Infection Prevention and Control For Health Care Workers Supporting Routine Healthcare services

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Outline

- Introduction to IPC
- The WHO Core Components of IPC
- How infections Spread
- Standard Precautions
- Transmission Based Precautions
- Hierarchy of Controls
- Risk Assessment

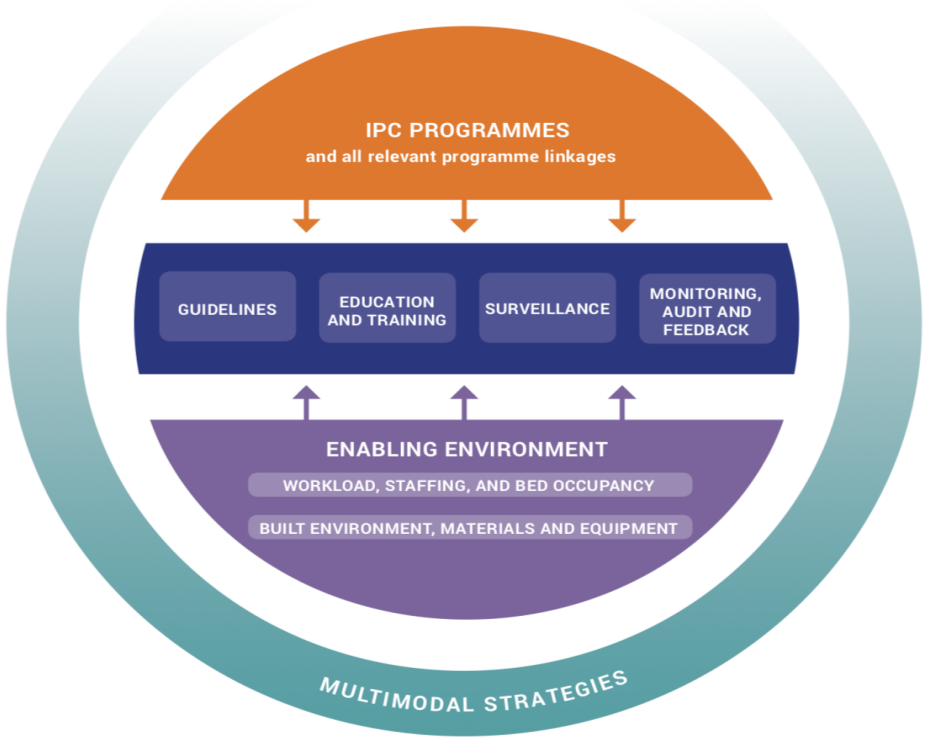
Introduction Infection Prevention and Control ?

- A *scientific* approach with…
  - practical solutions designed to prevent harm, caused by infections .
  - grounded in principles of infectious disease, epidemiology, social science and health system strengthening, and is rooted in patient safety and health service quality.

Purpose of IPC

- **Target audience:** All health care workers Health facility managers, clinicians, and IPC practitioners across various healthcare settings, including primary care clinics, emergency departments, infectious disease clinics, and more.

IPC Core components



https://www.who.int/infection-prevention/publications/core-components/en/

A step wise approach towrads the implimentation of IPC standards, at the national and facility level to provide minimum protection and safety to patients , HCWs and Visitors ,**based on the WHO core components for IPC programme**

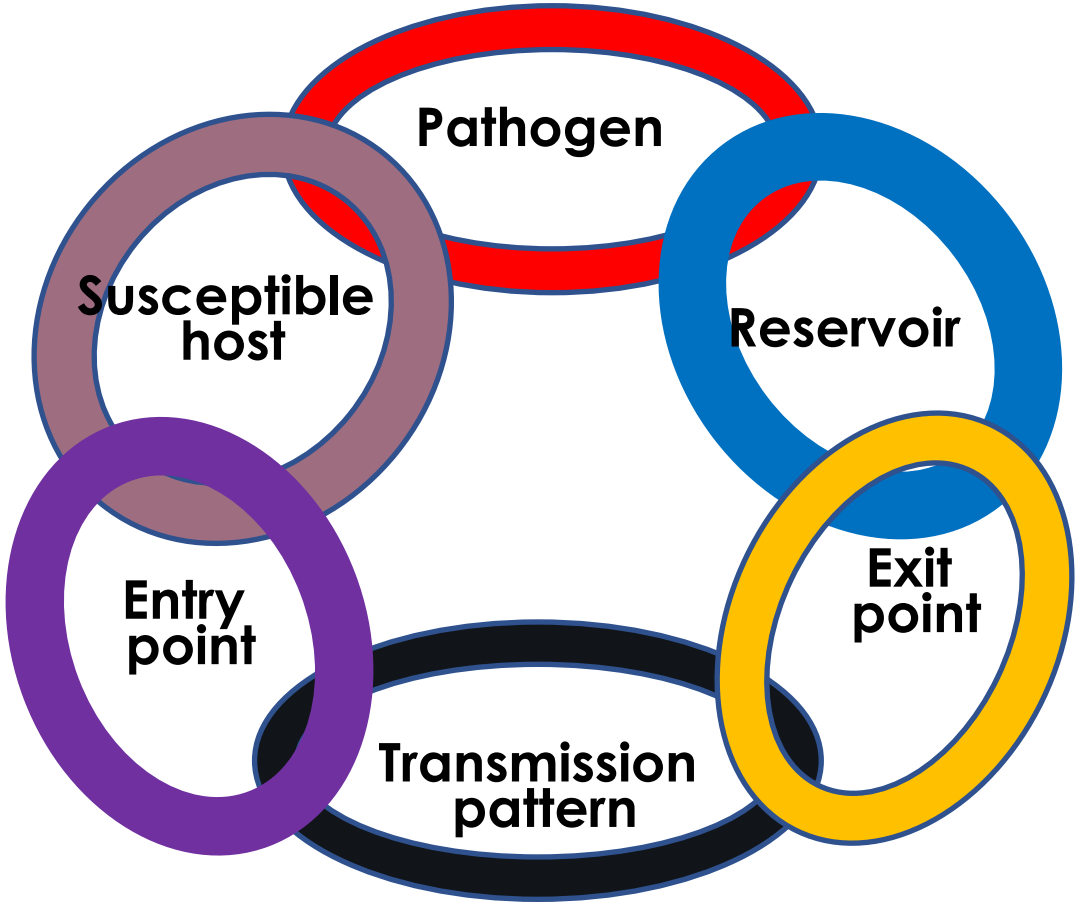
IPC gloals in routine Healthcare

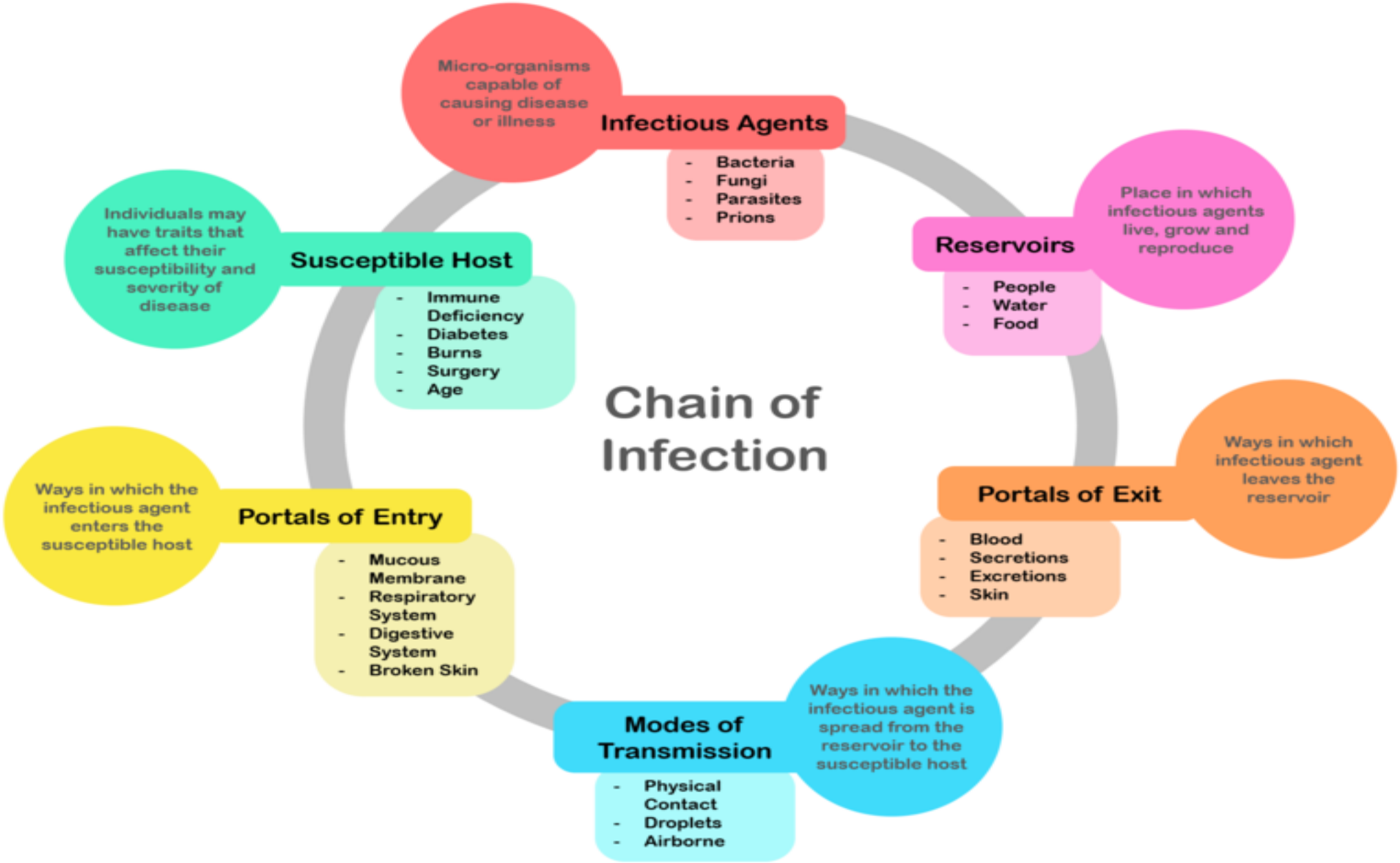
1. To reduce transmission of health care associated infections
2. To enhance the safety of staff, patients and visitors
3. To enhance the ability of the organization/health facility to respond to an outbreak
4. To lower or reduce the risk of the hospital (health care facility) itself amplifying the outbreak

How infections are spread

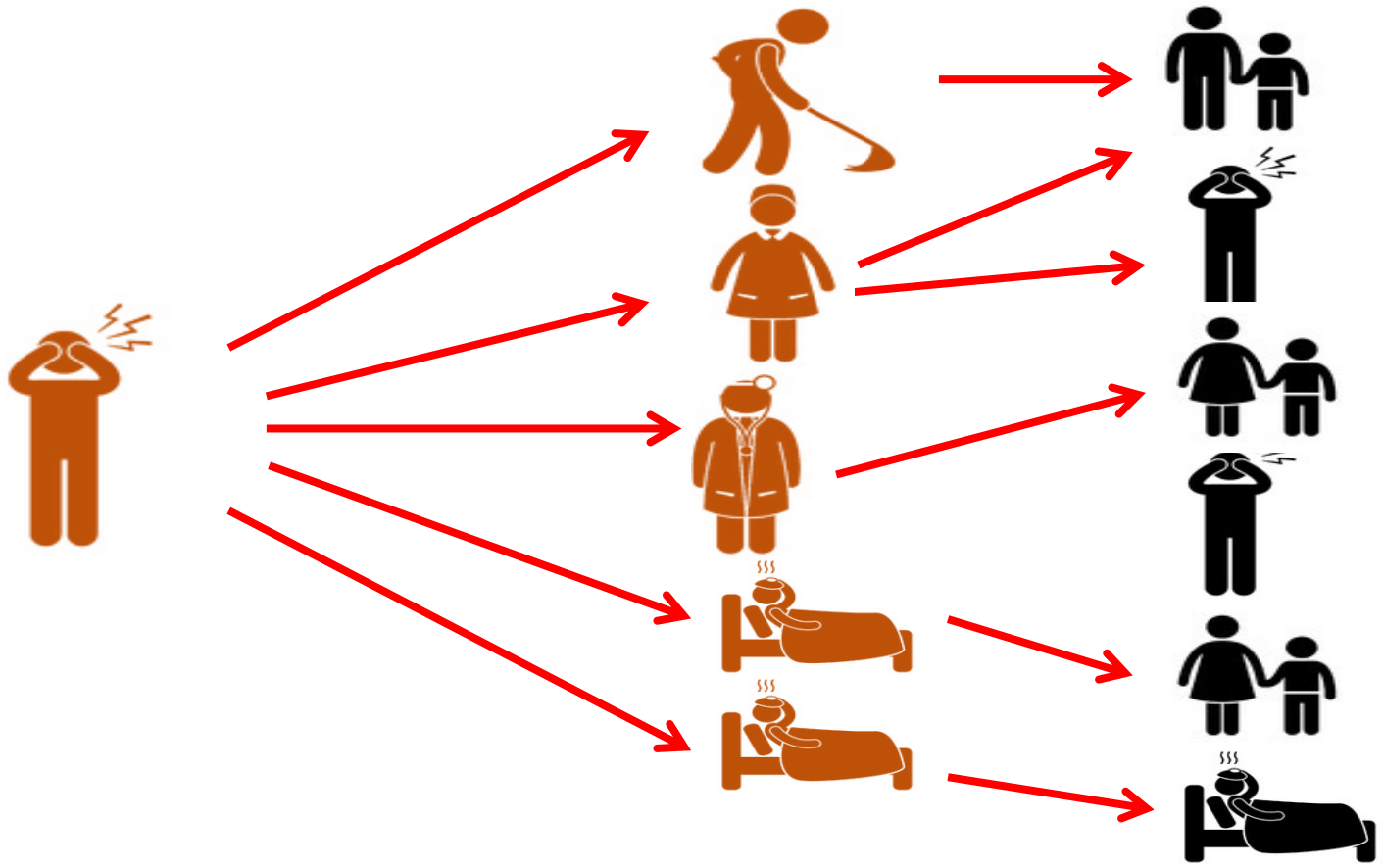
Transmission chain for infections

- In order for an infection to spread, all links must be connected
- Breaking one of these links will stop the spread of the disease!




Chain of Infection
Infectious Agents
Micro-organisms capable of causing disease or illness
- Bacteria
- Fungi
- Parasites
- Prions
Reservoirs
Place in which infectious agents live, grow and reproduce
- People
- Water
- Food
Portals of Exit
Ways in which infectious agent leaves the reservoir
- Blood
- Secretions
- Excretions
- Skin
Modes of Transmission
Ways in which the infectious agent is spread from the reservoir to the susceptible host
- Physical Contact
- Droplets
- Airborne
Portals of Entry
Ways in which the infectious agent enters the susceptible host
- Mucous Membrane
- Respiratory System
- Digestive System
- Broken Skin
Susceptible Host
Individuals may have traits that affect their susceptibility and severity of disease
- Immune Deficiency
- Diabetes
- Burns
- Surgery
- Age

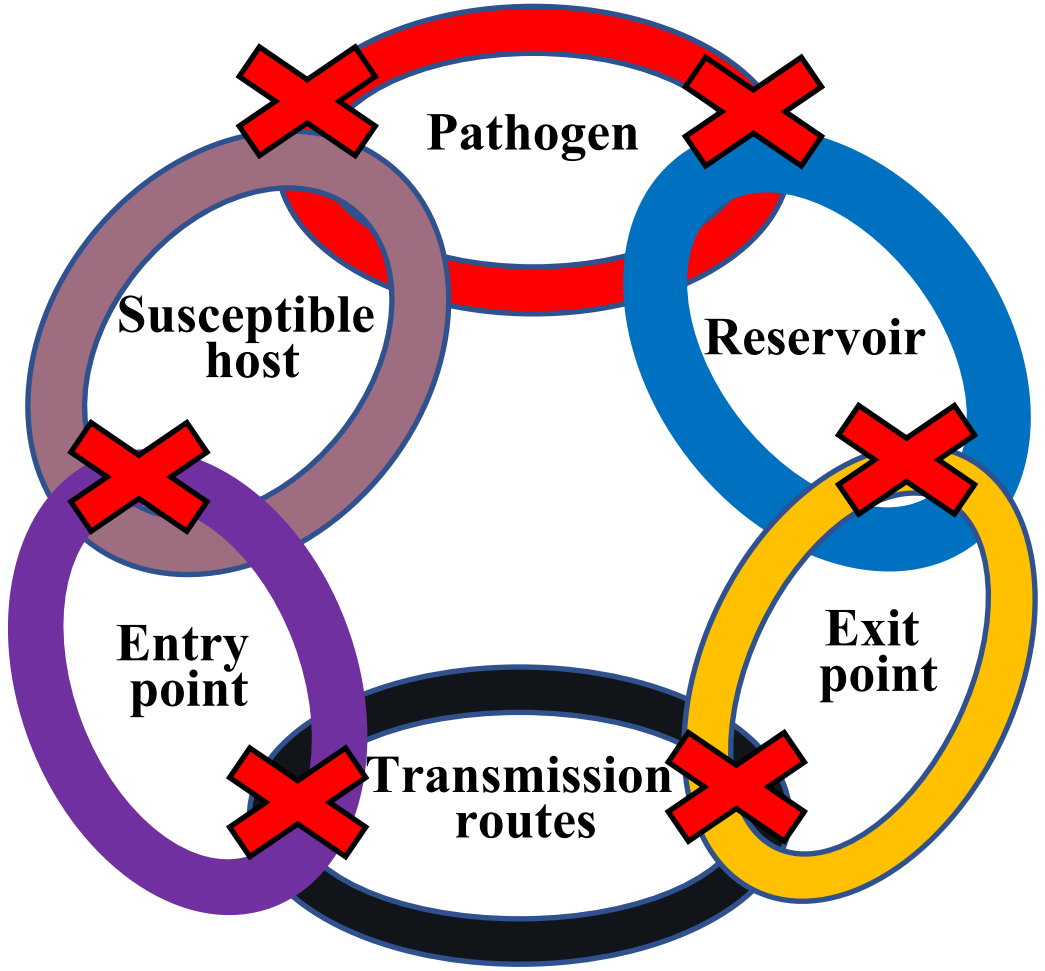
Who is at risk of infection?



Anyone who is not immune

How do you break the transmission chain?

Apply standard precautions



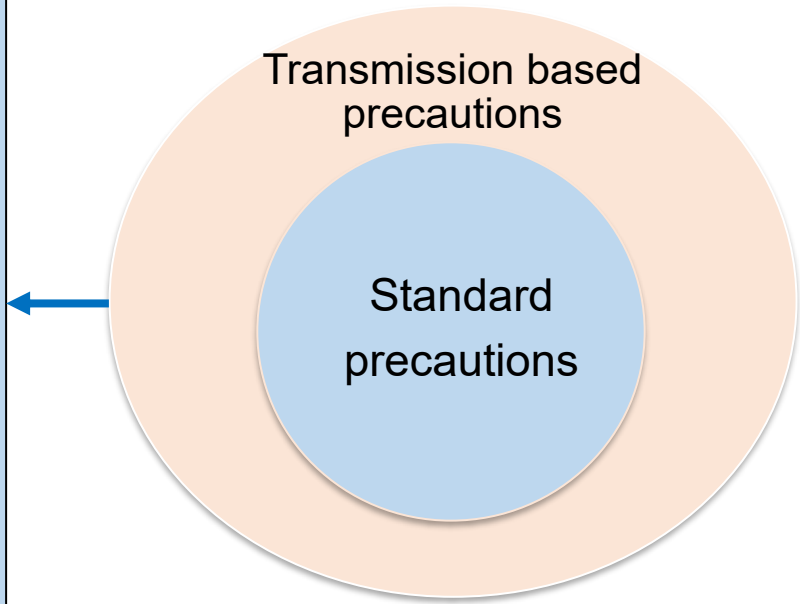
Standard precautions
&
Transmission based-prscautions

What are standard precautions?

- They are the basic level of infection control precautions which are to be used to reduce the risk of transmission of pathogens from both recognized and unrecognized sources in healthcare facilities.
- They are to be used in the care of **ALL** patients at **ALL** times.

Standard Precautions and Transmission based Precautions

Hand Hygiene
+
Respiratory hygiene ,Cough ettiquate
+
Appropriate isolation
(single room or adequate space between beds, appropriate ventilation, separate toilets)
+
Signage of precautions
+
Use Appropriate PPE
+
Environmental cleaning.
+
Safe injection, sharps management and injury prevention
+
Patient placement
+
Waste management
+
Safe handling and cleaning of soiled linen
+
Aseptic technique
+
Proper handling Patient care equipment



Transmission Based Precautions

- These are precautions implemented when a patient is suspected or confrinmed to have a certain infection (or to be colonised with certain infectious microorganisim) to prevent spread.
- Implementation depends on;
    - The setting
    - The Organism
    - The procedure being undertaken
- Three categories TBPs, are made based on the transmission path;

✓ Contact precautions

✓ Droplet precautions

✓ Airborne precautions

- ***Some infections may fall under more than one category (e.g. contact + droplets)***

When to apply contact precautions?

- Contact precautions for (Organisms spread by direct and indirect human contact, e.g. EVD, Lassa Fever)
- May or maynot require isolation in a single room according to local policy
- PPE should be used appropriately
- Strict hand hygiene is essential
- Contact precautions also includes enteric precautions for pathogens spread by ingestion for which precautions such as a separate toilet is necessary

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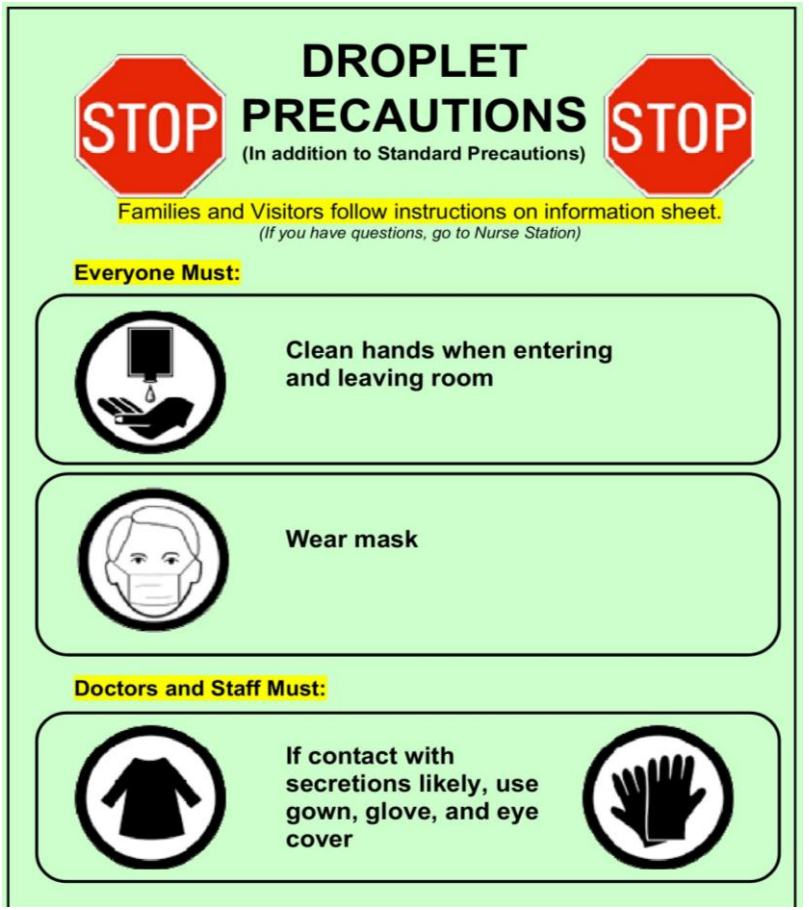
When to apply droplet precautions?

- Droplet precautions for organisims spread by respiratory droplet (small quantities of liquid from the lungs, mouth or nose that are released into the air when people cough, speak or sneeze e.g. influenza , Meningitis, SARs-CoV-2)
- A single room is necessary to minimise spread to other patients
- Patient may be asked to wear a mask
- Staff may be required to wear Mask for certain healthcare procedures



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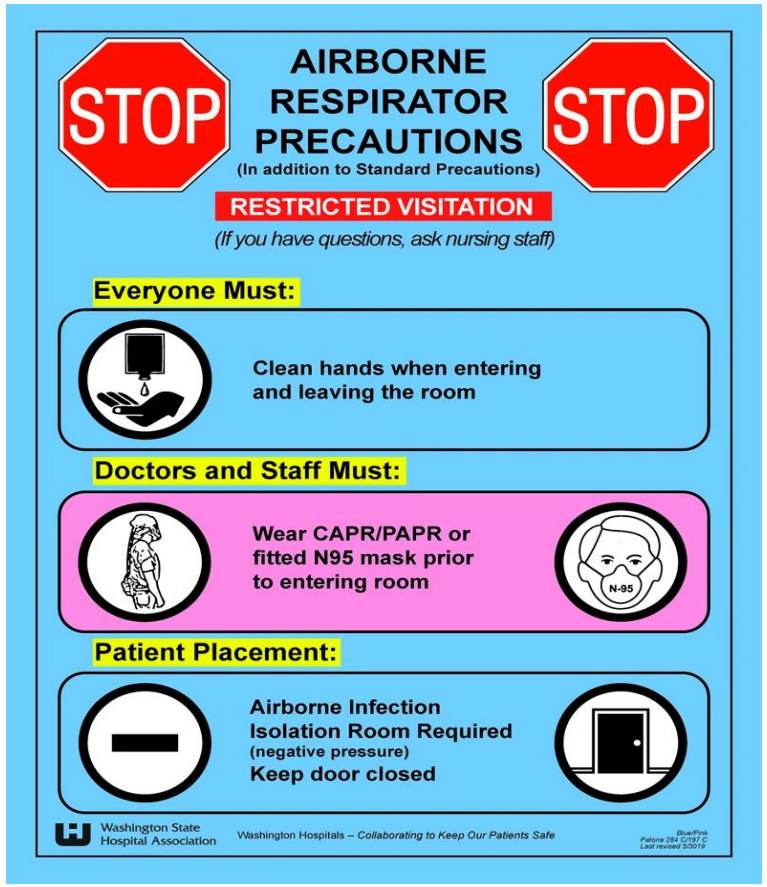
When to apply airborne precautions?

- Airborne precautions for pathogens which are spread on droplet nuclei (this can travel a long distance and remain in the air for a long time. Tuberculosis, SARs-COV-2, Measles)
- Isolation in a negative presure room which pumps air outside of the building is recommended
- Respirators or masks may be required fr certain procedures



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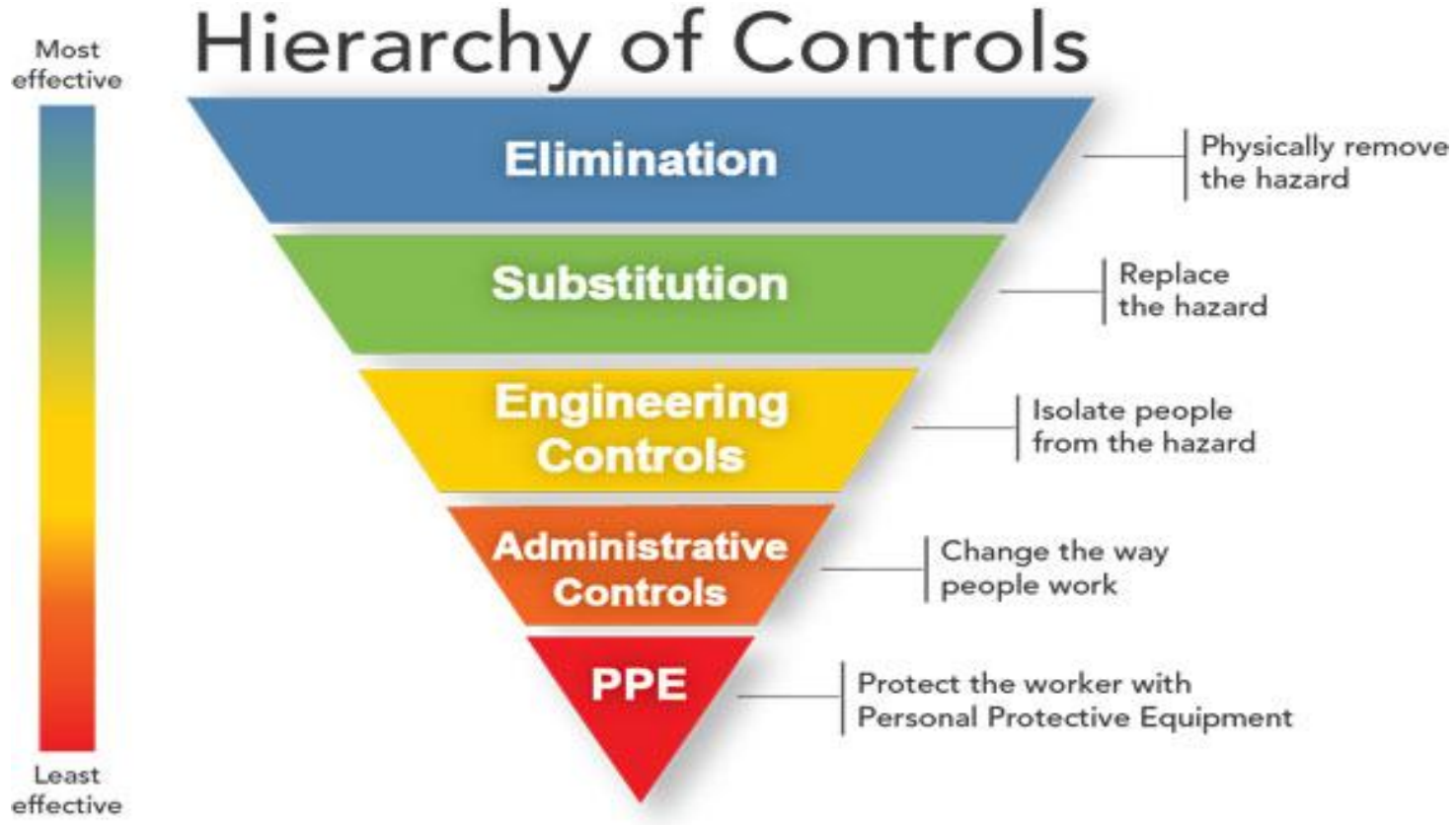
Additional control measures



Procedures and Strategies used to eliminate risk and Hazard

Elimination Controls

- Removing the hazard from the workplace;

✓ Hand Hygiene

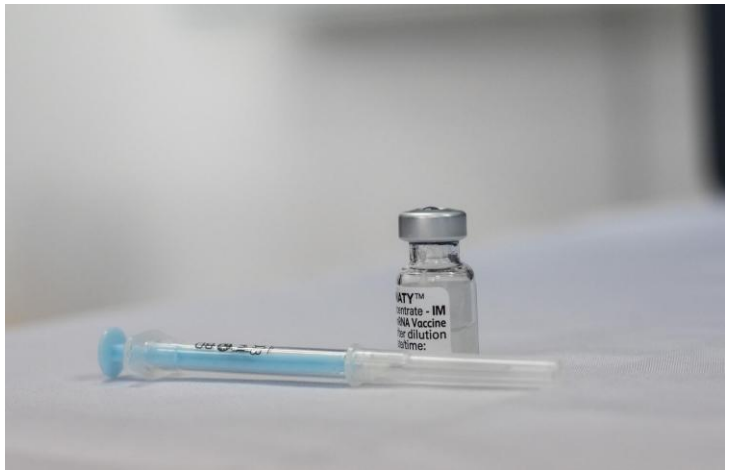
✓ Waste segregation

Waste Segregation IPC best practice: observed at the **Saidina Abubakar Islamic hospital in matugga, Wakiso District**
For IPC training purposes only

Substitution Controls

Replacing the hazard with a safer alternative:

- ✓ Telehealth technology
- ✓ At home screening
- ✓ Vaccination



Engineering Controls

Using physical controls to control the hazard at its source:

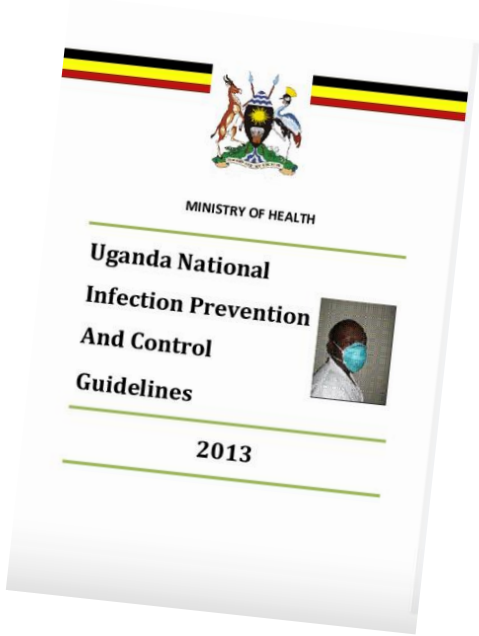
- ✓ A screening area at the facility entrance (with functional equipment, Standardised screening tools ;
- ✓ Establish a holding area during outbreaks;
- ✓ Enhancing Hospital Workflow; ensuring physical distance arrangement;
- ✓ Good ventilation;
- ✓ Create access to Hand Hygiene Facilities

IPC Best practice A screening point at the entrance of the HCF / Isolation unit
Image used for tainign Purposes only

Administrative Controls

Changing the way people work to limit exposure to hazards:

- ✓ Provision of adequate training for HCWs;
- ✓ Ensuring an adequate patient-to-staff ratio; Staff and cleaner schedules;
- ✓ Up to date and regular Communication
- ✓ Developing a surveillance protocol for healthcare worker exposures that all staff should be aware of;
- ✓ Ensuring that healthcare workers and the public recognize the importance of seeking medical care without delay;
- ✓ Monitoring healthcare workers to ensure adherence to standard precautions and establishing mechanisms for continuous improvement;



Putting on appropriâtes PPE

Headcover

Hair

Medical Mask

Nose + Mouth

N95 respirator

Nose + Mouth

Goggles

Eyes

Face shield

Face

Gown

Body

coverall

Body

Apron

Body

Gloves

Hands

Thick rubber gloves

Boots

Feets

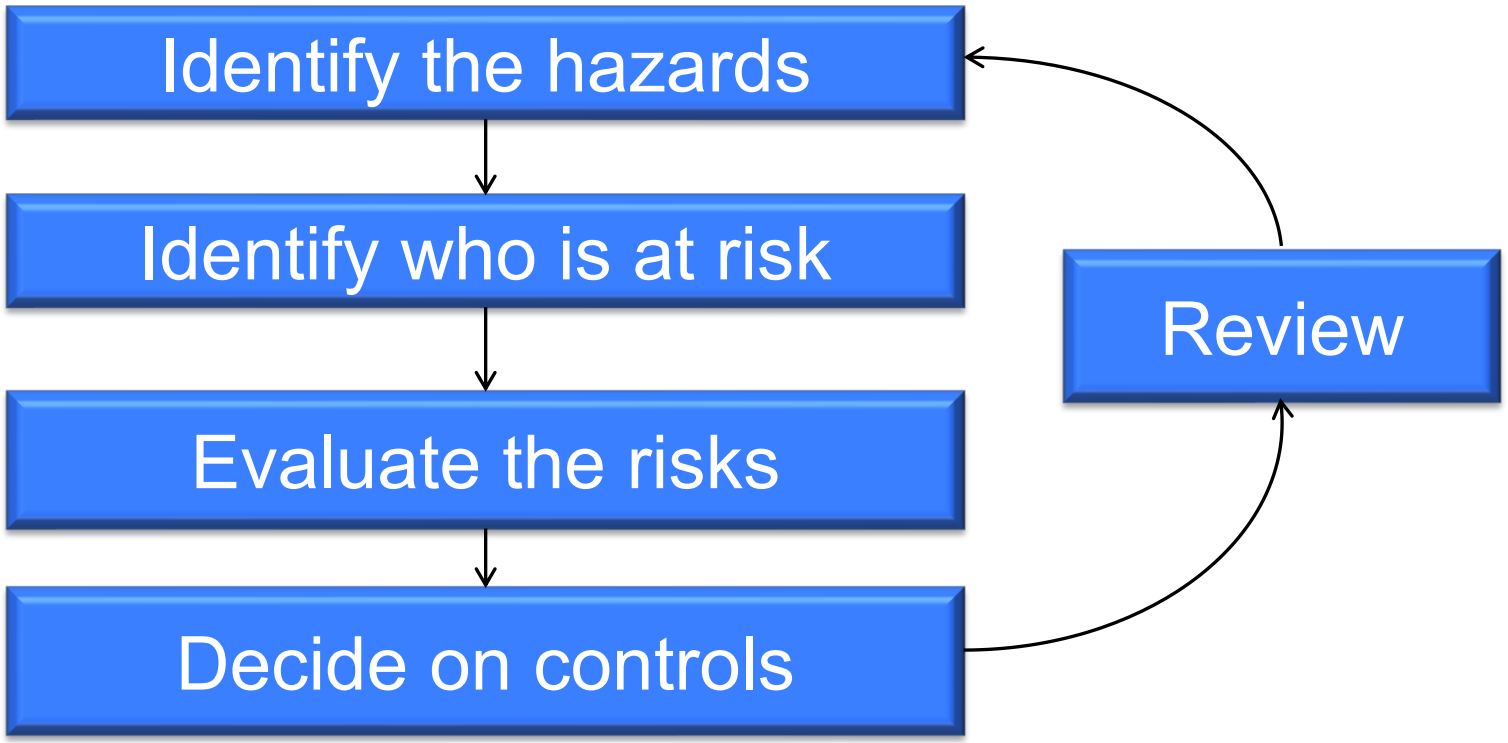
Risk assessment

What is risk assessment?

- Risk assessment in IPC is a systematic process used to identify, evaluate, and manage infection risks in healthcare and community settings.

- It helps prevent and control the spread of infections by determining potential hazards and implementing appropriate mitigation measures.

How to assess risk



How to assess risk

1. **First**, look for those things in your environment (i.e. objects, situations, processes) that have the potential to cause harm, especially to people;
2. **Second**, evaluate the severity and probability of the risks;
3. **Thirdly,** decide on the appropriate preventive or control measures (i.e. what PPE or chlorine concentration to use)

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