Introduction

Without the proper precautions, your health care facility can cause the spread of infections and diseases. When providing health services, it is essential to prevent the transmission of infections at all times.

Importance of good infection prevention practices

Over the past few decades, the world has seen increased outbreaks of disease that were once better controlled, and previously unidentified infectious agents that can cause incurable diseases, such as HIV and hepatitis C, have become a significant cause of illness and death in many parts of the world. In addition, hospital-acquired infections are a continuing problem everywhere in the world. There are many complex reasons for these developments, including:

• Rapid population growth, combined with increased poverty
• Expansion of the population into “remote” areas
• Environmental degradation
• Improved transportation, leading to easier spread of disease
• Inadequate or deteriorating public health infrastructure
• Widespread, and often inappropriate, availability and use of antibiotics
• Poor disease control and disease prevention

Infections in health care settings

Although we do not often think about it, health care facilities are ideal settings for transmission of disease because:

• Invasive procedures, which have the potential to introduce micro-organisms into parts of the body where they can cause infections, are performed routinely.
• Service providers and other staff are constantly exposed to potentially infectious materials as part of their work.
• Many of the people seeking health care services are already sick and may be more susceptible to infections.
• Some of the people seeking services have infections that can be transmitted to others.
• Services are sometimes provided to many clients in a limited physical space, often during a short period of time.

With appropriate infection prevention practices, you can:

• Prevent postprocedure infection, including surgical-site infections and pelvic inflammatory disease (PID).
• Provide high-quality, safe services.
• Prevent infections in service providers and other staff.
• Protect the community from infections that originate in health care facilities.
• Prevent the spread of antibiotic-resistant microorganisms.
• Lower the costs of health care services, since prevention is cheaper than treatment.

How are infections transmitted?
Infections are caused by microorganisms, which are tiny organisms that can only be seen under a microscope. If you could look at your environment under a microscope, you would see that microorganisms are everywhere—on your skin, in the air you breathe, and in people, animals, plants, soil, and water.

Some microorganisms are normally present on your skin and in your respiratory, intestinal, and genital tracts. These are called normal flora. Other microorganisms are normally not found on or in the human body and are usually associated with disease. These are known as pathogens. All microorganisms, including normal flora, can cause infection or disease.

Infections are transmitted when normal flora are introduced into an area of the body where they are not normally found or when pathogens are introduced into the body.

Modes of transmission
There are four ways that infections are transmitted:
• Contact—Direct transfer of microorganisms through touch (staphylococcus), sexual intercourse (gonorrhea, HIV), fecal/oral transmission (hepatitis A, shigella), or droplets (influenza, TB)
• Vehicle—Material that serves as a means of transfer of the microorganisms. This can be food (salmonella), blood (HIV, HBV), water (cholera, shigella), or instruments and other items used during clinical procedures (HBV, HIV, pseudomonas)
• Airborne—Some microorganisms can be carried by air currents (measles, TB)
• Vector—Invertebrate animals can transmit the microorganisms (mosquito: malaria and yellow fever; flea: plague)
**Who is at risk of infection?**

Infection prevention is everybody's business. Just as everyone who works at a health care facility is at risk of infection, every health care worker has a role to play in practicing appropriate infection prevention. In order for infection prevention to be effective, each staff member must do his or her part.

**Risks to staff**

Service providers are at significant risk of infection because they are exposed to potentially infectious blood and other body fluids on a daily basis. Staff who process instruments and other items, clean up after procedures, clean operating theaters and procedure rooms, and dispose of waste are particularly at risk. Client-to-health care worker transmission can occur through exposure to infectious blood and other body fluids:

- When a health care worker's skin is pierced or cut by contaminated needles or sharp instruments
- When fluids are splashed on the mucous membranes of the health care worker (e.g., eyes, nose, or mouth)
- Through broken skin due to cuts, scratches, rashes, acne, chapped skin, or fungal infections

Almost all cases of hepatitis B and HIV transmission to health care workers have occurred through preventable accidents, such as puncture wounds.

**Risks to clients**

Clients are at risk of postprocedure infection when, for example, service providers do not wash their hands between clients and procedures, when they do not adequately prepare clients before a clinical procedure, and when used instruments and other items are not cleaned and processed correctly.

**Note:** It is very rare for clients to get a bloodborne infection like HIV from an infected health care worker. Because this risk is so small, in most cases infected health care workers should not be kept from their regular activities based solely on their medical diagnoses.

**Risks to the community**

The community is also at risk of infection, particularly from inappropriate disposal of medical waste, such as contaminated sharps. Improperly discarded medical waste—including contaminated dressings, tissue, needles, syringes, and scalpel blades—can be found by children or others scavenging in open dumps, or can scatter on the ground where adults and children travel, putting them at risk of injury and infection. In addition,
some infections can be spread by staff to their family members or others in the community. For example, the Ebola virus outbreak in Africa in 1995 was spread throughout communities, in part, because of poor infection prevention practices in health care facilities.

**Stopping transmission of infections**

As health professionals, we cannot provide health care services without conducting procedures that put clients and staff at some risk of exposure to potentially infectious materials, but we can prevent transmission in many cases. The only way to prevent infections is to stop the transmission of microorganisms.

The best way to prevent infections at a health facility is by following standard precautions. These are a set of recommendations designed to help minimize the risk of exposure to infectious materials by both clients and staff. The chapters in this booklet give detailed explanations of how to apply the standard precautions to your everyday work in a health facility.

**Summary of standard precautions:**

1. Wash your hands.
2. Wear gloves.
3. Wear eye protection or faceshields.
4. Wear gowns.
5. Prevent injuries with sharps.
6. Correctly process instruments and client-care equipment.
7. Maintain correct environmental cleanliness and waste-disposal practices.
8. Handle, transport, and process used/soiled linens correctly.

Standard precautions should be followed with every client regardless of whether or not you think the client might have an infection. This is important because it is not always possible to tell who is infected with viruses such as HIV and the hepatitis viruses, and often the infected persons themselves do not know that they are infected. It is safer to act as if every client is infected rather than to apply standard precautions to some clients and not others.