OVERVIEW

- Process of Surveillance
- Surveillance Data Collection
- Surveillance of Methodology
- Surveillanec Data Analysis
- Surveillance Report
- Benchmarking
- Integration of Surveillance Data in Quality Improvement Projects

SURVEILLANCE, WHY?

We can’t improve what
We can’t measure

burden

- Help to compare ourselves with time to monitor the service applied

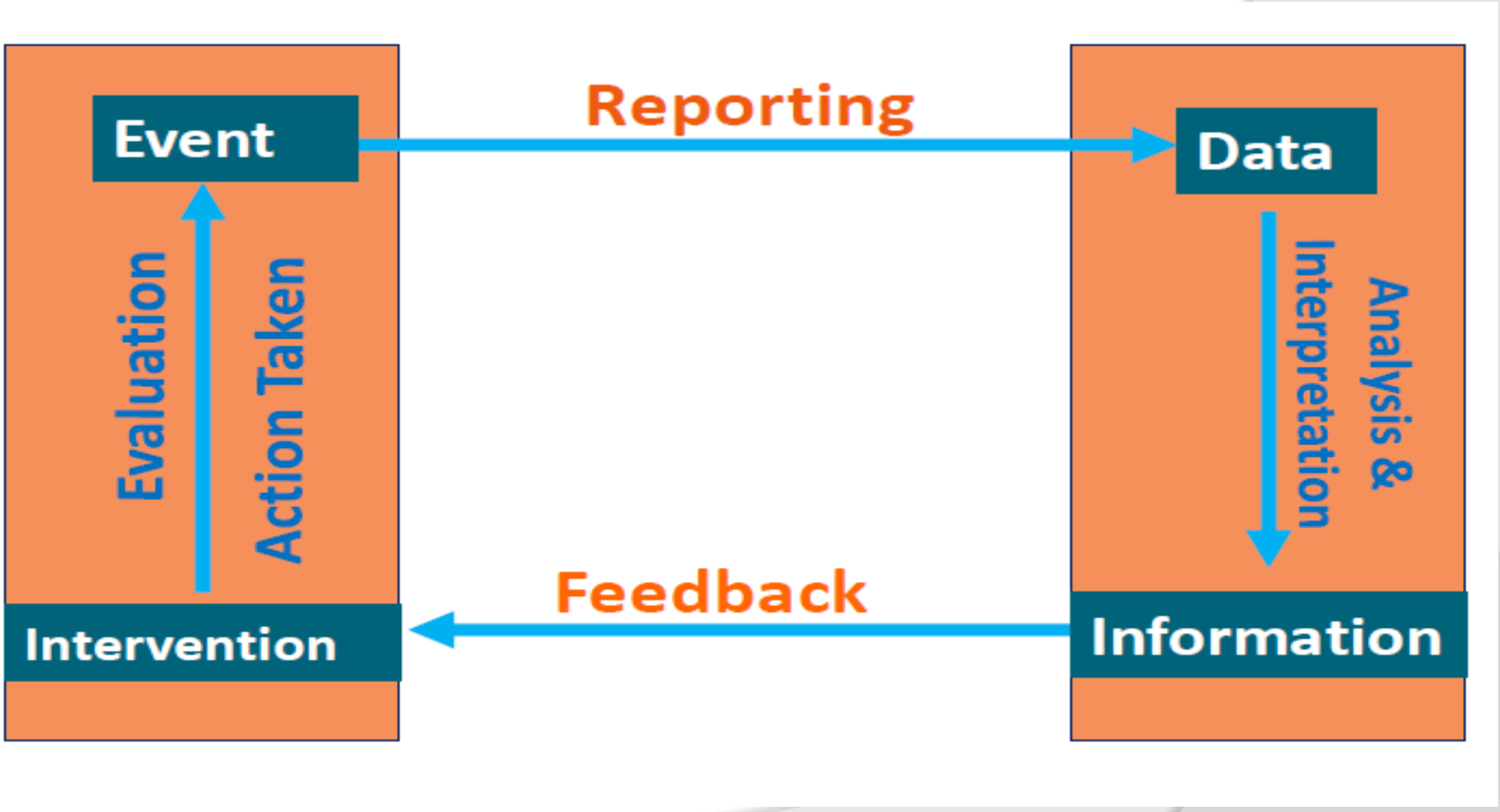
WHAT IS SURVEILLANCE

Regular ongoing active identification, data collection, analysis, and interpretation of an infection events that essential to the planning, implementation, and evaluation of infection control practice, closely integrated with timely dissemination of these data to those who need to know.

SURVEILLANCE PROCESS

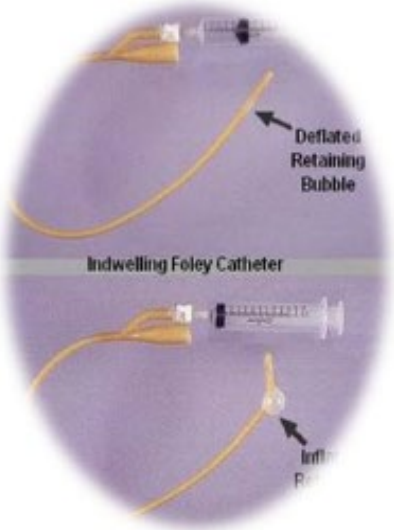
- Definition of the event (s) / Case definitions
- Data Colletcion
- Data Analysis
- Interpretation of data
- Benchmarking
- Dissemination of Information for action

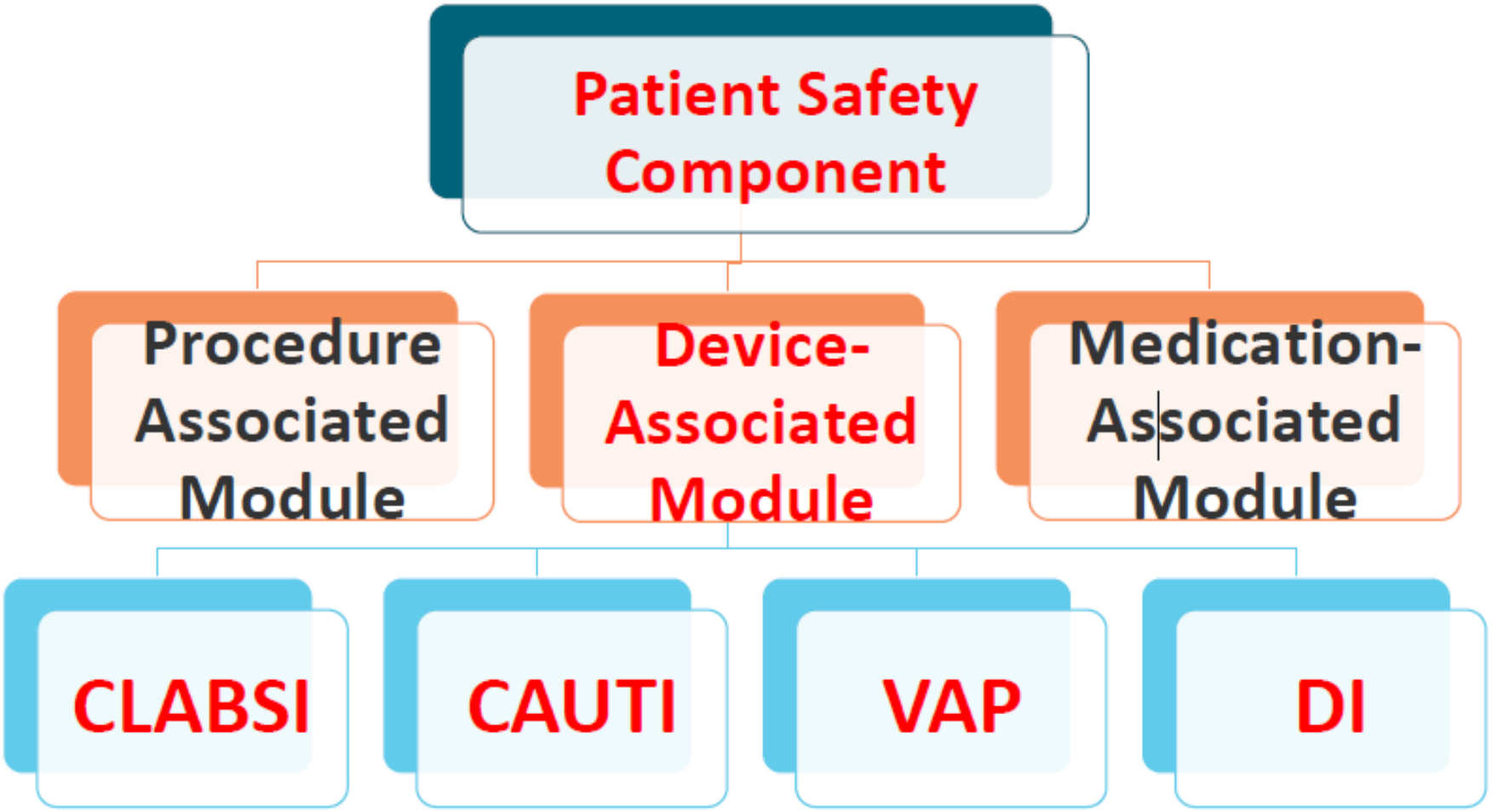
SURVEILLANCE PROCESS



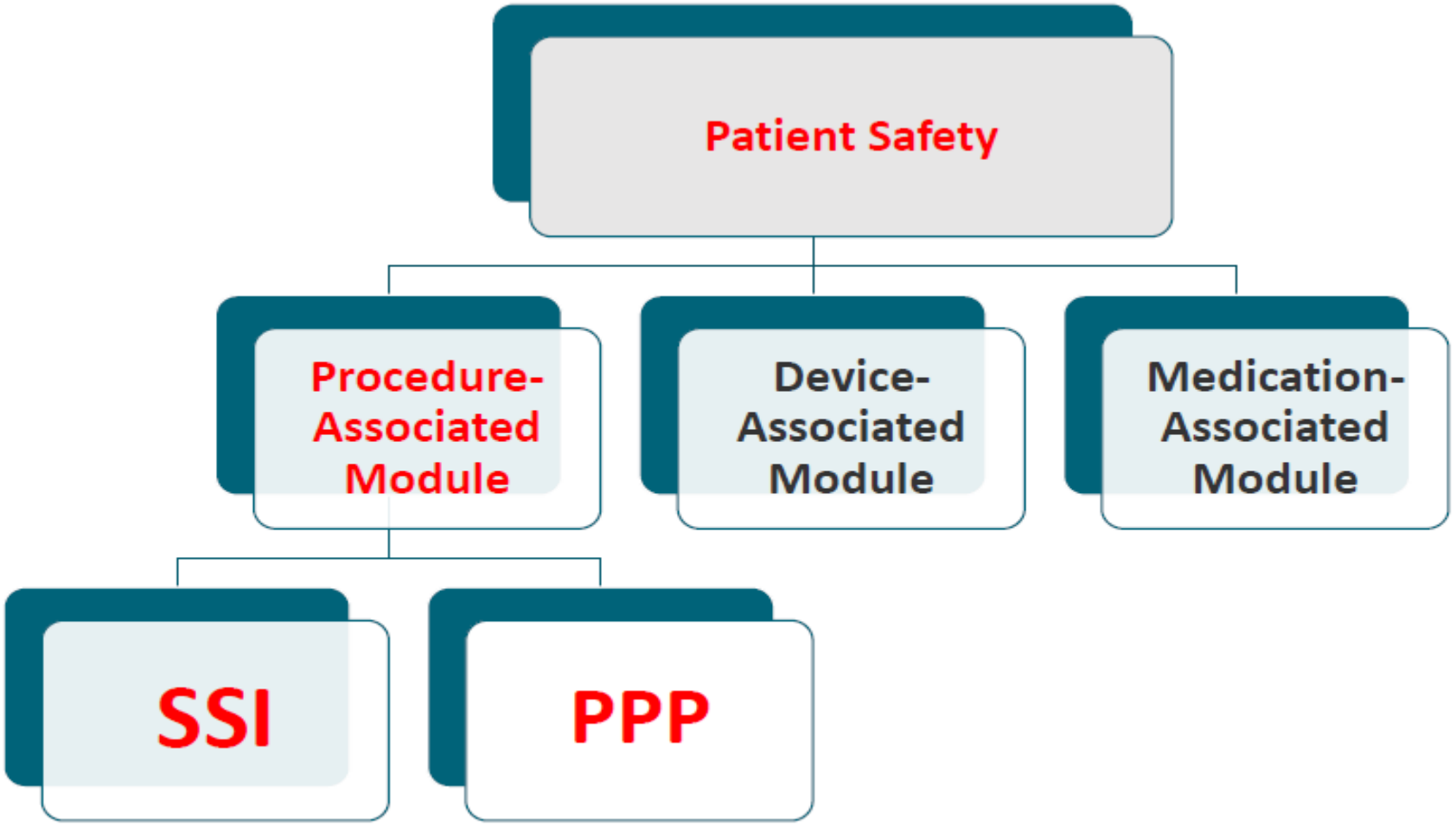
SURVEILLANCE FOR WHAT?

Healthcare Associated Infections (HAIs)





CDC Criteria for Identification



CDC Criteria for Identification

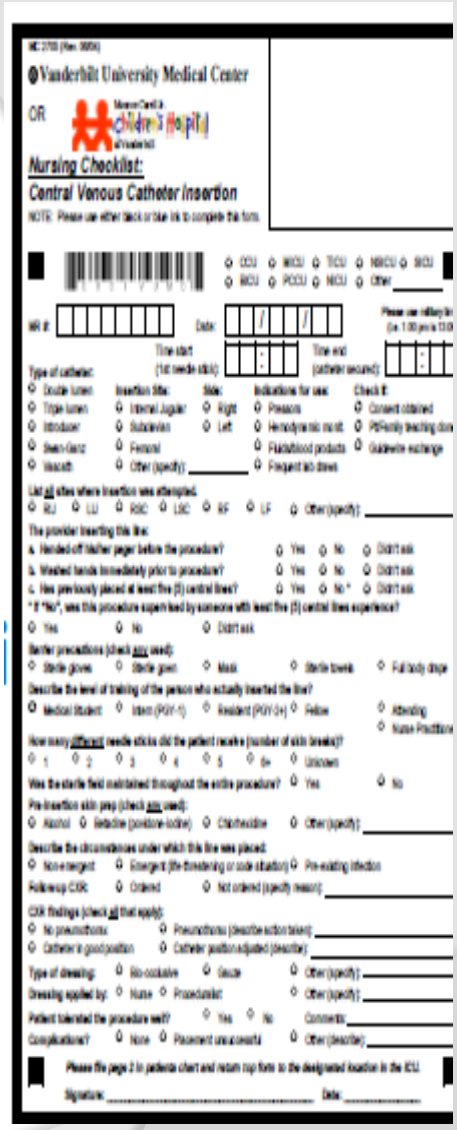
Who Performs Surveillances?

Physician

DATA COLLECTION

Patient identifier (name, age, sex, ward)

- Date of admission
- Diagnosis/underlying conditions
- Date & types of invasive procedures
- Date & time of insertion/removal of devices
- Organism isolated (including antibiotics)
- Signs of infection.
- Date of onset of signs of infection
- Site of infection
- Type of infection
- Date and time of outcome


Vanderbilt University Medical Center

OR

Nursing Checklist:

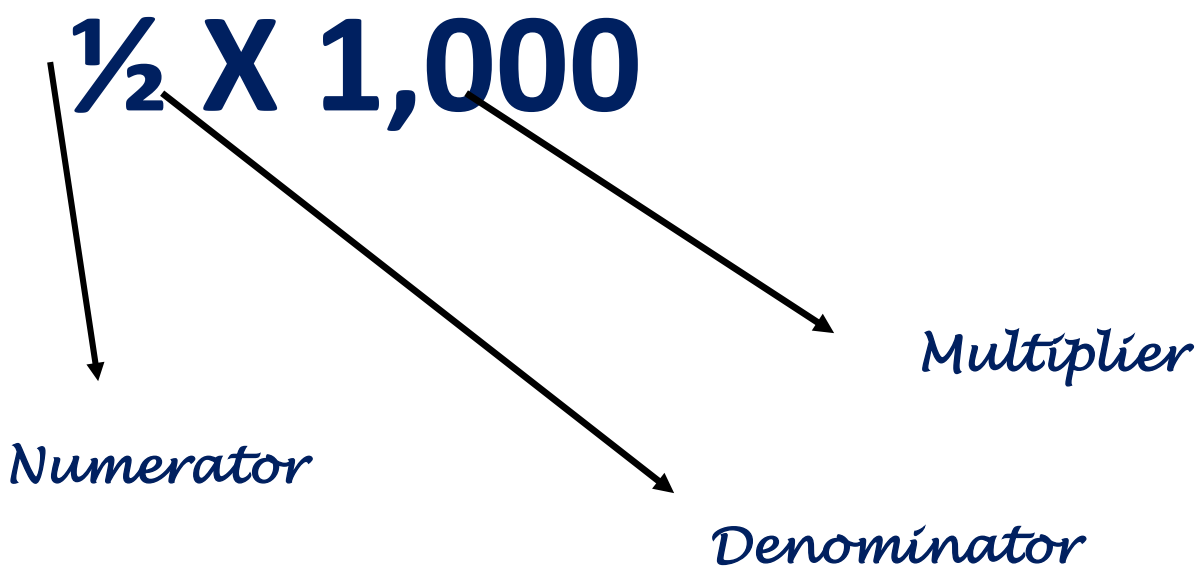
Central Venous Catheter Insertion

SELECTIVE SURVEILLANCE METHODS

- Surveillance
- Temperature Chart
- Laboratory Based telephone
- Treatment Chart
- Ward Liaison
- Laboratory based liaison
- Post - Discharge

DATA ANALYSIS

Numerator, Denominator, and Multiplier



CALCULATING RATES

$$\text{CLABSI Infection Rate} = \frac{\text{No. of HAIs associated with Central Line}}{\text{No. of Central Line days}} \times 1000$$

$$\text{Utilization Ratio of Central Line} = \frac{\text{No. of days of the Central Line used}}{\text{Total no. of patient days}}$$

$$\text{CAUTI Infection Rate} = \frac{\text{No. of HAIs associated with Urinary Catheter}}{\text{No. of urinary catheter days}} 1000$$

$$\text{Utilization Ratio of Urinary Catheter} = \frac{\text{No. of days of the Urinary Catheter}}{\text{Total no. of patient days}}$$

SURVEILLANCE RESULTS

Surveillance Report

Define the event, population, setting and time period

The report should be disseminated to those managers and healthcare providers in the organization for performance improvement

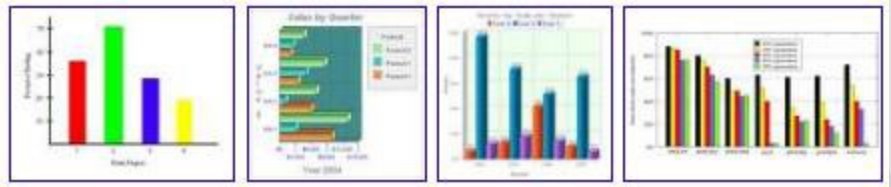
SURVEILLANCE REPORT

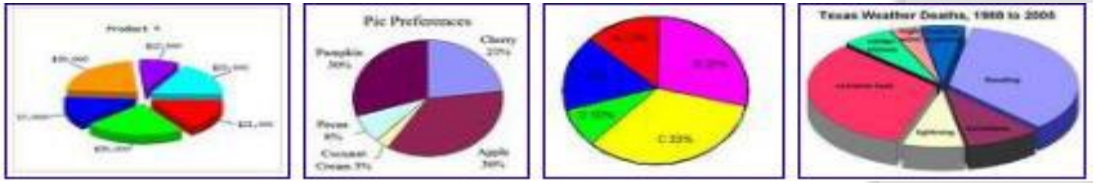
Data Display Tools

Bar Graph

Line Graph

Pie Graph





BENCHMARKING

- Benchmarking is the process of comparing oneself to others who are performing similar activities, so as to continuously improve.
- The National Healthcare Safety Network (NHSN)in the US is the oldest and most widely used network for benchmarking.

REQUIREMENT FOR SUCCESSFUL BENCHMARKING

Criteria for defining a case are standardized and up to date.

- **The population and time period for the study are well defined.**
- **The surveillance methodology is standardized and consistently used by all of the participants over time.**
- **Rates and ratios are calculated using the same numerators (number of cases) and denominators (population at risk).**
- **All data collectors receive training on how to collect data and use a standardized form.**
- **The facility and population that is compared is similar to the types of facilities and populations in an aggregate database used for external comparison**

National Healthcare Safety Network (NHSN) (CDC) summary data,

PERFORMANCE IMPROVEMENT PROJECT

SURVEILLANCE IPC.9

There is a continuous surveillance of healthcare associated infections.

IPC.9

There is a continuous surveillance of healthcare-associated infections.

Surveillance is an important component of infection control program to assess the effectiveness of prevention and control measures. Surveillance assists the hospitals to identify risks from practices and infections on which they should focus their programs to control and minimize them. Each hospital should identify those epidemiologically important infections, infection sites, and associated devices, procedures, and practices that will provide the focus of efforts to prevent and to reduce the risk and incidence of health care–associated infections. Identification of HAIs should be done according to Standardized Criteria. Data Collection & analysis should be done according to hospital surveillance policy. The hospital should adopt outcome indicators for monitoring HAIs rates.

IPC.9

Relevant sub-standards	
IPC.9.1	There are policies and procedures which define the types of surveillance to be carried out with regard to healthcare-associated infections.
IPC.9.2	There are written standardized definitions for identification of healthcare-associated infections.
IPC.9.3	The policies and procedures define how data will be collected, analyzed , and used.
IPC.9.4	The monitoring process includes using indicators related to infection issues that are epidemiologically important to the hospital

SURVEILLANCE IPC.10

Results of healthcare-associated infections surveillance are integrated into the hospital's quality improvement program.

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To ensure that the surveillance data (calculated HAI rates) are properly utilized by the hospital to improve the clinical services and safety within the hospital. The calculated HAIs rates should be trended, benchmarked and communicated regularly with concerned departmental/unit leaders, higher administration authority and integrated with quality improvement projects.

IPC.10

Relevant sub-standards	
IPC.10.1	The hospital selects indicators based on the projected use of data (internal and external benchmarking).
IPC.10.2	The hospital defines the data collection methods and sources (hospital information system, verbal and written communication, medical record review, direct observation & review of clinical indicators).
IPC.10.3	The results of infection monitoring in the hospital are regularly communicated to staff, physicians, and management.
IPC.10.4	The hospital uses risk, rate, and trend information to design or modify processes to reduce healthcare-associated infections to the lowest possible level.
IPC.10.5	The hospital makes the necessary improvements for the identified epidemiologically important infections, processes, and devices that are associated with risk of healthcare-associated Infections.

Thank you