries occur when medical staff try to recap them after use or when they are disposed incorrectly, thus causing accidental injury to cleaning staff who are unaware of their presence when clearing materials.
- How are contaminated materials and body fluids disposed of in health-care and other settings?
- Are containers used for depositing contaminated materials like sharps, inflammables, plastics and liquids, or body fluids and tissues, such as a placenta, when medical functions are performed at health-care, home or other settings?
- Is there a provision for post-exposure prophylaxis (PEP) in case of accidental exposure?

PLAN ACTIVITIES TO PROMOTE ASEPTIC CONDITIONS IN HEALTH-CARE AND OTHER SETTINGS

Activities to promote aseptic conditions are outlined below:

- Identify skin-piercing or other invasive procedures performed in health care and other settings.
- Urge Ministry of Health to issue guidelines for universal precautions during skin-piercing procedures in health care and other settings.
- Encourage the establishment of an infection control committee and the appointment of infection control officer in each hospital.
- Promote universal precautions during traditional practices, such as tattooing, circumcision and scarification.
- Train health-care providers in universal precautions.
- Develop educational materials to inform the public about preventing HIV transmission in invasive, skin-piercing, surgical and dental procedures.
- Provide for PEP in case of accidental exposure.



**World Health
Organization**

Regional Office for South-East Asia

MAHATMA GANDHI MARG, INDRAPRASTHA ESTATE, NEW DELHI 110002

TEL: 91 11 2337 0804 FAX: 91 11 2337 0197

www.searo.who.int

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