NATIONAL PRIMARY HEALTH CARE DEVELOPMENT AGENCY

MODULE 15.1: HEALTH SECURITY AND INFECTION PREVENTION AND CONTROL

Learning Objectives



By the end of this training, participants will be able to:

1. **Understand Health Security and the interconnection between health security and Primary Health Care**
2. **Understand the concept of health system resilience and the importance of the interconnected components of primary health care resilience.**
3. **Understand the role of community-based surveillance in public health surveillance**

Overview of Health Security and IPC

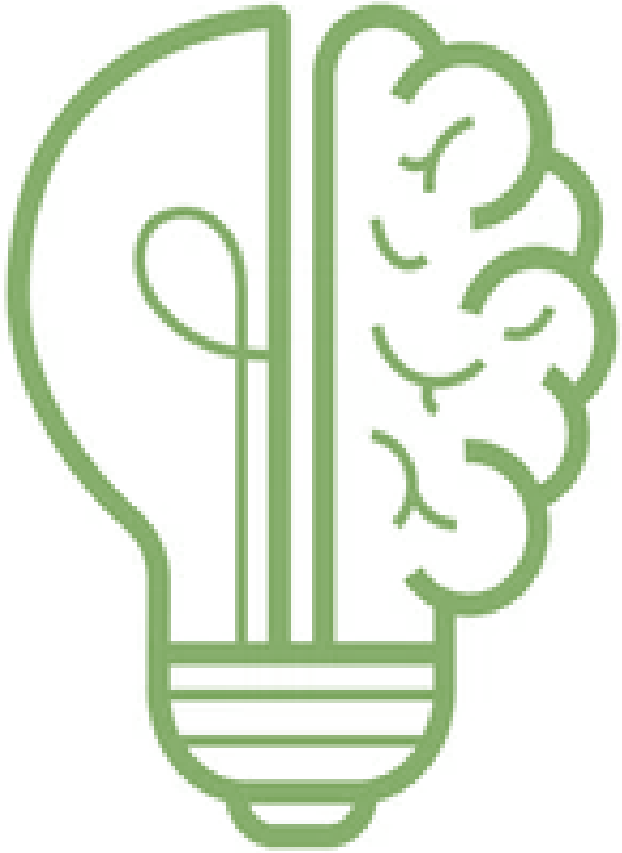
Session 15.1	**Health Security in Primary Health Care**
Session 15.5	**Infection Prevention and Control**

SESSION 15.1: HEALTH SECURITY IN PRIMARY HEALTH CARE

Session Overview

1. Understanding Health Security
2. Interconnection between health security and PHC
3. Enhancing Health Security through Primary Health Care: Surveillance, Emergency Preparedness and Response, Health Infrastructure, Vaccination Programs, Collaboration, Health Education and Communication, Community Engagement, Biological Threat Reduction, Border Health Security, Psychosocial Support
4. Key Messages

Brainstorming



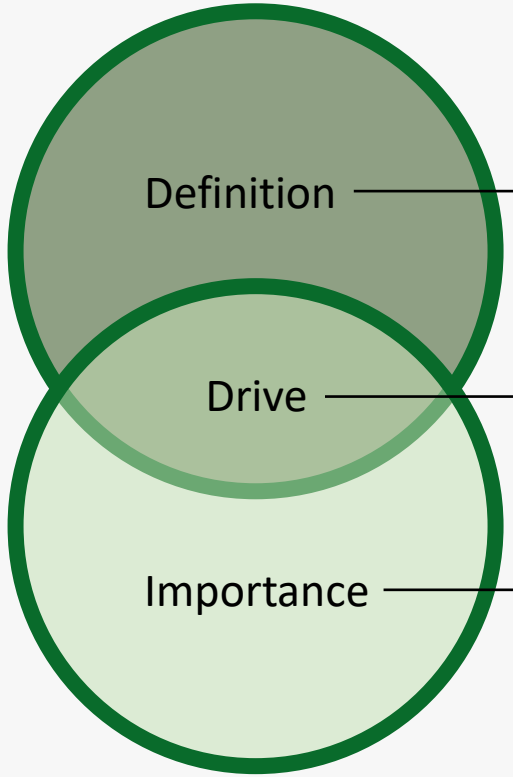
What do you understand

by Health Security?

stand by Health Security?

(Participants to share opinion)

Understanding Health Security



Health security refers to the protection of a nation's health from threats such as infectious diseases, natural disasters, and other public health emergencies

The drive for health security at the PHC level is to prevent, detect, and respond

Ensuring health security is crucial for safeguarding the well-being of communities and preventing the spread of diseases

Primary Health Care



- Primary health care is essential, accessible, community-based care that focuses on promoting health, preventing diseases, and providing basic medical treatment

- The role of Frontline Health Care Workers: Frontline health care workers are at the forefront of delivering primary health care services to individuals and communities

Exercise 1



What is the Interconnection between Health Security and Primary Health Care?

Interconnection between Health Security and Primary Health Care

Health security

Primary health care

- Health Security and Primary health care are interconnected through a shared goal of ensuring overall well-being.
- Primary Health Care, with its focus on accessible, community-based services, plays a crucial role in achieving health security by addressing health needs at the grassroots level.
- Effective PHC systems contribute to early detection and management of health threats, promoting resilience against epidemics and emergencies, thereby enhancing overall health security
- Primary health care facilities serve as the first point of contact for individuals seeking medical assistance, making them critical in the early detection of potential health security threats
- Primary health care workers play a key role in engaging with local communities to promote health security measures and educate about disease prevention

Enhancing Health Security Through Primary Health Care

1 Surveillance

Monitoring and tracking the occurrence and spread of diseases to detect potential threats early.



Key Components Of Disease Surveillance:

- Early Detection and Reporting
- Investigation and Confirmation
- Risk Assessment
- Communication and Information Sharing
- Implementation of Control Measures
- Resource Mobilization
- Monitoring and Evaluation
- Adaptive Management



Enhancing Health Security Through PHC Cont..

2 Emergency Preparedness and Response

Developing plans and capabilities to effectively respond to health emergencies and mitigate their impact.



Exercise 2



What are the components of emergency Preparedness and Response?

The Key Components of Emergency Preparedness and Response:

1	Risk Assessment
2	Training and drill preparedness
3	Early warning system
4	Community engagement
5	Emergency response teams management
6	Public health measures
7	Evaluation and continuous improvement
8	Planning and Preparedness
9	Infrastructure and Resources
10	Communication Strategies
11	Coordination and collaboration
12	Logistics and supply chain
13	Recovery and rehabilitation

Enhancing Health Security Through PHC Cont..

3 Healthcare infrastructure

Ensuring a robust healthcare system with adequate facilities, personnel, and resources to handle emergencies



Healthcare Infrastructure

- ❑ Facility Readiness
- ❑ Resource Availability
- ❑ Workforce Training
- ❑ Emergency Response Teams
- ❑ Communication Systems
- ❑ Evacuation Plans (Isolation centre and IDPs
- ❑ Collaboration with External Agencies
- ❑ Mass Casualty Preparedness
- ❑ Public Health Measures
- ❑ Community Engagement
- ❑ Regular Drills and Exercises
- ❑ Data Security and Continuity of Operations



Enhancing Health Security Through PHC Cont..

4 Vaccination programs

- Implementing comprehensive vaccination strategies to prevent the spread of infectious diseases
- Immunization Schedule
- Vaccine Coverage Goals
- Routine Vaccination Programs
- Catch-Up Vaccination
- Vaccine Accessibility
  - School-Based Vaccination Programs
  - Community Engagement
  - Monitoring and Surveillance



Enhancing Health Security Through PHC Cont..

5 Collaboration

Engaging in international cooperation to address cross-border health threats and share resources and information

- ❑ Early Warning Reporting
- ❑ Data Sharing and Transparency
- ❑ Capacity Building
- ❑ Resource Sharing
- ❑ Coordinated Response
- ❑ After Action Review





Enhancing Health Security Through PHC Cont..

6 Health education and communication

Providing accurate and timely information to build trust, promote awareness, and encourage preventive measures to the public through

- ❑ Disease Prevention and Health Promotion
- ❑ Health Literacy
- ❑ Community Engagement
- ❑ School Health Programs
- ❑ Crisis Communication
- ❑ Behaviour Change Communication
- ❑ Workplace Health Promotion
- ❑ Public health Service Campaign
- ❑ Evaluation and Feedback
- ❑ Advocacy and Community Support
- ❑ Continuing Education for Healthcare Professionals on IPC



Enhancing Health Security Through PHC Cont..

7 Community engagement

Involving communities in health security efforts, fostering cooperation, and addressing local needs

- ❑ Needs Assessment
- ❑ Partnerships and Collaboration
- ❑ Two-Way Communication
- ❑ Empowerment and Capacity Building
- ❑ Community-Based Participatory Research (CBPR)
- ❑ Health Education and Promotion
- ❑ Health Education and Promotion
- ❑ Community Mobilization
- ❑ Local Health Champions
- ❑ Crisis Response and Resilience Building
- ❑ Celebrating Successes
- ❑ Sustainability
- ❑ Feedback and Evaluation



Enhancing Health Security Through PHC Cont..

8 Biological Threat Reduction

Involving communities in health security efforts, fostering cooperation, and addressing local needs

- Implementing measures to prevent the accidental or intentional release of harmful biological agents.
- Surveillance and Early Detection
- Laboratory Safety and Security
- Biosafety Training and Capacity Building (sample collection, packaging and transportation)
- International Cooperation and Collaboration
- Public Health Preparedness
- Biosecurity Education and Community Outreach
- Rapid Response and Containment



Enhancing Health Security Through PHC Cont..

9 Boarder health security

- Implementing measures at borders to detect and prevent the spread of infectious diseases at the border primary healthcare facilities
- Surveillance and Monitoring
- Public Health Screening
- International Collaboration
- Information Sharing and Communication
- Border Quarantine and Isolation activities
- Cross-Border Coordination
- Risk Assessment and Management
- Vaccination and Immunization Programs
- Capacity Building
- IDSR Compliance
- Traveller Education
- Emergency Response Drills (Simulation Exercise)



Enhancing Health Security Through PHC Cont..

10 Psychosocial Support

- Incorporate psychosocial support services for individuals and communities affected by health emergencies
- Train healthcare providers to address mental health needs during crisis healthcare



Community-Based Interventions

1	Implement community-based interventions for health promotion and preventive care
2	Mobilize community health workers to support public health efforts during emergencies

Documentation and Reporting

Establish clear documentation and reporting procedures for healthcare providers

Ensure the timely submission of accurate data to relevant health authorities



Key Messages

1. Public health security is a global imperative demanding collaboration, innovation, and community engagement

2. Emphasizing prevention, detection, and response using adaptable strategies, and ethical considerations, requires a holistic approach involving governments, healthcare providers, communities, and international organizations

3. Timely and transparent communication, along with investment in research and infrastructure, is paramount

4. As we face evolving health threats, fostering resilience, building capacity, and prioritizing the interconnectedness of global health will fortify our ability to safeguard populations, ensuring a healthier and more secure future for all

SESSION 15.2: HEALTH SYSTEM RESILIENCE: A FOCUS ON PRIMARY HEALTH CARE

Learning Objectives

By the end of the session Participants should be able to:



Understand the concept of health system resilience and the importance of the interconnected components of primary health care resilience



Shift roles seamlessly as a response to disaster/disease outbreak

Session Overview

1. Introduction
2. Components of Primary Health Care Resilience
3. Community engagement
4. Data and Information Systems
5. Resource Management
6. Collaboration and Partnerships
7. Emergency Preparedness and Response
8. Continuous Learning and Improvement
9. Conclusion

Brainstorming

What is your understanding of Health system resilience?

(Participants to share opinion)



Introduction

Resilience refers to the ability of an individual, community, or system to adapt, bounce back, and recover from adversity, challenges, or significant stress

What is Health System Resilience?



- Health system resilience is often defined as the capacity to adapt and respond effectively to challenges
- It is crucial in primary healthcare
- Primary healthcare sets the foundation for a community's overall well-being
- Comprehensive approach addressing determinants of health

Introduction Cont..



In general, health system resilience refers to the ability of health systems to prepare for and minimize the negative impact of disruptions.



This includes effectively preventing, surveilling, responding to, and recovering from shocks and stresses.



Developing resilient primary healthcare systems ensures that communities can effectively respond to and recover from public health threats.

Components of Primary Health Care Resilience

Building Blocks of Resilience

- Diverse components forming the building blocks
- Example: Community health center with outreach programs, mental health support, and preventive care initiatives

Integrated Service Delivery

- Incorporate various healthcare services seamlessly
- Example: A primary health care center offering integrated services like vaccinations, maternal care, and chronic disease management under one roof

Adaptive Capacity

Adaptive Capacity in Primary Health Care

- Need for flexibility in strategies and resource allocation
- Example: Community health workers trained in disaster response, seamlessly shifting roles as needed



Exercise 1



Why is adaptive capacity crucial in primary health care?

Answer

Adaptive capacity allows primary healthcare systems to:

- Adjust to evolving challenges,
- Ensure effective response and resource allocation



Robust Infrastructure

Local Infrastructure for Primary Health Care

- Significance of reliable facilities and equipment
  - Example: Local clinic with state-of-the-art medical equipment, reliable power supply, and telemedicine capabilities



Effective Governance and Leadership

Local Leadership in Primary Health Care

- Strong leadership within local health organizations is very important
- Example: Effective governance streamlining processes and enhancing decision-making



Exercise 2



What role does effective governance play in primary healthcare resilience?

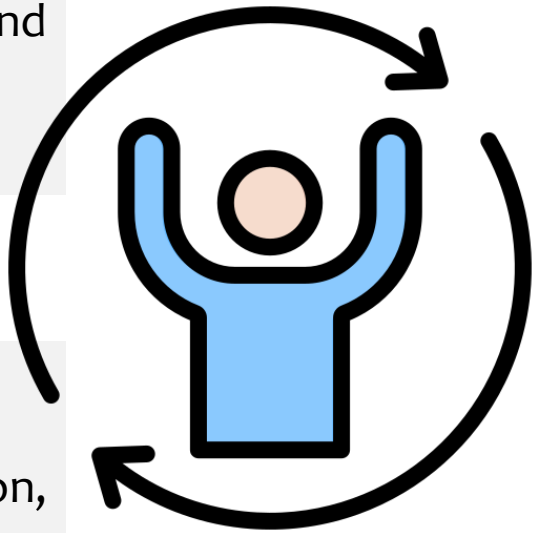
Answer

- Effective governance streamlines processes,
- Enhances decision-making and
- Contributes to the overall resilience of primary health care



Health Workforce Resilience at the Community Level

Adaptable Workforce in Primary Health Care	Need for skilled and adaptable community health workers Example: Team trained in disaster/disease outbreak response and community education, shifting roles seamlessly
Cross- Training of Health Professionals	Equip healthcare professionals with versatile skills Example: Nurses trained in both clinical care and health education, ensuring a multi-functional approach in the community



Community Engagement



Empowering Communities in Primary Health Care

- Involvement of communities in decision-making
- Example: Community health initiative involving town hall meetings for active participation

Exercise 3



How does community engagement contribute to primary healthcare resilience?

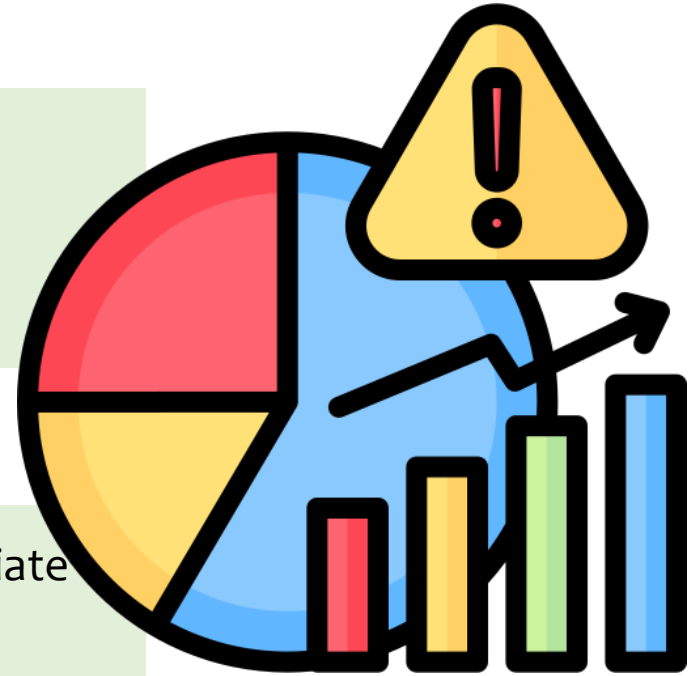
Answer

- Community engagement fosters collaboration
- Ensures that healthcare decisions align with the community's needs, making the healthcare system more resilient



Data and Information Systems for Primary Health Care

Localized Data Systems	Importance of reliable data collection and sharing Example: Community health initiative using data to inform decision-making and targeted interventions
Real-time Monitoring and Feedback	Implement systems for continuous monitoring and immediate feedback Example: Using digital platforms to monitor community health indicators in real-time, allowing for swift adjustments to healthcare strategies



Exercise 4



How do data and information systems contribute to resilience?

Answer

Localized data systems provide accurate information for informed decision-making, contributing to the resilience of primary healthcare systems



Resource Management in Primary Health Care

Efficient Resource Allocation	Need for effective resource management Example: Prioritizing needs based on data to maximize impact with limited resources
Community Volunteer Programs	Utilize local volunteers to extend resources Example: Establishing a program where community members volunteer to support health education initiatives, alleviating the workload on healthcare professionals

Collaboration and Partnerships

Community Collaboration for Resilience	Importance of collaborations between primary healthcare providers and local entities Example: Partnerships creating a network of support and enhancing resilience
Public-Private Partnerships	Collaborate with private entities for enhanced resources Example: Partnering with private businesses to fund and support health initiatives, fostering a collaborative approach to community well-being



Emergency Preparedness and Response



Localized Emergency Plans

Need for well-defined emergency response plans

Example: Primary health care center in a flood-prone area with a detailed emergency plan



Simulation Exercises

Conduct regular emergency response simulation exercises

Example: Simulating a disease outbreak to test the efficiency of emergency response plans and identify areas for improvement

Continuous Learning and Improvement

Learning from Experience in Primary Health Care

Importance of ongoing evaluation and improvement

Example: Primary health care system conducting a thorough review after a disease outbreak/After Action Review (AAR)



Patient Feedback Mechanism

Establish a mechanism for patients to provide feedback

Example: Implementing a patient feedback system to gather insights into the patient experience and identify areas for improvement



Key Messages



The resilience of primary health care is not a luxury but a necessity.

By addressing each component discussed, communities can build a robust healthcare system that withstands challenges and contributes to the well-being of individuals

Learning Objectives

By the end of the session Participants should be able:

- Understand the role of community-based surveillance in public health surveillance
- Identify cases and events of public health importance
- Report suspected cases, conditions, or events to the next level

SESSION 15.3: COMMUNITY BASED SURVEILLANCE

Session Overview

- Introduction to Community-based surveillance (CBS)
- Role Of Community Members in Public Health Surveillance and Response
- Establishing a Community-based Surveillance and Response System
- Steps for Establishing CBS and Response System
- Criteria for selecting CBS Focal Person including Roles and Responsibilities
- CBS Activities, Sources of Information, Case Definitions and Reporting

Brainstorming

What do you understand by community based surveillance?

(Participants to share opinion)



Community-Based Surveillance (CBS)

- This is defined as the systematic detection and reporting of events of public health significance within the community-by-community members
- CBS incorporates both Indicator-based and Event-based surveillance methods
- The entire community population is under surveillance, and not simply a segment of the community



Role Of Community Members in Public Health Surveillance and Response

1. Provide early warning or alerts during the pre-epidemic period
2. Report rumours and information on unusual public health events in the community to the nearest health facility
3. Support in active case detection and response during the epidemic including contact tracing, community mobilization & sensitization
4. Providing a forum for feedback to the community on the outbreak or event assessment
5. Community participation in surveillance and response
6. Sensitize the community on the adoption of behavior to facilitate the containment of the outbreak
7. Verify if public health interventions take place as planned

Exercise 1



Who establishes a community based surveillance and response system?

(Participants to share opinion)

Establishing a Community-based Surveillance and Response System

Who is responsible?

Officer in charge (OIC) of health facility in the catchment area with support from the LGA, state and national

What are their roles?

- Develop CBS structures
- Define the selection criteria for CBS focal persons
- Drawing terms of reference
- Define the roles and responsibilities of the CBS focal persons
- Coordinate, supervise, and monitor all CBS activities implemented by the focal person

Steps for Establishing CBS and Response System

1. Engage all stakeholders
2. Define the sources of information about health events in the community
3. Identify community-based surveillance (CBS) focal persons
4. Compile a list of priority diseases, conditions, and events for CBS
5. Develop simple case definitions for the priority diseases, conditions, and events
6. Develop and Disseminate data collection and reporting tools
7. Define methods of reporting
8. Train all key actors in the CBS system
9. Develop risk communication and social mobilization structures
10. Define methods for supervision, monitoring, and evaluation

Procedure for CBS Focal Person Selection

Who is Responsible?
LGA and ward/village health committee should work with community leaders to identify members of the community to select CBS Focal persons

Who is Eligible to be the CBS Focal Person?
Any community member acceptable by the community can be a CBS focal person

CBS Focal Person Selection Criteria

- Be literate enough to record events/data on the register provided
- Selected irrespective of Gender
- Be recognized by all identified groups where ethnic and religious differences exist
- Mobile phones/ tablets independent from continuous electricity or internet
- Outbreak response task management (including contact tracing)
- Case-based surveillance focal person
- Focal person for a priority disease

NB: once selected, the CBS focal person should be trained in their roles and responsibilities

Roles and Responsibilities of a CBS Focal Person

- Use community case definitions to identify, and record priority diseases/conditions/events
- Report to the nearest health facility/ward immediately within 24 hours
- Support health workers during case/outbreak investigation and contact tracing
- Conduct household visits regularly
- Meet with key informants regularly
- Sensitization of the community on priority diseases, conditions, and unusual events
- Mobilize local authorities and community members to support response activities
- Attend local ceremonies and events and follow up on anything unusual
- Participate in risk mapping of potential hazards



Exercise 2

What are some of the examples of CBS activities that occur?

(Participants to share practical examples)



Example of CBS Activities

1. CBS focal person hears of several cases of acute watery diarrhoea with vomiting in the community
2. The CBS focal person suspects cholera and reports rumour to the health facility and the LGA health officer/DSNO by text messaging
3. Members of the Rapid Response Team (RRT) travelled to the community to verify and investigate the possible outbreak
4. Based on investigation results, the outbreak was quickly contained using implemented control and preventive measures. Thanks to the early warning from the CBS focal person

Monthly CBS Data Form TG Page 590

1. Data collection
   - Register case
   - Report
2. Analyze
3. Interpret
4. Action
   - Investigate
   - Confirm

Annex 11N: Community-Based Surveillance (CBS) Suspected Diseases and Public Health Events Monthly Log Sheet

This form is a summary of all the diseases/events identified during the month. It is completed by the community focal person and submitted monthly to nearest health facility/sub-district surveillance focal person every month.

Community-Based Surveillance Suspected Diseases and Public Health Events Monthly Log Sheet

Community:_____ **Ward/Sub-district**_____

Month_____ **Year**_____

Type of illness/ Event	When did this happen (DD/MM/YYY)	Where did this happen (Community)	How many have been affected	Sex M/F	Age	How many died	Has the event been verified? Yes/No	what action was taken

IDSR Community Case Definitions for Use at the Community Level

1. Inform all members of the community about the priority diseases/conditions/events under surveillance in your area
2. Use key signs and symptoms of case definitions that have simple language and are easy to understand
3. **Sample community case definitions can be found in Chapter 1, Annex 1A of the 3rd Edition IDSR Technical Guidelines**

Exercise 3: Case definitions for use at the community level

Disease, Condition and Events	Community case definition by participants
Acute flaccid paralysis	
Suspected cholera	
Adverse event following immunization	
Diarrhea with blood (Shigella)	
Dracunculiasis	
Malaria	
Maternal death	
Measles	
Meningococcal meningitis	
Neonatal death	
Viral hemorrhagic fever	

Case definitions for Use at Community Level

Acute flaccid paralysis	Any child with a sudden onset of acute paralytic disease control
Cholera	Any person aged 2years or more who has lots of watery diarrhea
Adverse event following immunization	Any unusual event that follows immunization and is thought to be caused by the vaccination
Diarrhea with blood (Shigella)	Any person with diarrhea and visible blood in the stool

Case Definitions for Use at Community Level Cont..

Dracunculiasis	Any person exhibiting or has had a history of skin lesions with worms emerging
Malaria	Any person/child in a malaria-endemic area with a high fever
Maternal death	Death of a woman during pregnancy or within 42 days of termination of a pregnancy
Measles	Any person with an elevated body temperature and widespread rashes on the face and body

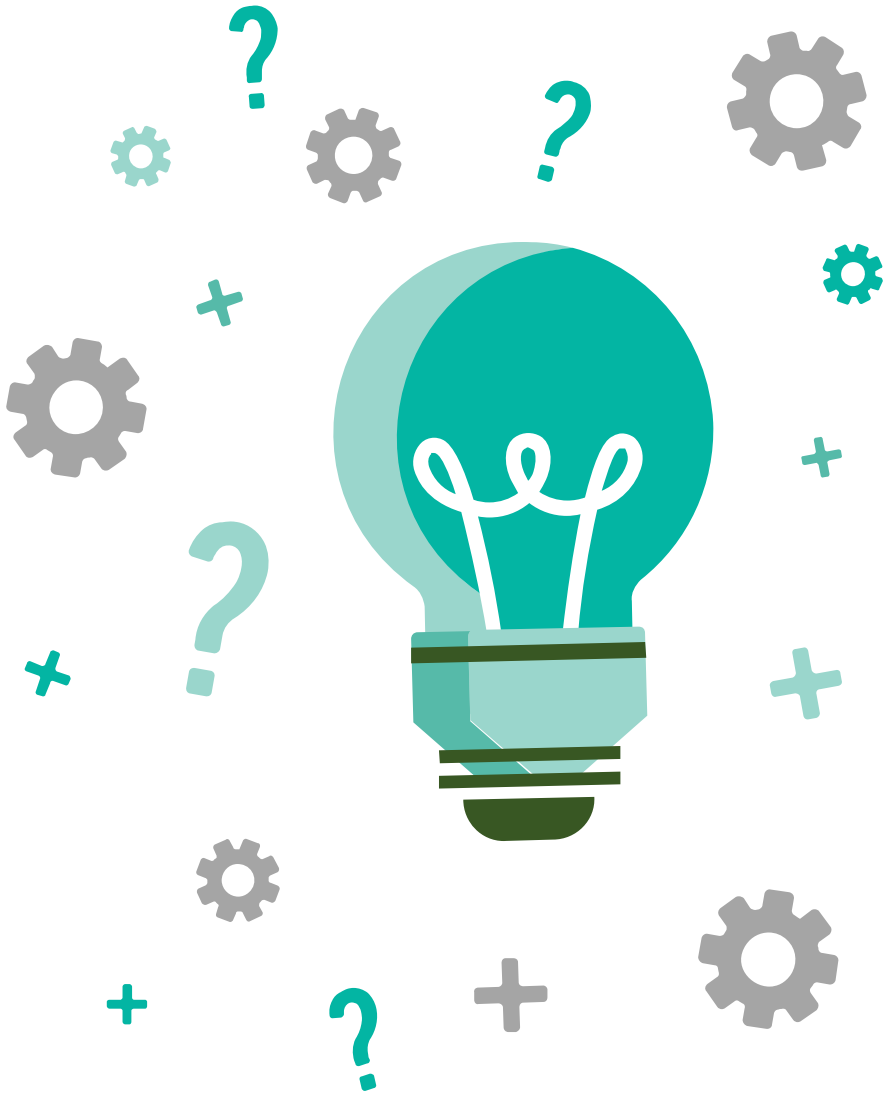
Case Definitions for Use at Community Level Cont..

Meningococcal meningitis	Any person with a fever and a stiff neck
Neonatal death	Death of a child within the first 28 days of his or her life
Viral hemorrhagic fever	Any person with an onset of a fever that does not respond to the usual treatment of fever in an area at risk of transmission, and with at least one of these signs - bloody diarrhea, bleeding from gums, through the skin, eyes, and bloody urine, or sudden death

Exercise 4

What are the possible sources of information for CBS?

(Participants to list practical sources)



Sources of Information for CBS

01 Community-based health workers and Volunteers

02 Traditional birth attendants, schoolteachers, pharmacists /medicine sellers/patent medicine vendors

03 Staff at private clinics

04 Community animal health workers

05 Community Based Organizations (CBOs)

06 Community leaders: traditional/youth/religious

07 Media such as radio & newspapers, social media

08 Traditional medicine practitioners e.g. traditional healers/herbalists and shrine keepers

09 Home Visits

10 Social gathering places such as churches, mosques, markets, schools, etc

What and How to Report in CBS

What to report immediately/ within 24 hours

1. Anyone with the onset of an illness meeting any of the IDSR community case definitions in the catchment area

2. Any sudden death, if the catchment area is experiencing an ongoing public health event of the IDSR priority conditions

3. Any unusual public health event e.g. unexplained cluster of similar severe illnesses within one week, high absenteeism at school

What and How to Report Cont..

How to Report:



Report to the CBS Supervisor or Surveillance officer or nearest Health facility Manager



By phone call/text message/hand delivery/ using vehicle/walking to nearest health facility



Record in community alert forms

Linkage Between Facility-based Surveillance and CBS



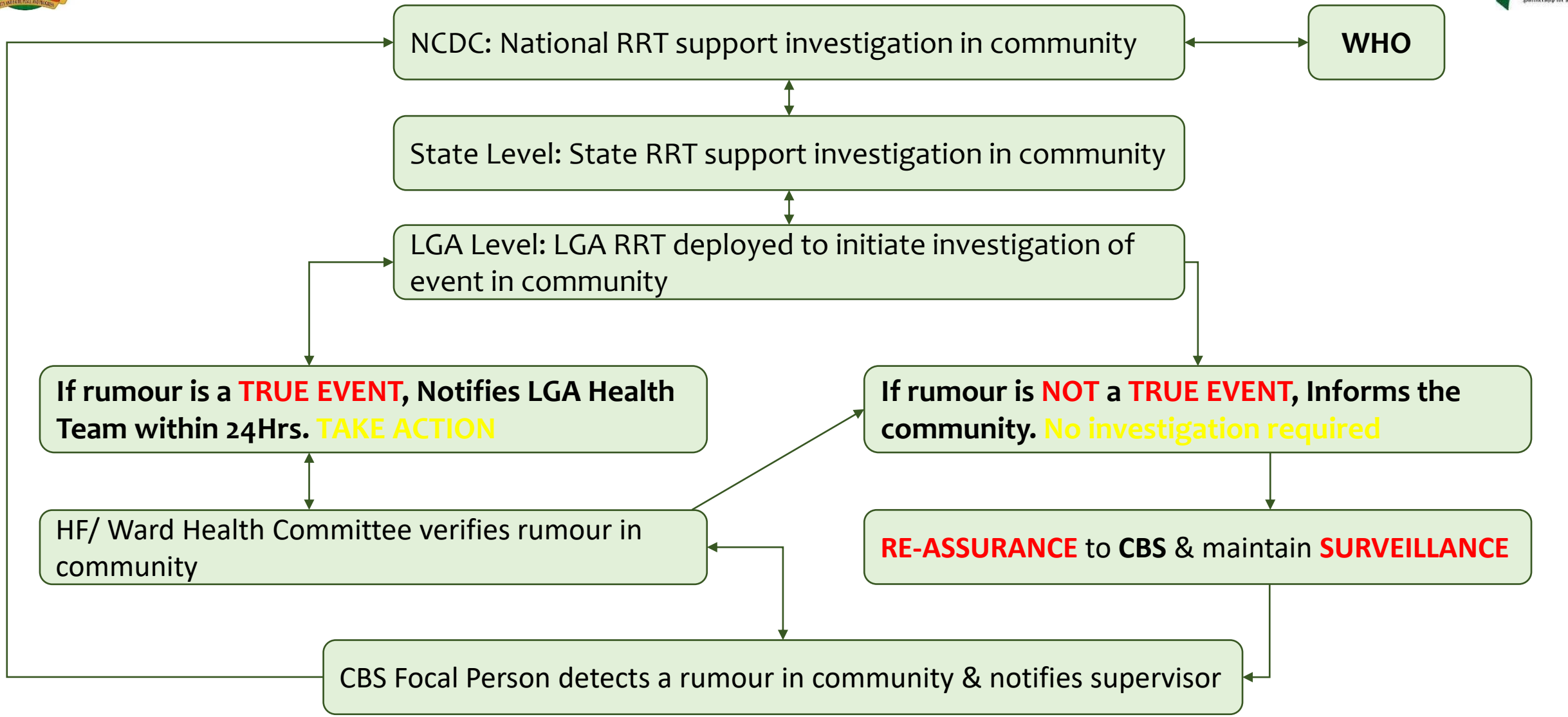
Health facility (HF)/ ward/ village health team with LGA RRT should verify all reports from the CBS Focal person

If it is confirmed as **TRUE**

The HF surveillance focal person captures it on the IDSR Weekly reporting form of the respective HF catchment area

This is then reported to LGA, state, and national authorities weekly and monthly

Verification and Investigation of CBS Events



Community Alert Reporting Form

Community alert reporting form

[Send this form immediately to your supervisor or nearby HF]

Name of person reporting:_____

Designation:_____Community:_____

Contact number:_____

Type of illness/ Event to be reported (please describe):_____

Date reporting (Date: day, month, year)	
What happened?	
When did this happen? (Date: day, month, year)	
Where did this happen? (Location-community, ward/sub-district, district)	
How many have been affected?	
Has anyone died? If yes, how many	
Are there sick or dead animals involved? Is the event ongoing?	
History of travel of affected individuals	
Has the event been triaged? Y/N	
Has the event been verified? Y/N	
Any other relevant information you might have	

Annex 11M: Community Alert Reporting Form *[send this form immediately to your supervisor or nearby health facility]*

Community alert reporting form

[Send this form immediately to your supervisor or nearby health facility]

Name of person reporting:_____

Designation:_____Community_____

Contact number:_____

Type of illness/ Event to be reported (please describe):_____

Date reporting (Date: day, month, year)	
What happened?	
When did this happen? (Date: day, month, year)	
Where did this happen? (Location-community, ward/sub-district, district)	
How many have been affected?	
Has anyone died? If yes, how many	
Are there sick or dead animals involved? Is the event ongoing?	
History of travel of affected individuals	
Has the event been triaged? Y/N	
Has the event been verified? Y/N	
Any other relevant information you might have	

Key Messages

1. Inform all members of the community about the priority diseases/ conditions /events under surveillance in your area



2. Use key signs and symptoms of case definitions that have simple language and are easy to understand

3. Report suspected cases, conditions, or events to the next level

4. Understand the role of community-based surveillance in public health surveillance

SESSION 15.5: INFECTION PREVENTION AND CONTROL (IPC)

Learning Objectives

1

Understand Infection prevention and control

2

Assess the risk of infection to self, and others, and decide on the appropriate personal protective equipment (PPE) to use.

3

Describe key elements of Transmission-based precautions and key elements of IPC To facilitate the early identification of cases and apply standard precautions.

SESSION 15.5.1: OVERVIEW OF INFECTION PREVENTION CONTROL (IPC)

IPC is everyone's business

All hospital staff

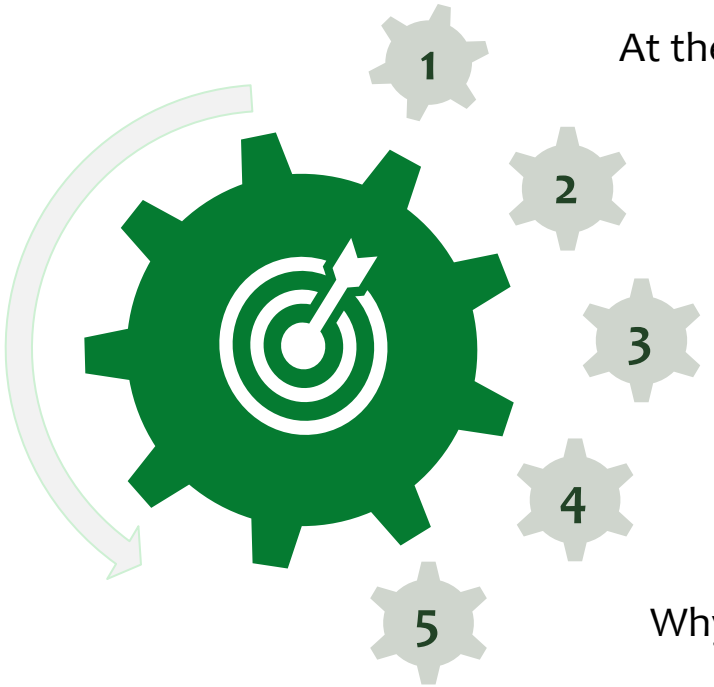
- Clinical staff: doctors, nurses, laboratory and pharmacy
- Cleaners, porters, and environmental service staff








Session Objectives



At the end of this session, participants should understand

- The meaning of Infection Prevention Control
- Importance of IPC
- Why practice IPC in a health facility
- Why practice IPC in a health facility

Goals of Infection Prevention and Control

01 Protect yourself



02 Protect your community



03 Protect your patients



Question

Why practice IPC in the healthcare facility?





Why practice IPC in the healthcare facility?

Why practice IPC in the healthcare facility?



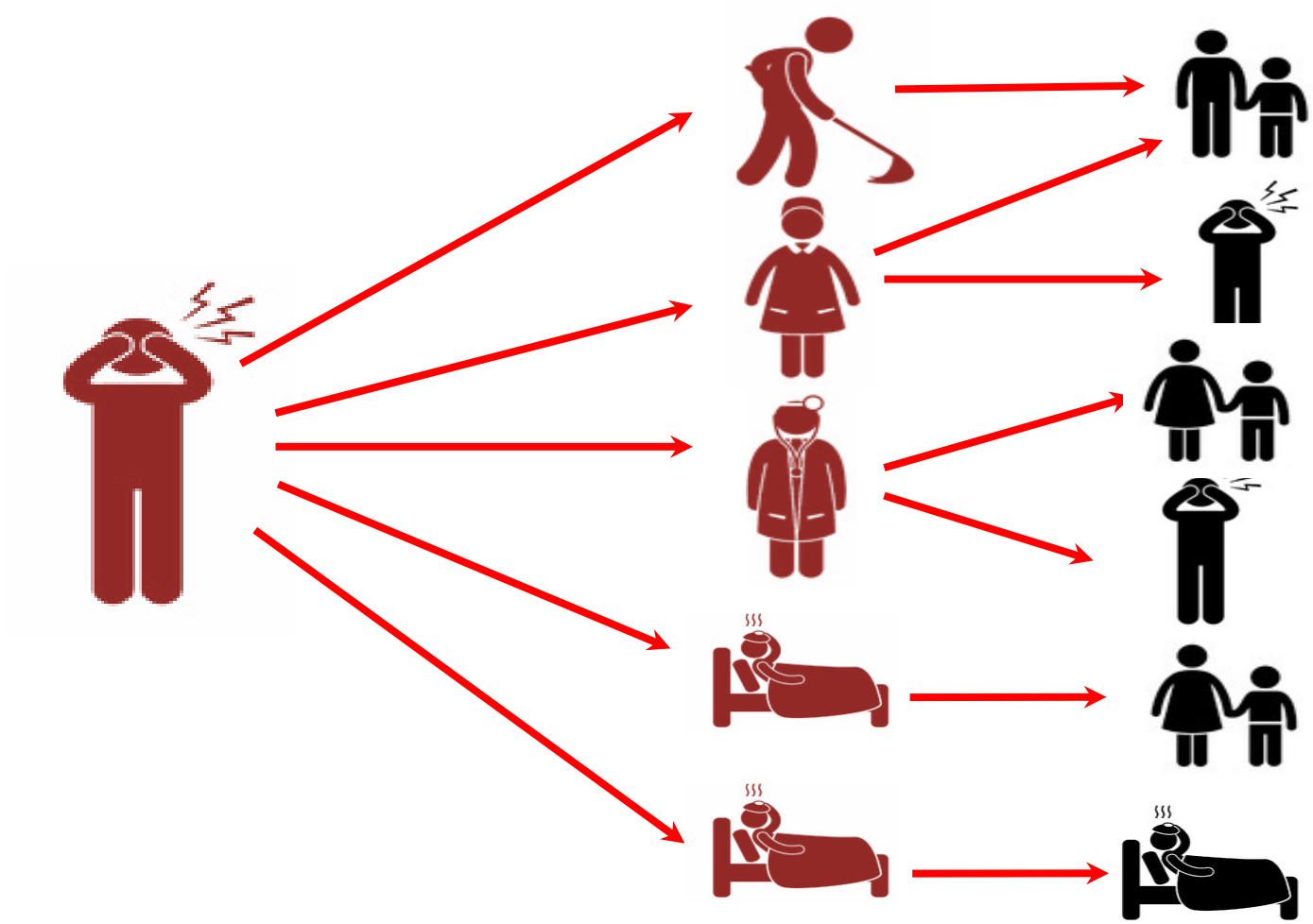
You do not know who has an infection



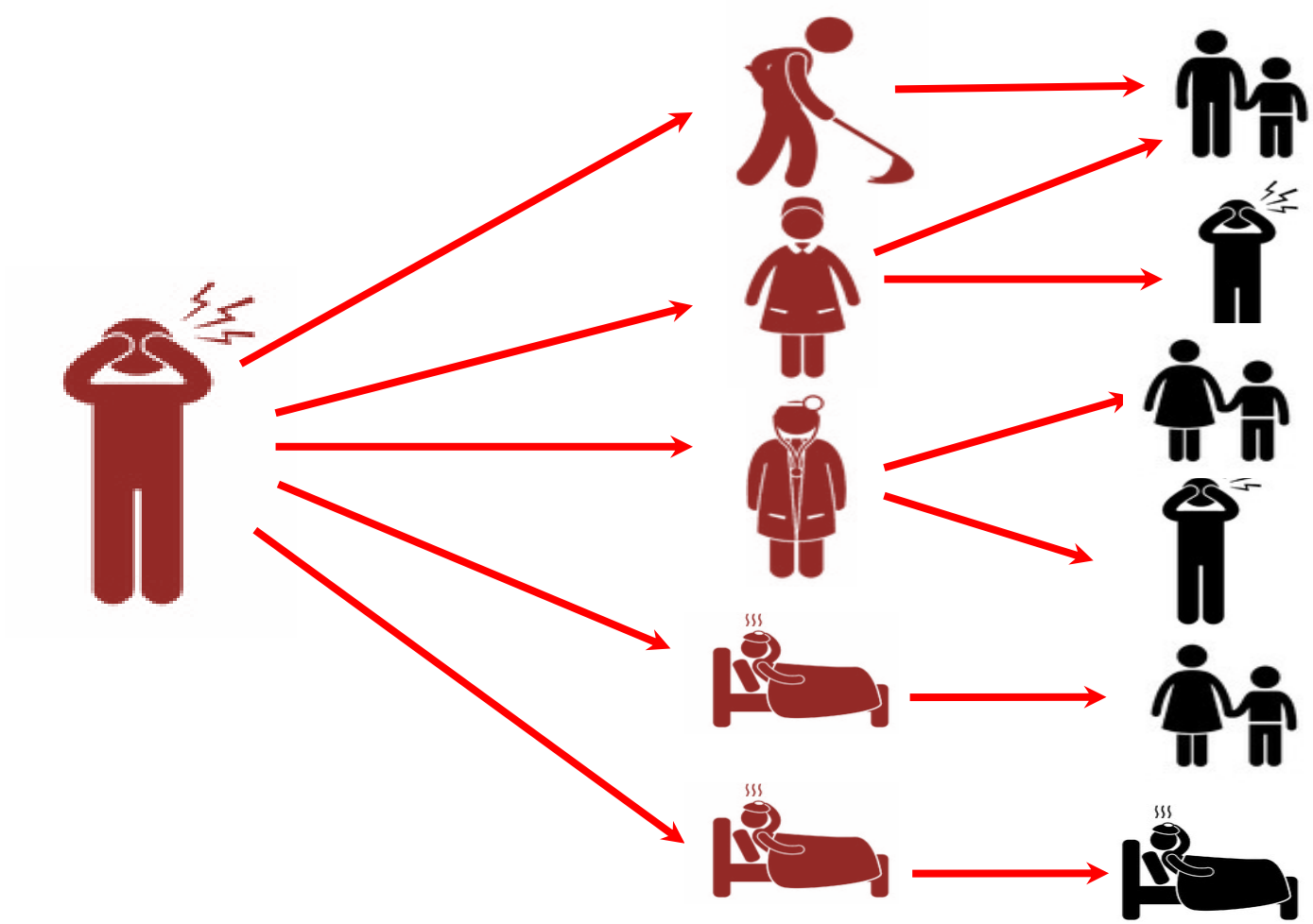
IPC can prevent the spread of pathogens from person to person



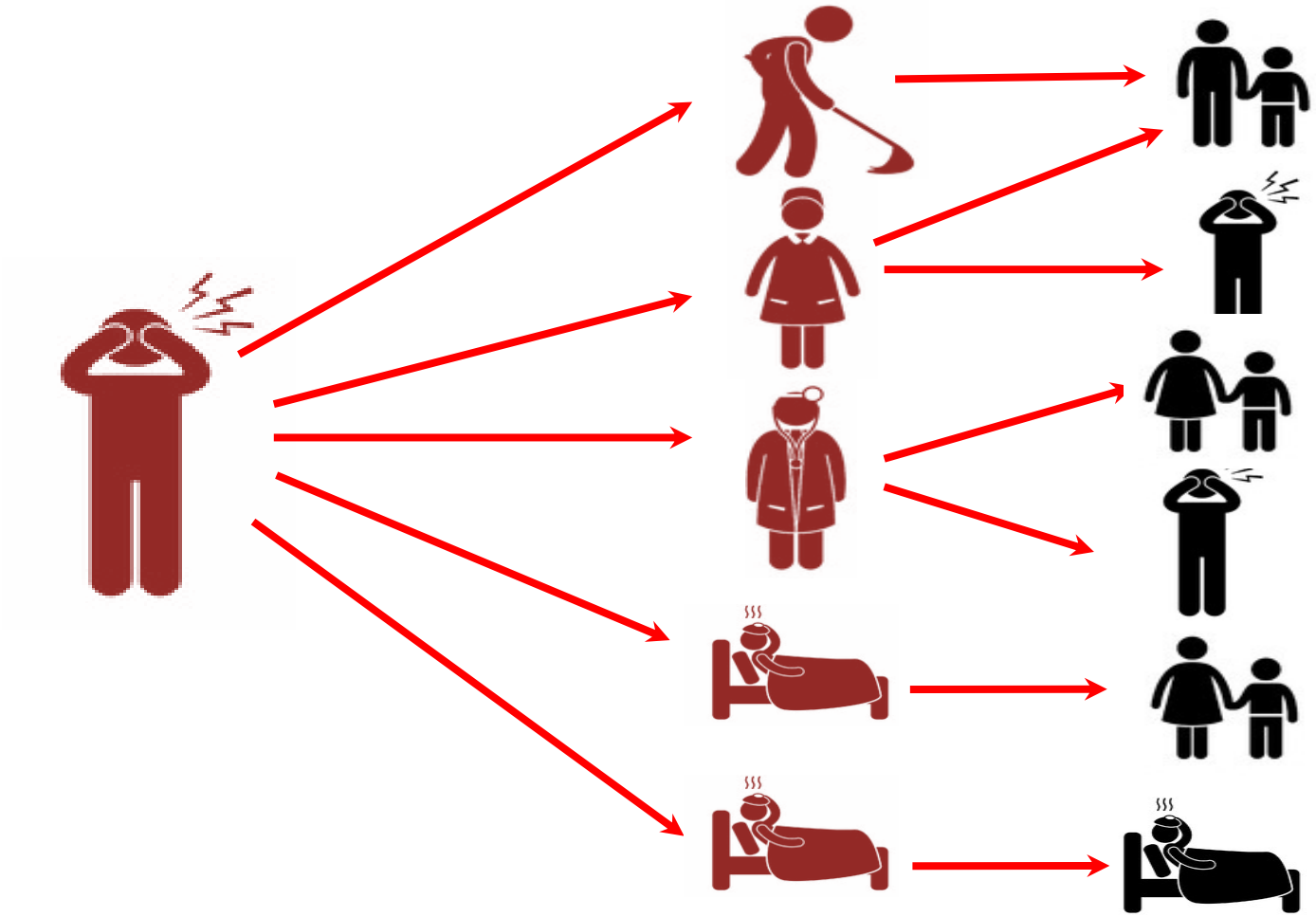
Question: How can One Person make so many people sick?



Question: Who is at Risk of Infection in the Healthcare facility?



Question: Who is at Risk of infection in the Healthcare facility?



Answer: Everyone

Consequences of Healthcare Worker Infections

01 Tragedy for healthcare workers, their families, their communities

02 Healthcare facilities close

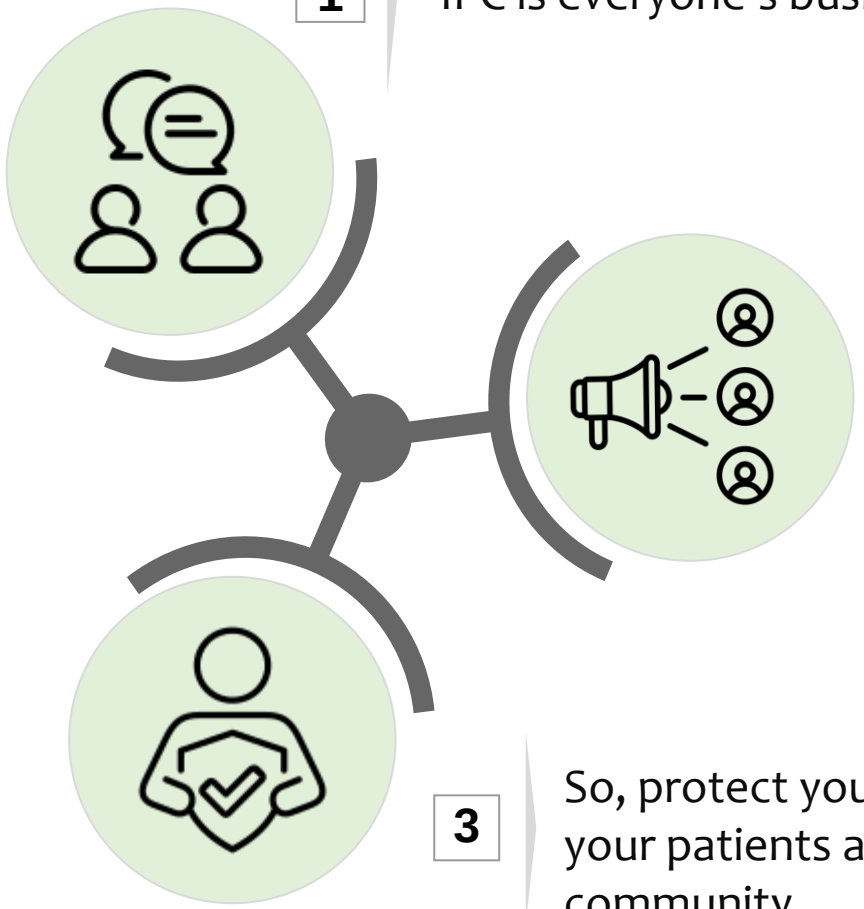
03 Essential services disrupted, e.g. vaccination, maternal and childcare







Key Messages



1. IPC is everyone's business
2. if Infection Prevention Control is given attention it deserves, it will result to tragedy for individuals, families and communities
3. So, protect yourself, protect your patients and protect your community

SESSION 15.5.2: RISK-BASED APPROACH TO THE USE OF PERSONAL PROTECTIVE EQUIPMENT

Session Objective

At the end of this session, participants should

1. Know the risks for infections
2. Factors that increase the risk of infection

What are the Risks for Infection?

01 Contaminated hands





Direct contact with blood/body fluids 02

03 Contaminated clinical equipment





Dirty environment 04

05 Soiled linen





Medical waste 06

07 Sharps





Injection, indwelling devices 08

09 Clients with communicable diseases





Clients colonized/infected with resistant micro-organism 10

What increases Risk?

- Invasiveness of procedure
- Refilling containers
- Duration of exposure
- Sharing Items
- Inadequate facilities



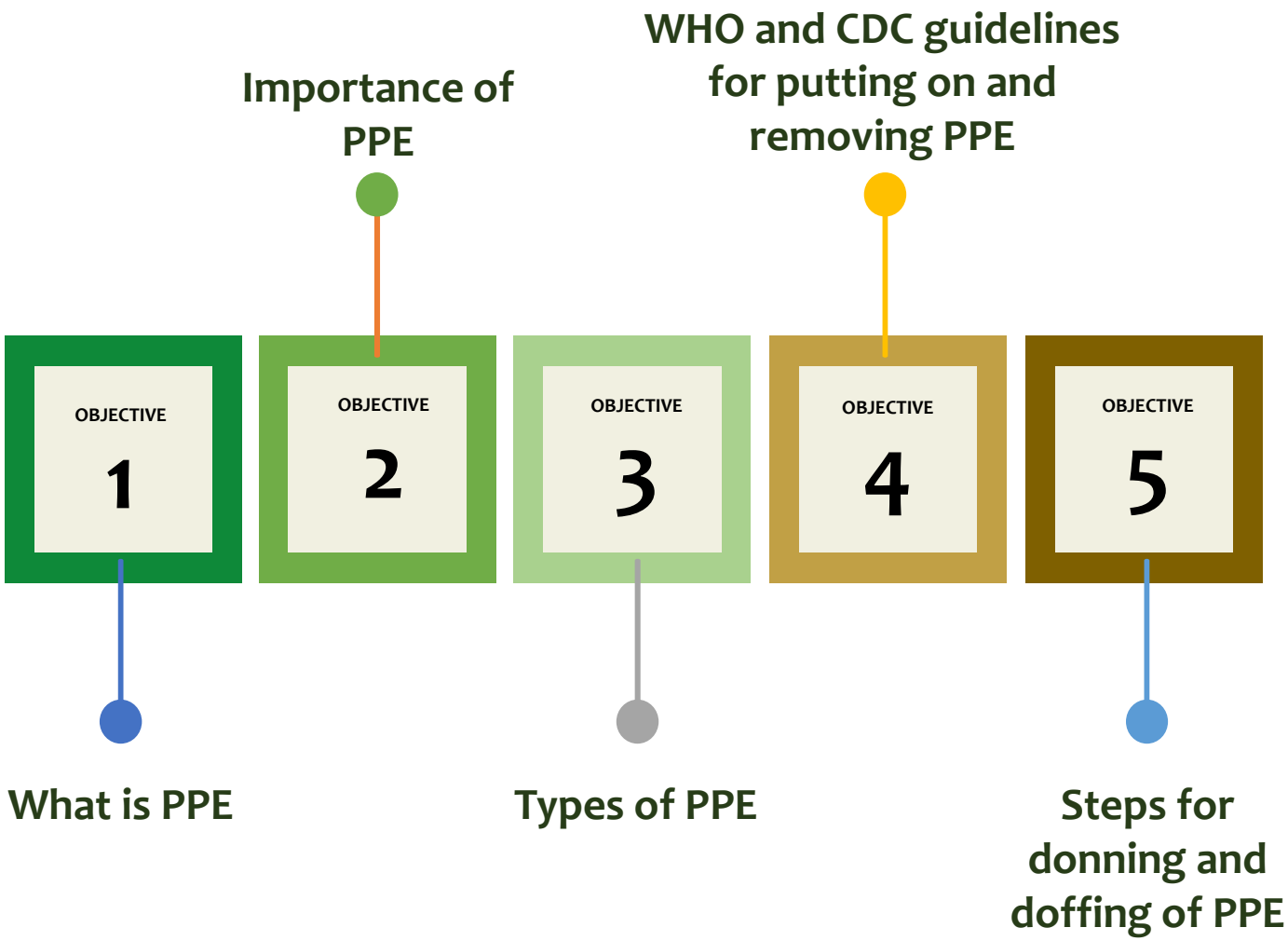
Key Messages

When the risk factors for infections are known, we can be sure that the IPC will be achieved

Reducing the risk factors for infections is key in our health facilities

SESSION 15.5.3: PERSONAL PROTECTIVE EQUIPMENT (PPE)

Session Objectives



What is PPE? (Answer)

- PPE is specialized clothing or equipment worn by health care workers for protection against microorganisms like Ebola, COVID-19, etc.
- PPPE provides barriers to protect your eyes, nose, mouth, skin, and clothing from contact with a patient's body fluids (blood vomit, urine, faeces, or sweat)
- PPE refers to any piece of protective clothing and NOT necessarily to the entire PPE suit that is worn in the isolation area

Importance of PPE

- Protects you and your patients from exposure to germs
- Lowers the risk of transmission between patients, visitors, and everyone who works in the healthcare facility
- Protects parts of your body where microorganisms are most likely to enter

SOURCE: Team analysis
[1]Solina centre for international development and research

Types of PPE Used in Healthcare Delivery/Settings

Gloves



Gowns

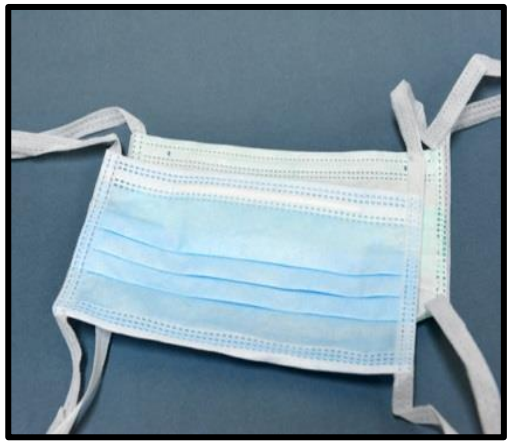




Apron



Face Mask



Respirator



Goggles



Face shields



QUESTION: What does each piece of PPE protect?



PPE component	Body part it protects
Face shield	
Goggles	
Face mask	
Gloves	
Gown	
Apron	

What does each Piece of PPE protect? (Answer)

PPE component	Body part it protects
Face shield	Eyes and face
Goggles	Eyes and face
Face mask	Nose and mouth
Gloves	Hands
Gown	Upper body, skin, and clothes
Apron	Additional protection for upper body, skin, and clothes Use if exposed to a lot of body fluids

WHO and CDC guidelines for Putting On and Removing PPE

- **Steps may differ slightly**
  - All follow the same infection prevention and control principles
  - All are designed to protect mucus membranes and cover as much exposed skin as possible
- Regardless of what PPE is available and putting on/removing order, always put on and remove PPE slowly and carefully to avoid mistakes

Steps for donning and doffing of Personal Protective Equipment (PPE)

When preparing to don (wear) PPE, the following must be put into consideration:

1. Ensure you have all the PPE laid out
2. Always make sure you have the right size for you
3. Plan where to don and doff (different entry and exit)
4. Plan for waste disposal
5. Remember to perform hand hygiene (see session 2.3 below)

Always have a Buddy (Observer) when putting on and removing PPE

A person putting on or removing PPE must be paired with an observer/ buddy



Question: What is the Role of a Buddy?





What is the Role of a Buddy? (Answer)

- **Ensures that PPE is put on and removed safely and correctly**
- **Provides instructions and assistance**
- **Performs visual inspection of each piece of PPE and checks each piece for integrity**
  - No holes or tears in gloves, boots, gown, or suit
- **Looks for gaps and exposed skin**
  - Line of hood or head cover under goggles or mask
  - Goggles over the top of the mask
  - No exposed skin or gaps around mask, goggles, or face shield
  - No gaps between gloves and gown
  - Mask not inside out / upside down

Before putting on PPE

Remove all Accessories

- Rings, watches, bracelets, earrings, and necklaces
- Accessories can tear PPE and affect the integrity of fit



Perform hand hygiene

- Use soap and water, weak (0.05%) chlorine solution, or alcohol-based hand rub
- Always wash your hands first with soap and water if they are visibly soiled



Donning of Gown

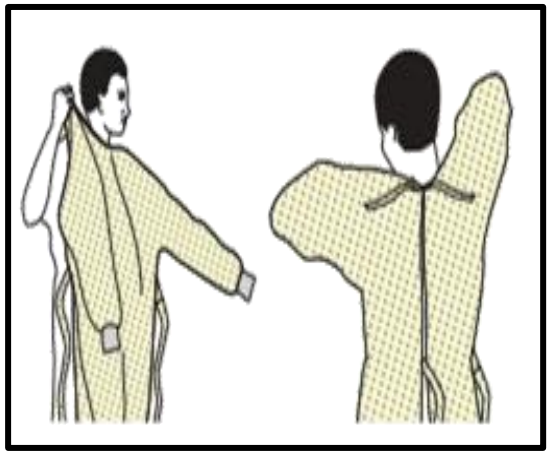
1. Wear a scrub, remove every personal effects on you e.g. bangles/bracelet, wristwatch

2. Put arms in sleeves, pull gown towards shoulders to fully cover torso from neck to knees, arms to wrists and wrap to the back

3. Fasten at the back of the neck and tie around the waist

4. Tie gown securely but in a manner that it can be easily untied when you begin the doffing process

5. Leave some length of the tie so that it can be pulled and untied without much effort





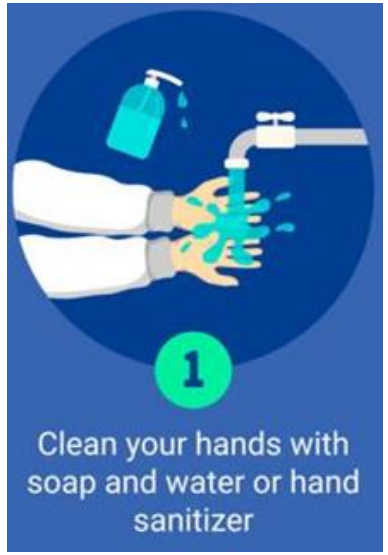
Note: An instructor and job aids on donning are required to monitor and ensure it is properly done

Donning the Mask

Perform hand hygiene, remove a mask from the box, and make sure there are no obvious tears or holes in either side of the mask

Identify the top - the side of the mask that has a stiff bendable edge is the top and is meant to mold to the shape of your nose

The colored side of the mask is usually the front and should face away from you, while the white side touches your face



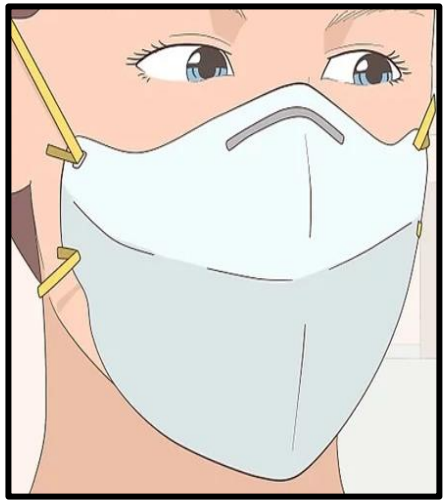




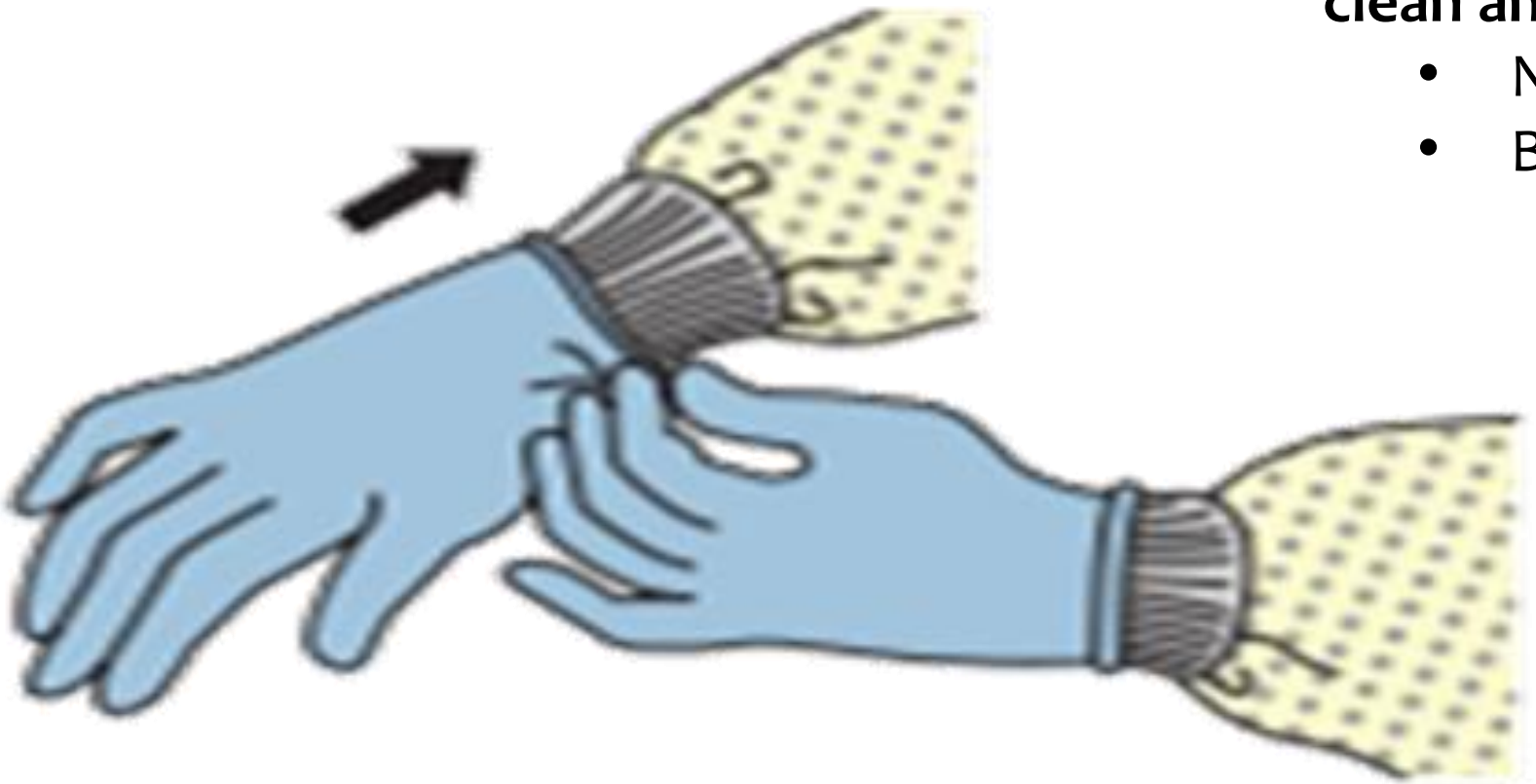




Types of Masks and how to wear them

Face Mask with Ear loops	○ Hold the mask by the ear loops ○ Place a loop around each ear	
Face Mask with Ties	○ Bring the mask to your nose level and place the ties over the crown of your head and secure with a bow	
Face Mask with Bands	○ Hold the mask in your hand with the nosepiece or top of the mask at your fingertips, allowing the headbands to hang freely below your hands ○ Pull the top strap over your head so that it rests over the crown of your head. Pull the bottom strap over your head so that it rests at the nape of your neck ○ Fit flexible band to the nose bridge and snug to face & under the chin	

Donning Gloves



Insert clean, dry hands into clean and unused gloves

- Nitrile preferred
- Be sure to select correct size



Putting off/Doffing of PPE

- Remove all PPE before exiting the patient room except a respirator, if worn
- Perform hand hygiene between steps if hands become contaminated and immediately after removing all PPE



Question: Why should you be careful when removing PPE?

Why you should be careful when taking off PPE? (Answer)

- Removing PPE is a high-risk activity
- PPE is already contaminated
- Potential for contamination from PPE to hands, mucous membranes, and skin
- You may be overheated and have difficulty remembering the correct order for removing
  - Your buddy/observer will provide instructions during removing

Principles of Safe Removing

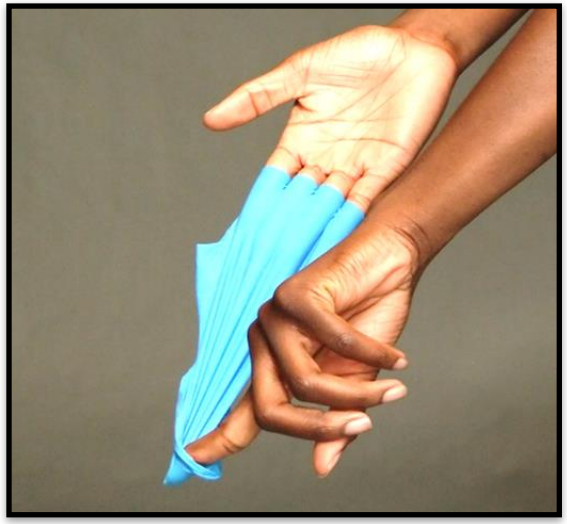
- When removing, ensure the outside of PPE does NOT touch your skin or any part of your body
- Remove the outermost PPE first; it is likely to be the most contaminated
- Protect your eyes and mucus membranes
- Always close eyes and mouth when removing PPE over the head
- Perform hand hygiene on bare hands thoroughly and immediately after removing PPE

Removing Gloves









1
Grasp glove at the palm with opposite gloved hand; peel off

2
Hold first outer glove in opposite gloved hand

3
Slide fingers of ungloved hand at wrist

4
Dispose of gloves in medical waste bin

Remove your gloves <u>slowly</u>

Remove Disposable Face Shield

1. Till your head forward slightly
2. Remove face shield from behind the head, pull it forward and over your head

    - Keep eyes closed!

3. Let the face shield fall from your face
4. Place disposable face shield in a bucket designated for medical waste





Removing a Medical Mask or a Respirator



- Perform hand hygiene
- Only touch the ear loops/ties/band
- Be careful NOT to touch the front of the mask

Removing a Gown



1

- With clean hands, untie or break ties at the back and neck
- Touching only the inside of the gown, pull from neck and shoulders, then arms, turning inside out as gown is removed



2

Roll gown into bundle



3

Discard in appropriate waste



4

Perform hand hygiene

How do you know what PPE to wear?

- Based on your assessment of risk of exposure to body fluids and contaminants
  - Choose PPE items to use according to the procedure performed and anticipated risk
- Should protect parts of your body where microorganisms are most likely to enter
- Not all PPE items are needed at the same time

PPE to Be Used: Screening

Screening:

- Gloves
- Face shield
  OR Goggles with face mask
- Boots, closed shoes, or shoe covers



For healthcare workers and cleaners

PPE to Be Used: Consultation rooms

General Nursing Care (including Maternity)

No invasive procedures or birthing

- Gloves
- Gown
- Boots, closed shoes, or shoe covers

PPE to Be Used: In-patients settings

General nursing care with invasive procedure and/or potential for blood or body fluid exposure

- Gloves
- Gown
- Face shield OR Googles with Mask
- Boots or shoe covers or closed shoes





PPE to Be Used: In-patients settings

Maternity care with invasive procedures or with birthing

- Gloves plus elbow gloves
- Gown
- Apron
- Face shield OR Googles with mask
- Boots or closed shoes or shoe covers

KEY MESSAGES

1. Regardless of what PPE is available and putting on/removing order, always put on and remove PPE slowly and carefully to avoid mistakes

2. Choose PPE items to use according to the procedure performed and anticipated risk

3. Not all PPE items are needed at the same time

Session 15.5.4: Transmission-Based Precautions

Session objectives

At the end of this session participants should be able to understand

- Standard precaution
- Transmission-based Precautions
- Contact precaution
- Contact isolation

Standard Precautions

- Infection prevention precautions apply whenever providing client care, irrespective of the client diagnosis
- In preventing unprotected contact with body fluids including blood, respiratory and other secretions/excretions
- Useful for all contact with body fluids regardless of the infection status
- Minimizing or preventing spread of infection to health care workers, other clients and visitors



Transmission-based Precautions

- Precautions used to prevent transmission of infectious diseases with known modes of transmission include:
  - Contact Precautions
  - Droplet Precautions
  - Airborne Precautions



Contact Precautions



Direct transmission

Hands – contact

Nasal – droplet

Throat - droplet

Indirect transmission

Bedpans/urinals

Dressing trolleys

Mattresses

Drip stands

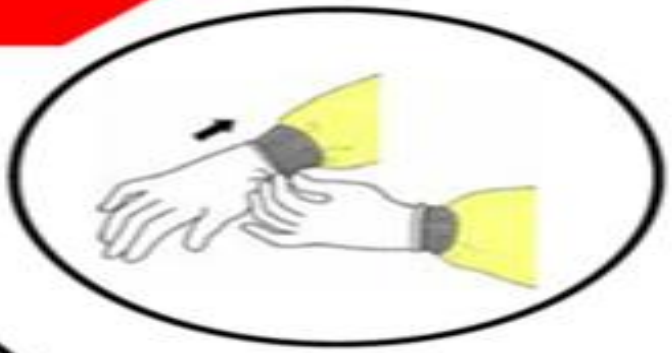
Mops & buckets

Hand disinfection equipment

Contact Precautions



Clean hands with alcohol-based hand rub or soap and water



Wear gloves when providing direct care



Wear gown when providing direct care

Contact Isolation

- Private room or cohorting with signage indicating restricted access
- Dedicated toilet or commode
- Dedicated equipment or disinfected between client use
- Access to hand washing stations



Examples of Precautions to Reduce Disease Spread through Contact

- Wash hands before and after every patient contact
- Limit patient movement
- Isolate or cohort patients
- Wear appropriate PPE for all contact with patients
- Do not touch eyes, nose, or mouth with gloved or ungloved hands
- Do not share equipment among patients
  - If shared, clean and disinfect between uses



KEY MESSAGES

- Standard infection prevention are precautions applied whenever providing client care, irrespective of the client's diagnosis



- Precautions used to prevent transmission of infectious diseases with known modes of transmission include: Contact Precautions, Droplet Precautions and Airborne Precautions

Session 15.5.5: Screening and Triage of Clients

Session objectives

- What is triage
- Transmission-based Precautions
- What should be done when Clients arrive at the Health Facility
- Hierarchy of Control of Hazards
- Standard precaution

What is Triage?

This is the process of rapidly examining sick individuals on arrival at the health facility in order to place them in defined categories



Defined categories

1. **Based on priority signs -** The client is given priority in queue, rapid assessment is done to determine if the client will be treated/moved/isolated without further delay
2. **Based on emergency signs -** The client requires immediate and urgent treatment
3. **Based on non-urgent cases -** This forms majority of clients; they are non-priority neither do they require emergency treatment

Transmission-based Precautions

- Trained and competent staff that have a high level of clinical suspicion
- Well-defined area
- Appropriate distance >1 meter
- Infrared thermometer
- Personal protective equipment (for staff and cases)
- Waste bins and access to cleaning/disinfection



Transmission-based Precautions(cont'd)

- Algorithm for triage
- Protocol/flow charts
- Screening questionnaire
- Clear signage/job aids
- Documentation forms/books
- Important contacts; National and state toll-free numbers or hotlines



What should be done when Clients arrive at the Health Facility?

- A health worker should always be stationed at the entrance of the Health Facility, to ask clients about their symptoms

  - Community Volunteers linked to the Primary Health facility should also be available to assist, especially in crowd control

- The health workers/volunteers must put on the appropriate personal protective equipment before attending to any client



What should be done when Clients arrive at the Health Facility?

- A health worker should always be stationed at the entrance of the Health Facility, to ask clients about their symptoms
  - Community Volunteers linked to the Primary Health facility should also be available to assist, especially in crowd control
- The health workers/volunteers must put on the appropriate personal protective equipment before attending to any client



What should be done when Clients arrive at the Health Facility?(cont'd)

- Maintain at least an arm's length distance from clients.

  - Ensure that other clients waiting to be assessed do the same
- If an infrared thermometer is available check the temperature of every client
- Triage to identify clients with fever, cough, or shortness of breath
- Prioritize any client with any of these symptoms for further assessment



Hierarchy of Control of Hazards

1

Implementation of Administrative Controls

a. Provides adequate training for Healthcare workers (HCW)

b. Monitor HCW compliance with standard precautions and provide mechanisms for improvement needed

2

Engineering/Environmental Control

a. Looks into the basic infrastructure of the healthcare facility

b. Adequate ventilation

e. Safe and effective laundry services

f. Care of food service, preparation and utensils

g. Safe medical waste management

Summary (Contd.)

Adhere to standard guidance on appropriate hygiene and infection control measures through:

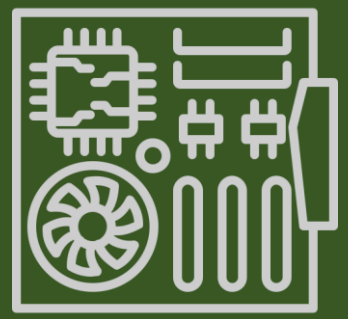
- Regular cleaning and disinfection of all hard surfaces, floors, chairs and door handles using detergent disinfectant or bleach
- Ensure appropriate waste disposal - stores should have adequate waste bins and used tissues or disposable cleaning cloths should be double-bagged before disposal
- All personal protective equipment should be disposed of as clinical waste

Standard Precautions

- Basic level of infection control precautions
  - Use as a minimum for all patients, regardless of their infection status



Components of Standard Precautions



01 Hand hygiene

02 Personal protective equipment (PPE)

03 Respiratory hygiene

04 Prevention of needle-stick injuries

05 Safe waste management

06 Cleaning and disinfection of patient-care equipment and linens

07 Cleaning and disinfection of the patient care environment

Key Messages



- Standard precaution is a basic level of infection control precautions used as a minimum for all patients, regardless of their infection status
- All personal protective equipment should be disposed of as clinical waste

SESSION 15.5.6: BREAKING THE CHAIN OF INFECTION

Session Objectives



Specific objectives

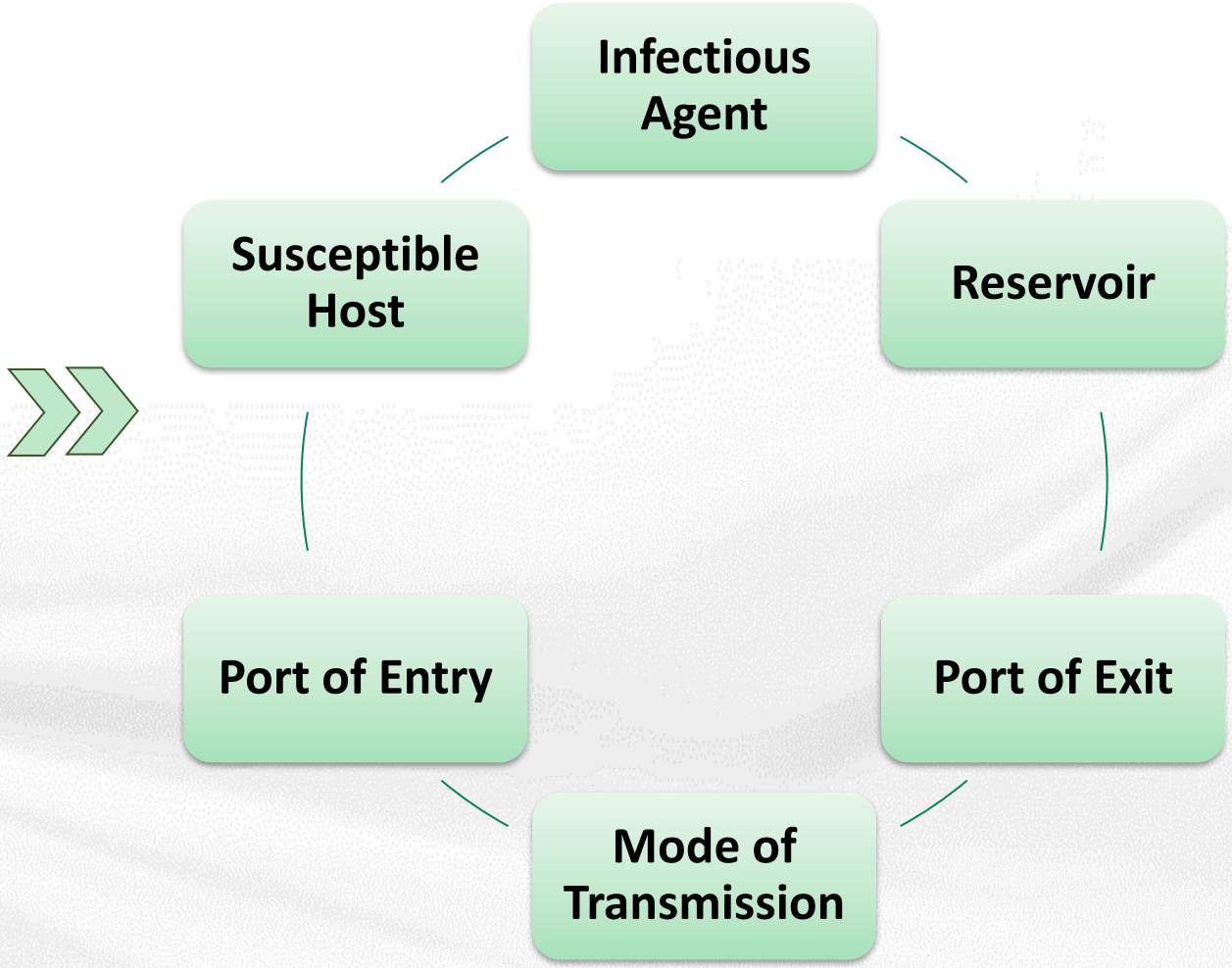
1. Chain of disease transmission for infectious agent
2. Chain of disease transmission for Reservoir
3. Chain of disease transmission for the port of exit
4. Chain of transmission for mode of transmission
5. Chain of disease transmission for susceptible host
6. HCWs role in the prevention of disease transmission



How can you break the chain of infection?

Chain of Disease Transmission

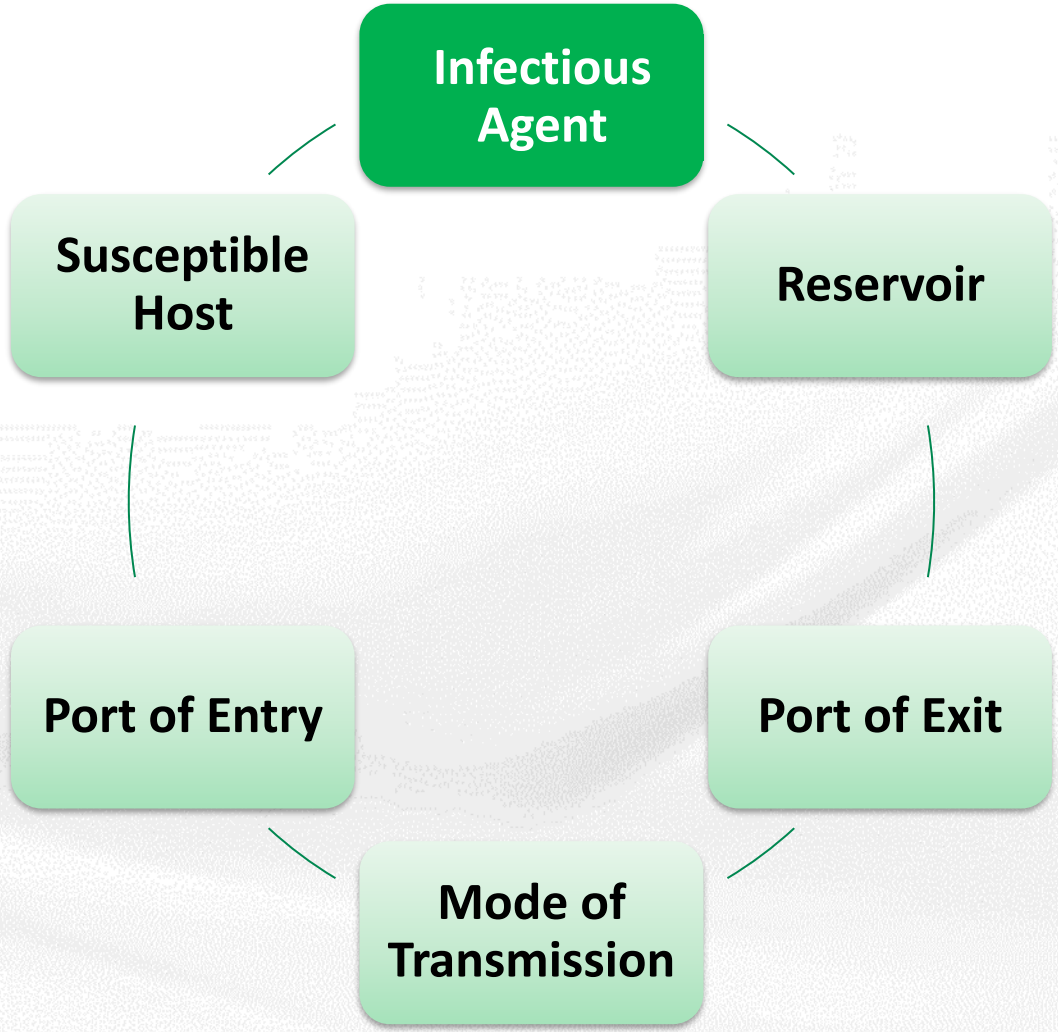
- For infection to spread, all the steps **must** be connected
- **Disrupting** this chain will stop the transmission of infection



Chain of Disease Transmission: Infectious Agent

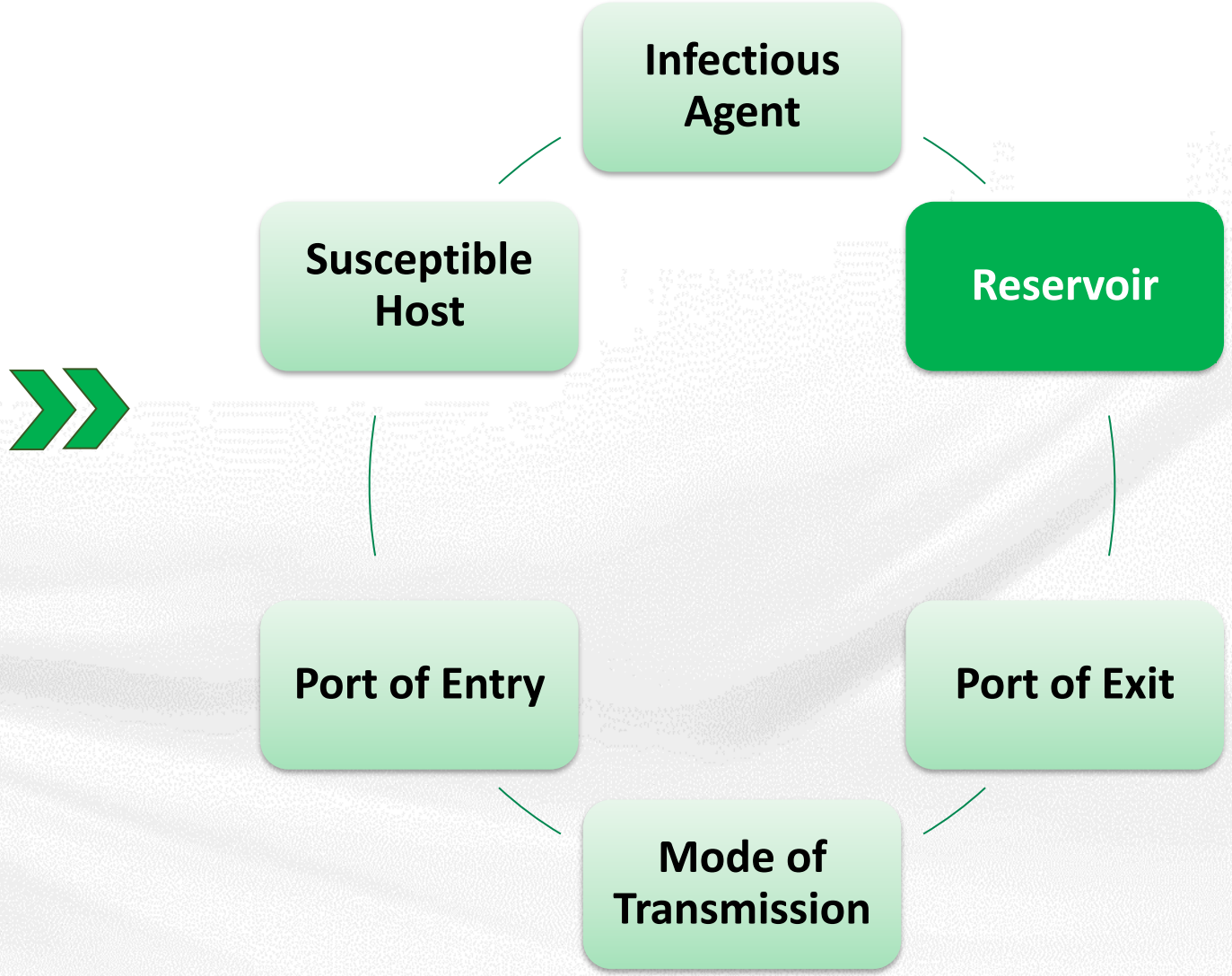
An infectious agent is a disease-causing microorganism (pathogen)

- Bacteria
- Parasites
- Fungi



Chain of Disease Transmission: Reservoir

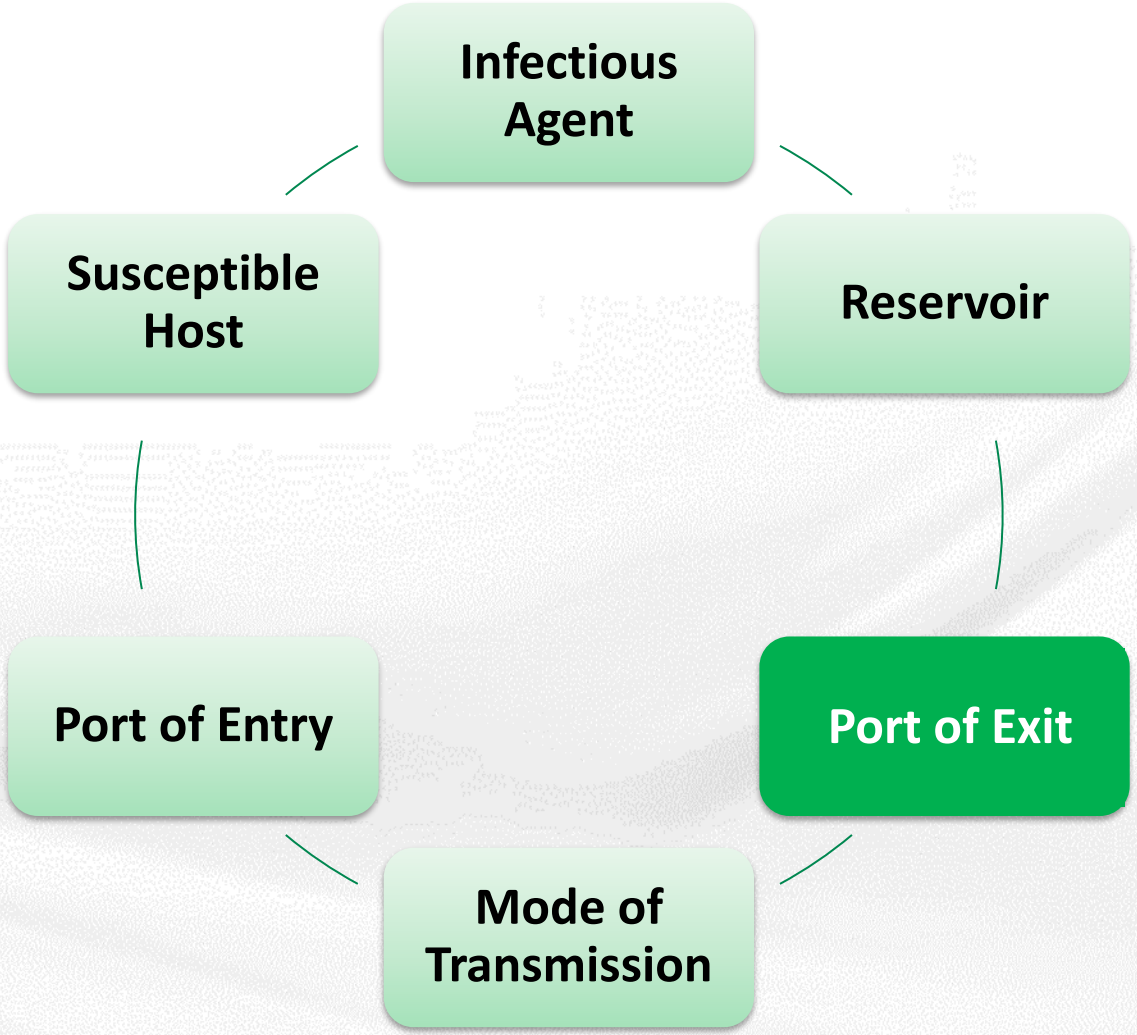
- **Persons**
- Animals
- **Surfaces, e.g.**
  - Tabletops
  - Beds
- **Medical equipment and supplies e.g.**
  - Needles and syringes
  - Tourniquets
  - Forceps
  - Bedpans/urinals
  - Dressing trolleys
  - Mattresses
  - Drip stands
  - Mops & buckets
  - Hand disinfection equipment



Chain of Disease Transmission: Port of Exit

To cause an infection, the infectious agent must leave the infected person

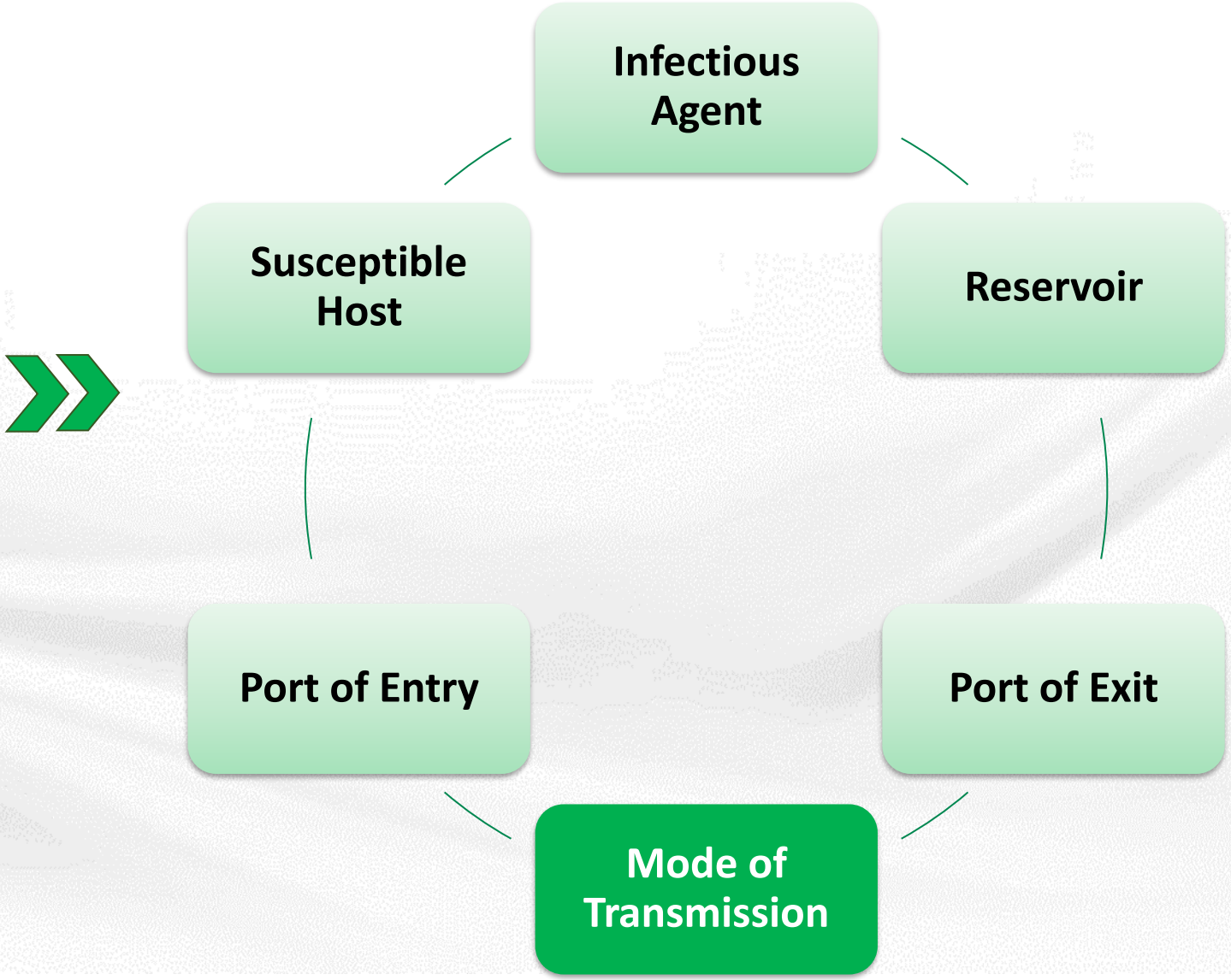
- Examples of ports of exit:
  - Respiratory tract, e.g. droplets
  - Gastrointestinal tract, e.g. stools
  - Breaks in skin, e.g. cuts



Chain of Disease Transmission: Modes of Transmission

Modes of transmission include:

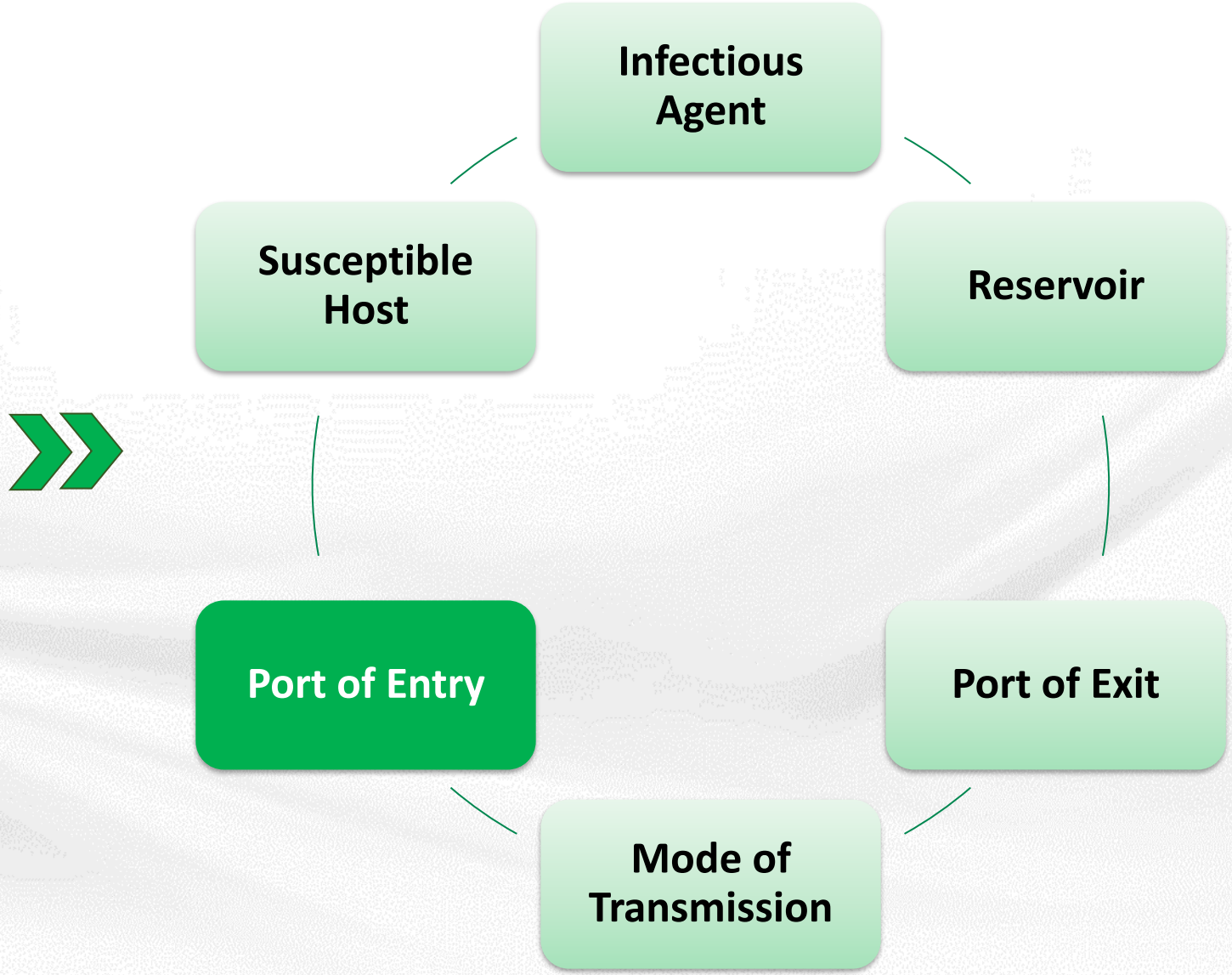
- Contact
- **Droplet: SARS-CoV-2**
- Airborne
- Foodborne and waterborne



Chain of Disease Transmission: Modes of Transmission

Port of entry is the route through which a pathogen enters a susceptible person

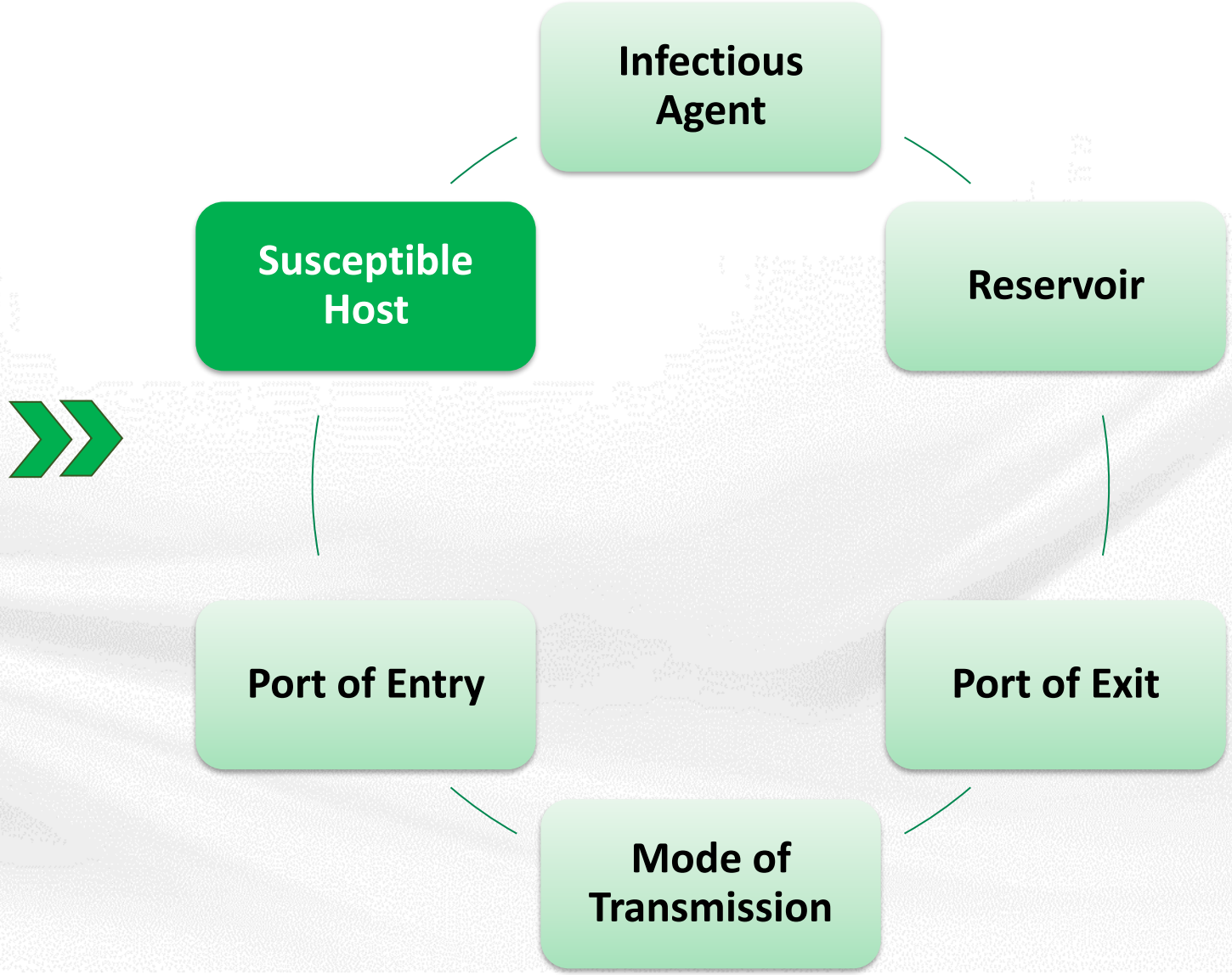
- Examples of ports of entry:
  - Intravenous
  - Respiratory tract
  - Gastrointestinal tract
  - Breaks in skin



Chain of Disease Transmission: Susceptible Host

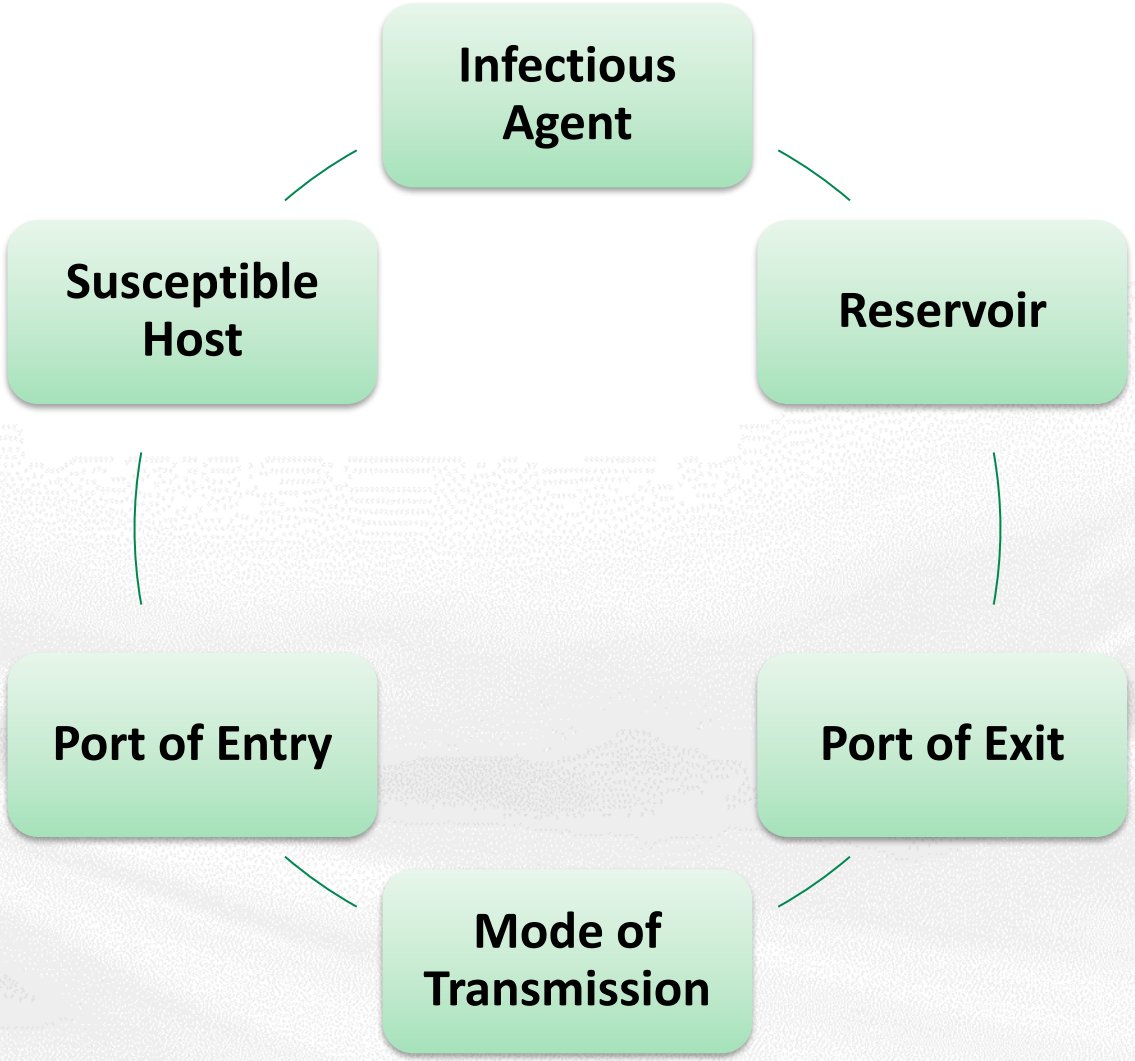
People with weakened resistance or insufficient natural immunity or insufficient immunity acquired from vaccination

- Examples of susceptible host:
  - Pregnant women
  - Children
  - HIV patients
  - Diabetic patients



HCWs' Role in Preventing Transmission

Breaking the links of the chain!



SESSION 15.5.7: PREVENTION OF NEEDLE-STICK AND SHARPS INJURIES

Session Objectives

- At the end of this Session, participants should
- Know how to use needles and syringes appropriately
- Avoid needle-stick injury
- How to safely dispose of sharps after usage

Measures to Prevent Needle-stick and Sharps Injuries

- Dispose of sharps at the point of care
- Sharps container can be carried to the point of care so that the sharp can be disposed of safely at the point of care
- Never carry sharps in your hand to a sharp container
- Place sharps in a kidney dish or similar container to carry used sharps
- Limit the use of needles and other sharp objects as much as possible
- Limit the use of phlebotomy and laboratory testing to the minimum necessary for essential diagnostic evaluation and patient care

Measures to Prevent Needle-stick and Sharps Injuries (Contd.)

- Never replace the cap on a used needle
- Never direct the point of a used needle toward any part of the body
- Do not remove used needles from disposable syringes by hand
- Do not bend, break, or manipulate used needles by hand
- Dispose of syringes, needles, scalpel blades, and other sharp objects in appropriate, puncture-resistant containers
- Limit the use of phlebotomy and laboratory testing to the minimum necessary for essential diagnostic evaluation and patient care

Measures to Prevent Needle-stick and Sharps Injuries (Contd.)

- Never empty a sharps container and never refill an emptied container
- Never overfill a sharps container
- A sharps container that is ¾ full should be disposed of in the incinerator
  - A new/empty sharps box should be used on the ward

Injection Safety

- Use dedicated injection and parenteral medication equipment for each patient
- Never reuse syringes, needles, or similar equipment



Key Messages

- Use dedicated injection and parenteral medication equipment for each patient
- Never reuse syringes, needles, or similar equipment
- Never direct the point of a used needle toward any part of the body
- Do not remove used needles from disposable syringes by hand
- Do not bend, break, or manipulate used needles by hand

Key Messages

1. Use dedicated injection and parenteral medication equipment for each patient
2. Never reuse syringes, needles, or similar equipment
3. Never direct the point of a used needle toward any part of the body
4. Do not remove used needles from disposable syringes by hand
5. Do not bend, break, or manipulate used needles by hand


Thank
you