**Introduction to Health Care-Associated Infections (HAI)**

**Health care-associated infection (HAI)** is an infection that occurs in a patient as a result of care at a health care facility and was not present at the time of arrival at the facility. To be considered a HAI, the infection must begin on or after the third day of admission to the health care facility (the day of admission is Day 1) or on the day of or the day after discharge from the facility.

Health care-associated infections can affect the cardiovascular, respiratory, gastrointestinal, and genitourinary tracts, central nervous systems, and bones and joints. HAIs may also affect skin, soft tissues, and muscles.

1. **People Are at Risk for Healthcare Associated Infections (HAIs)**

Anyone getting medical can acquire an HAI while receiving care but certain patient

groups are at higher risk for an HAI; including the following:

1. Very young people – premature babies and very sick children.
2. Very old people – the frail and the elderly.
3. People with certain medical conditions – such as diabetes.
4. People with weakened immune systems – from disease, or because they are getting treatments that weaken their immune system. Cancer treatments (like chemotherapy or radiation) or steroids are treatments that can weaken the immune system.

Other risk factors:

1. Length of stay in a healthcare facility – a long hospital stay.
2. Surgery – long and complicated surgery.
3. Hand washing techniques – inadequate hand washing by hospital staff, visitors, and patients.
4. Antibiotics – overuse of antibiotics can lead to resistant bacteria, which means that antibiotics become less effective and do not work as well.
5. Equipment – medical equipment that enters the body can introduce bacteria and infection into the body. For example, urinary catheters, intravenous drips and infusions, respiratory equipment, and drain tubes.
6. Wounds – wounds, incisions (surgical cuts), burns, and skin ulcers are all prone to infection.
7. High-risk patient care areas – some patient care areas are more likely to have infections, such as hospital intensive care units and newborn unit
8. **The four major HCAIs are:**

* Catheter associated Urinary tract infection
* Surgical site Infection
* Catheter related blood stream infection
* Ventilator Associated Pneumonia

1. **Factors found to contribute to HAIs include:**
2. High patient-to-nurse ratio
3. Bed space less than 1 meter (3 feet) apart
4. Low compliance with hand hygiene practices
5. Lack of resources including rooms for isolation or grouping together patients with the same infection)
6. Limited opportunities for staff training
7. Increasing use of complex medical and surgical procedures
8. Increasing use of invasive medical devices (e.g., mechanical ventilators, urinary catheters, central intravenous lines) without proper infection prevention control IPC training
9. Contamination of prepared supplies/pharmaceuticals (e.g., IV fluid, infant formula, general medications)
10. Suboptimal cleaning, disinfection, and sterilization practices
11. Antibiotic resistance due to overuse of broad-spectrum antibiotics
12. **Interventions to Prevent Health Care-Associated Infections**

Understanding the disease transmission cycle is a cornerstone in the prevention and control of infections. Knowledge about ways to break the disease transmission cycle can assist health care facilities in putting together prevention strategies to stop the spread of infections.

**General measures include:**

* Strict hand washing
* Intensification of environmental cleaning and hygiene
* Adherence to standard healthcare practice infection prevention and control (IPC)protocols
* Strengthening of cleaning, disinfection and sterilization

1. **Summary**

* The burden of HAIs is very high. HAIs negatively affect the health system and the patient by causing longer stays in health care facilities and increase the cost of care.
* Efforts to prevent HAIs will help to reduce health care costs, save staff time, reduce morbidity and mortality among patients and improve the quality of care and health outcomes.