Surveillance and Epidemiologic Investigation

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M. Cueva Bio

Her career in the US started in 2014 with Regional Medical Center as an ICU nurse. In 2016, she joined KP, where she became a member of several committees, including healthcare-associated infection.

As an ICU nurse, she became the C. diff champion where her IP manager saw her potential as an IP. In the summer of 2020, during the time of pandemic, her previous IP manager hired her as an extra help nurse to perform IP audits at O'Connor Hospital. By September, she became a per diem ICU nurse and a full-time IP, and in July 2021, she was a certified IP nurse.
In the spring of 2022, she transferred to Santa Clara Valley Medical Center. There, she was given the opportunity to initiate the hand hygiene (HH) committee.

The following spring 2023, Madelaine transferred to San Mateo County as one of the Local Health Department IPs in support of 14 SNFs and 12 Hemodialysis Facilities. She thought her impact might be minimal, but after visiting all her facilities and dealing with countless outbreaks, it clearly opened my eyes on how much I can contribute to the improvement of IP in the SNFs and HDs communities. She recently was part of the recipient of San Mateo County Star Award for Customer Service Award.

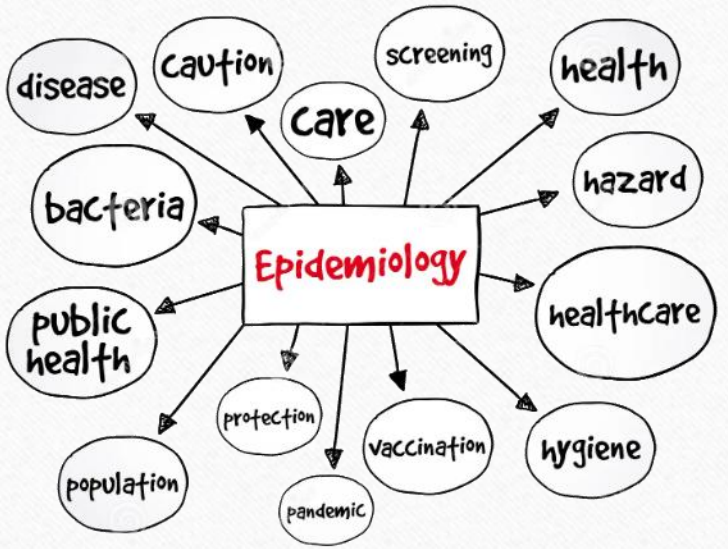
Objectives

Infection Preventionists (IPs) will:

- Explain the fundamental principles of epidemiology and their application in the surveillance of healthcare-associated infections (HAIs).
- Understand the purpose, methodologies, and definitions for surveillance.
- Collaborate with interdisciplinary teams for risk assessments and establish goals to ensure the data are consistent, reliable, and actionable.
- Design and implement effective surveillance systems aligned with LTC regulations, state laws, corporate mandates, and best practices.

Epidemiology

The study disease in populations.



Healthcare epidemiology answers questions such as:

–What factors contributed to increased infection rates?

–What populations are at higher risk for developing healthcare associated infections (HAI)?

–How have HAI changed over time?

Epidemiologic surveillance

The ongoing and systematic collection, analysis, and interpretation of health data in the process of describing and monitoring a health event.

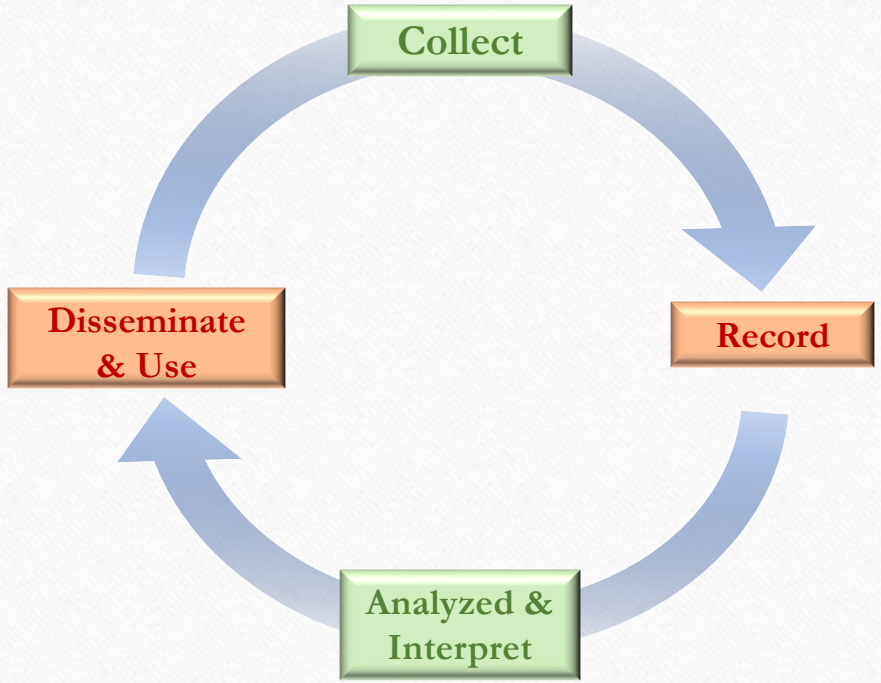
Example: Adherence monitoring

- Reflects rate of disease onset or current disease status of a community or population (e.g., SNF)
- Aims to identify risk factors for disease
- Used for public health **action** to reduce illness and death

What Surveillance?

Surveillance is a “system for preventing, identifying, reporting, investigating, and controlling infections and communicable diseases for all residents, visitors, and healthcare workers based upon the facility assessment … following accepted national standards.”

The Flow of Surveillance Data



SURVEILLANCE AND REGULATORY REQUIREMENTS

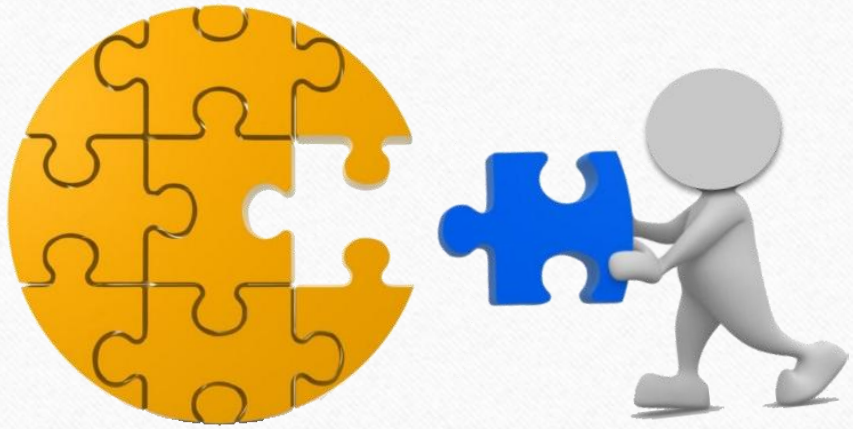
- CMS F880 requires SNFs to establish and maintain an IPC program designed to provide a safe, sanitary, and comfortable environment and to help prevent the development and transmission of communicable diseases and infections.
    - Establish a facility-wide system for the prevention, identification, reporting, investigation, and control of infections and communicable diseases of residents, staff, and visitors.
    - Develops and implements written policies and procedures for infection control.

- CMS F945 requires SNFs to develop, implement, and permanently maintain an effective training program for all staff, which includes training on the standards, policies, and procedures for the facility's IPC program
    - i.e.: PPE use, hand hygiene, environmental cleaning, occupational health policies, and other IPC practices when performing resident care.

IP Plan

An IPC Plan is a written, time-based strategy to implement how the IPC Program goals will be achieved in a facility.

- Addresses gaps and risk factors.
- Provides goals and actionable items.
- Describes how a facility will meet the IPC program objectives



Annual Risk Assessment

A written IPC plan is based on the annual risk assessment!

An IPC plan includes elements identified by the Annual Risk Assessment:

- Infection events (i.e., HAIs over the past year, CAIs, & outbreaks).
- IPC practice failures (i.e., Gaps in infection prevention practices).
- Potential risk based on patient population type (group, age, medical history, or specific conditions)

The results of the facility assessment should be UTILIZED to establish & update IP program, policies and /or protocol to include a system for preventing, identifying, reporting, investigating, and controlling infections and communicable diseases for residents, staff, and visitors

Risk Assessment Examples

Infection Control Assessment and Response (ICAR) Tool for General Infection Prevention and Control (IPC) Across Settings

Section 1: Facility Demographics and Infection Prevention and Control (IPC) Infrastructure
Long–Term Care

General Facility Demographics and IPC Infrastructure

Date of Assessment: _____

Facility Name: _____

State/Territory: _____ **County:** _____

Zip Code: _____ **State/Territory-assigned Unique ID** (if applicable): _____

Facility type (Complete the demographic form that corresponds to the type of facility):
- ○ Acute Care Hospital / Critical Access Hospital
- ○ Long-term Care
- ○ Outpatient/Ambulatory Care
- ○ Other *(specify)*: _____

NHSN Facility Organization ID (if applicable): _____

CMS Facility ID (if applicable): _____

Facility Respondent Name(s) and Job Title(s):

Rationale for assessment:
- ☐ Requested by facility
- ☐ Requested by accrediting agency/ licensing organization
- ☐ Requested by state or local health department
- ☐ HAI prevention focused:
  - ☐ CAUTI
  - ☐ CLABSI
  - ☐ SSI
  - ☐ CDI
  - ☐ Other *(specify)*: _____
- ☐ Prevention collaborative (specify partners): _____
- ☐ Outbreak *(specify)*: _____
- ☐ Other *(specify)*: _____

INFECTION EVENT	PROBABILITY OF OCCURRENCE				LEVEL OF HARM FROM EVENT				IMPACT ON CARE				READINESS TO PREVENT			RISK LEVEL
	(How likely is this to occur?)				(What would be the most likely?)				(Will new treatment/care be needed for resident/staff?)				(Are processes/resources in place to identify/address this event?)			(Scores ≥ 8 are considered highest priority for improvement efforts.)
Score	High	Med.	Low	None	Serious Harm	Moderate Harm	Temp. Harm	None	High	Med.	Low	None	Poor	Fair	Good	
	3	2	1	0	3	2	1	0	3	2	1	0	3	2	1	
Facility-onset Infections(s)																
Device- or care-related																
Catheter-associated urinary tract infection (CAUTI)																
Central line-associated bloodstream infection (CLABSI)																
Tracheostomy-associated respiratory infection																
Percutaneous-gastrostomy insertion site infection																
Wound infection																
Other (specify):																
Resident-related																
Symptomatic urinary tract infection (SUTI)																
Pneumonia																
Cellulitis/soft tissue																
Clostridioides difficile infection																
Tuberculosis*																

What Surveillance Again?

Surveillance is a “system for preventing, identifying, reporting, investigating, and controlling infections and communicable diseases for all residents, visitors, and healthcare workers based upon the facility assessment … following accepted national standards.”

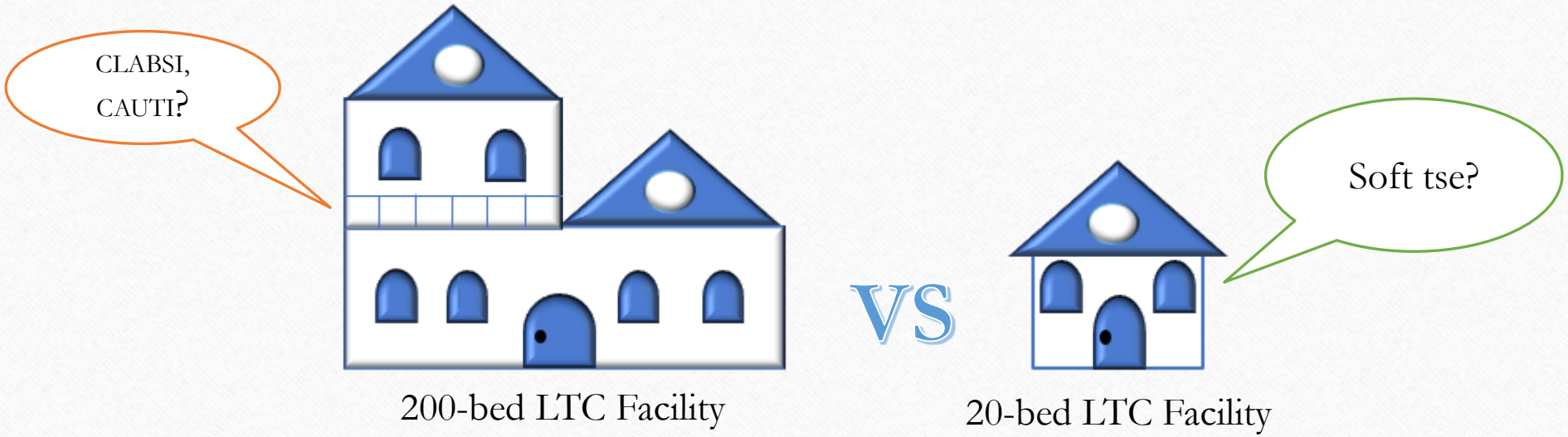
“If you don’t measure it, you cannot improve it”

Lord Kelvin

Surveillance Methods and Purpose

The methods of surveillance are used to identify **conditions** and **processes** that increase the risk of infection during the interactions between residents and healthcare personnel, families, volunteers, visitors, and the environment.

The methods chosen and the data collected must fit the facility's risk assessments and goals. Different LTC facilities may have an entirely different set of infection risks.



Surveillance can be used for:

Tracking and detection of infections, disease patterns, outbreaks, and emerging threats.

Benchmarking infection rates and conducting **risk assessments** to improve overall healthcare quality and safety.

Ensuring compliance with federal, state, and accreditation standards.

Promoting safe practices (e.g., hygiene, equipment use) and staff education.

Reporting and responding to public health concerns like notifiable diseases, bioterrorism, and pandemics.

Evaluating interventions and identifying areas for **performance improvement**.

Types of Surveillance

Process Surveillance

- Looks for adherence to steps or techniques, based on best practices, regulations, policies, and procedures.
- Looks at LTC facility-specific practices related to resident care

Outcome Surveillance

- Provider rates associated with the incidence or prevalence of infections; standardized infection ratios for groups of providers
- Looks at infections that can be considered the result of the LTC facility's practices

* When process surveillance is combined with outcome surveillance, it can provide cause/effect analysis

Example	
Process Surveillance	Outcome Surveillance
1. CDI prevention: thoroughness of environmental cleaning 2. HAI prevention: percent adherence to hand hygiene 3. CAUTI prevention: percent urinary catheters with appropriate indication	1. *C. difficile* infection rate 2. HAI rate 3. Catheter associated UTI (CAUTI) rate

Types of Surveillance Cont....

Outbreak Surveillance

Outbreak is:

- A single case of a highly communicable infection.
- A 10% increase in infection rates compared to historical data.
- Three or more cases of the same infection in a defined area over a specific timeframe.

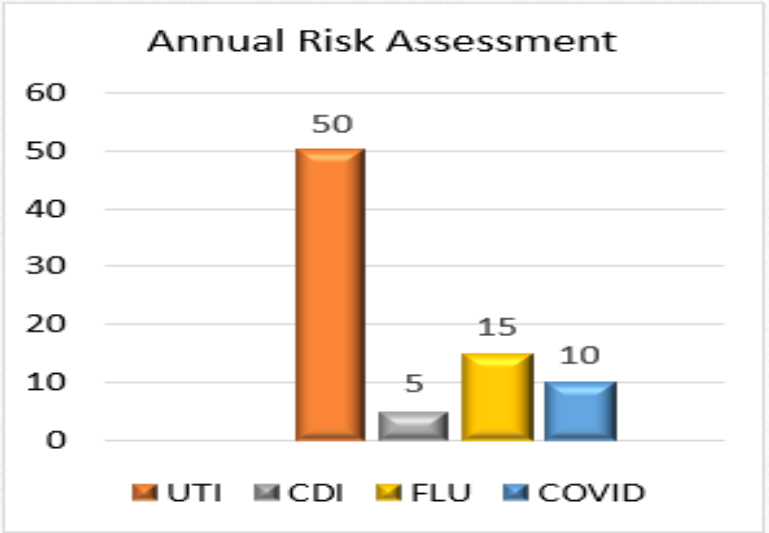
1. Recognize a potential outbreak; verifying the diagnosis.
2. Confirming the presence of an outbreak.
3. Alert key partners

More details to be discussed.....

Targeted/Priority Directed Surveillance

- Specific infections, procedures, or processes are selected for surveillance based upon risk assessment, quality assurance, or process improvement goals.
- Based on assessment to target areas of highest infection risk (i.e. UTI rate).

Example:



Infection surveillance criteria Vs. Clinical diagnosis.

Infection Surveillance:

Populations base

Implemented consistently each time

Clinical diagnosis:

Minimum criteria for starting antibiotics

Resident centered, with a goal of properly treating an infection

Recommended Practices for Surveillance

1. Assess the population
2. Select the outcome or process for surveillance
   - Comply with State and Federal requirements
3. Use standardized surveillance definitions (NHSN criteria for LTCF or McGeer Criteria)
4. Collect surveillance data
5. Calculate and analyze infection rates
6. Apply risk stratification methods
7. Report and use surveillance information

1. Assess the population

- ✓ Specific Unit
- ✓ Entire SNF population
- ✓ Residents at risk

2. Select the outcome or process for surveillance

(Comply with State and Federal requirements)

- ✓ Influenza vaccines administered to HCW are reported per state requirements
- ✓ Adherence to Enhanced Barrier Precaution mandated by CMS

3. Use standardized surveillance definitions (NHSN criteria for LTCF or McGeer Criteria)

Revised McGeer Criteria for Infection Surveillance Checklist

Patient Name: _____ **MRN:** _____ **Location:** _____

Date of Infection: _____ **Date of Review:** _____ **Reviewed by:** _____

UTI: □ evaluated □ criteria met **RTI:** □ evaluated □ criteria met **SSTI:** □ evaluated □ criteria met **GITI:** □ evaluated □ criteria met

Table 1. Constitutional Criteria for Infection

Fever	Leukocytosis	Acute Mental Status Change	Acute Functional Decline
Single oral temp >37.8 °C (100 °F), *OR* Repeated oral temp >37.2 °C (99 °F), *OR* Repeated rectal temp >37.5 °C (99.5 °F), *OR* Single temp >1.1 °C (2 °F) from baseline from any site	>14,000 WBC / mm³, *OR* >6% band, *OR* ≥1,500 bands / mm³	Acute onset, *AND* Fluctuating course, *AND* Inattention, *AND* Either disorganized thinking, OR altered level of consciousness	3-point increase in baseline ADL score according to the following items: 1. Bed mobility 2. Transfer 3. Locomotion within LTCF 4. Dressing 5. Toilet use 6. Personal hygiene 7. Eating [Each scored from 0 (independent) to 4 (total dependence)]

Table 2. Urinary Tract Infection (UTI) Surveillance Definitions

Syndrome	Criteria	Selected Comments*
UTI without indwelling catheter	***Must fulfill both 1 AND 2.*** □ 1. At least one of the following sign or symptom □ Acute dysuria or pain, swelling, or tenderness of testes, epididymis, or prostate □ Fever or leukocytosis, and ≥ 1 of the following: □ Acute costovertebral angle pain or tenderness □ Suprapubic pain □ Gross hematuria □ New or marked increase in incontinence □ New or marked increase in urgency □ New or marked increase in frequency □ If no fever or leukocytosis, then ≥ 2 of the following: □ Suprapubic pain □ Gross hematuria □ New or marked increase in incontinence □ New or marked increase in urgency □ New or marked increase in frequency □ 2. At least one of the following microbiologic criteria	The following 2 comments apply to both UTI with and without catheter: • UTI can be diagnosed without localizing symptoms if a blood isolate is the same as the organism isolated from urine and there is no alternate site of infection • In the absence of a clear alternate source of infection, fever, or rigors with a positive urine culture result in the non-catheterized resident or acute confusion in the catheterized resident will often be treated as UTI. However, evidence suggests that most of these episodes are likely not due to infection of a urinary source. • Urine specimens for culture should be processed as soon as possible,

NHSN NATIONAL HEALTHCARE SAFETY NETWORK

Form Approved

OMB No. 0920-0666
Exp. Date: 12/31/2027
www.cdc.gov/nhsn

Urinary Tract Infection (UTI) for LTCF

*Required for saving

*Facility ID:	Event #:
*Resident ID:	
Medicare number (or comparable railroad insurance number):	
Resident Name: Last: First: Middle:	
* Sex: F M	*Date of Birth: ___/___/____
*Ethnicity (specify): □ Hispanic or Latino □ Not Hispanic or Latino □ Declined to respond □ Unknown	*Race (specify): □ American Indian/Alaska Native □ Asian □ Black or African American □ Middle Eastern or North African □ Native Hawaiian/Other Pacific Islander □ White □ Declined to respond □ Unknown
*Date of First Admission to Facility: __/__/____	*Date of Current Admission to Facility: __/__/____
*Event Type: **UTI** *Resident Care Location: _____	*Date of Event: __/__/____

*Primary Resident Service Type: (check one)

☐ Long-term general nursing ☐ Long-term dementia ☐ Long-term psychiatric

☐ Skilled nursing/Short-term rehab (subacute) ☐ Ventilator ☐ Bariatric ☐ Hospice/Palliative

*Has resident been transferred from an acute care facility to your facility in the past 4 weeks? ☐ Yes ☐ No

If Yes, date of last transfer from acute care to your facility: __/__/____

If Yes, did the resident have an indwelling urinary catheter at the time of transfer to your facility? ☐ Yes ☐ No

*Indwelling Urinary Catheter status at time of event onset (check one):

☐ In place ☐ Removed within last 2 calendar days ☐ Not in place

If indwelling urinary catheter status in place or removed within last 2 calendar days:

Indicate site where indwelling urinary catheter was Inserted (check one): ☐ Your facility ☐ Acute care hospital ☐ Other ☐ Unknown

Date of indwelling urinary catheter Insertion: ___/___/____

If indwelling urinary catheter not in place, was another urinary device type present at the time of event onset? □Yes□ □No

If Yes, other device type: ☐ Suprapubic ☐ External Drainage (male or female) ☐ Intermittent straight catheter

Event Details

4. Collect Surveillance Data

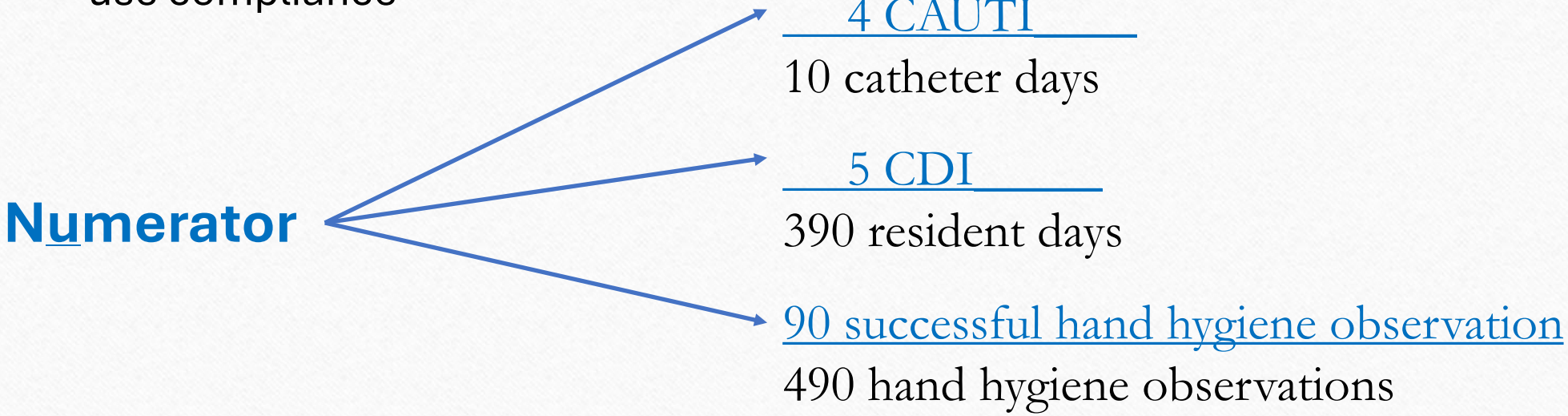
- ✓ Include staff, and others with responsibility or interest
- ✓ Limit collection to only what is needed
- ✓ Be involved in efforts when creating or revising an electronic health record to enable HAI data collection

Numerator Data

Numerator = number of residents with the specific infection OR instances of the "event" being measured

Examples include:

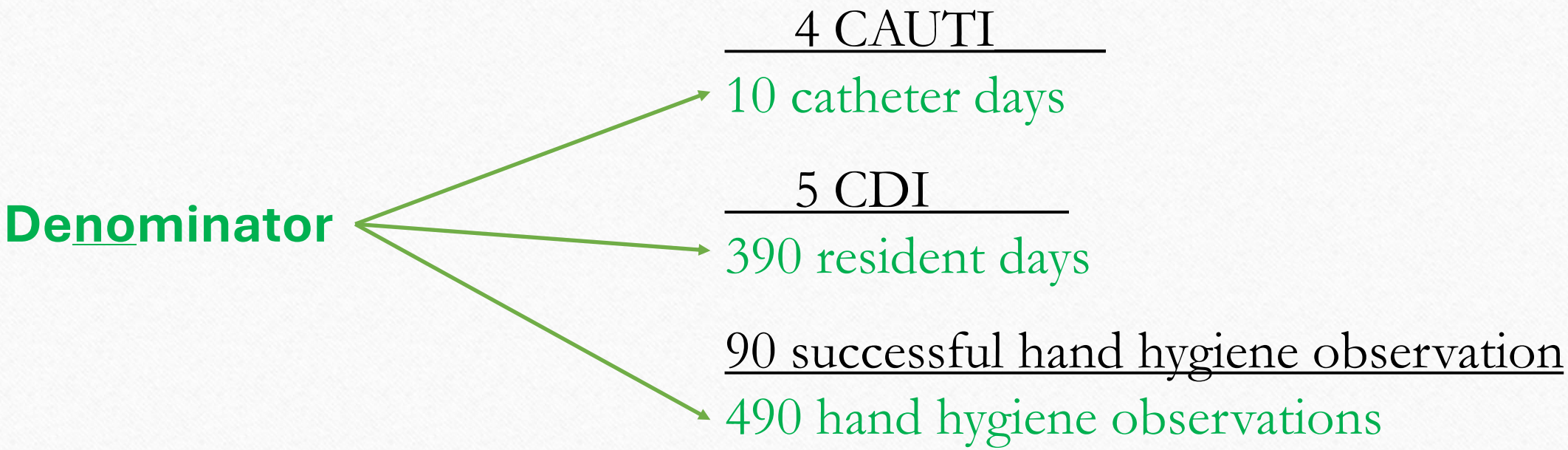
- √ HAI identified through **active** surveillance: CLABSI, UTI
- √ HAIs identified by **laboratory** finding alone: CDI, MRSA
- √ Care **practices, processes**, observations: hand hygiene, PPE use compliance



Denominator Data

Denominator = number of residents or procedures being followed, the population size, or person-time at risk (resident or line days)

Includes procedures, observations, number of employees or number of resident days



Incidence: the number of **new cases** of a given disease in a given time period.

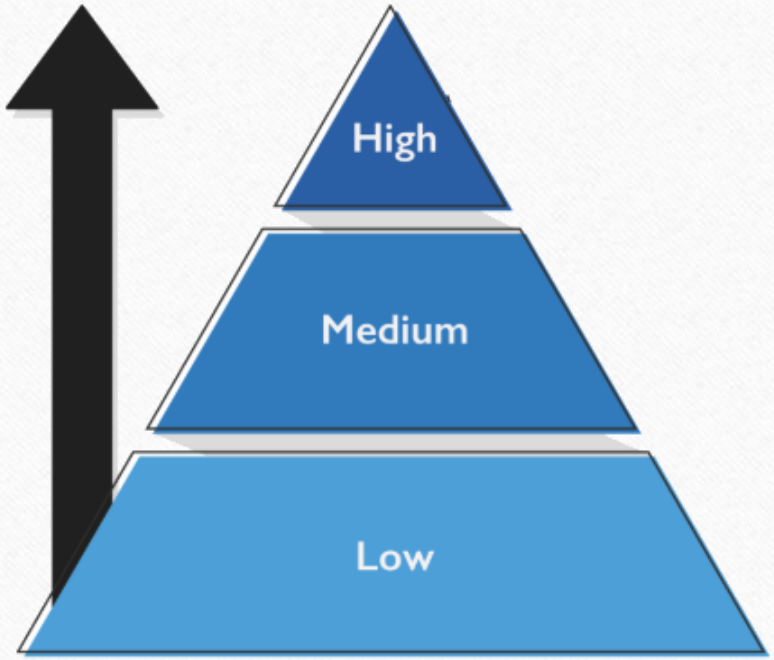
$$\frac{\textbf{4 new UTI cases} \text{ occurring during a specific period of time}}{\text{10 people at risk for developing the disease during that period of time}} = 0.4 \times 100 = 40\% \text{ of residents}$$

Prevalence: the number of **existent cases** of a given disease at a given time.

$$\frac{\textbf{4 new UTI cases} \text{ occurring during a specific period of time}}{\text{10 people at risk for developing the disease March (31 days)=310}} \quad \frac{4}{310} = 0.013 \times 1000 = 12.9 \text{ UTI per 1000 resident days}$$

Apply risk stratification methods

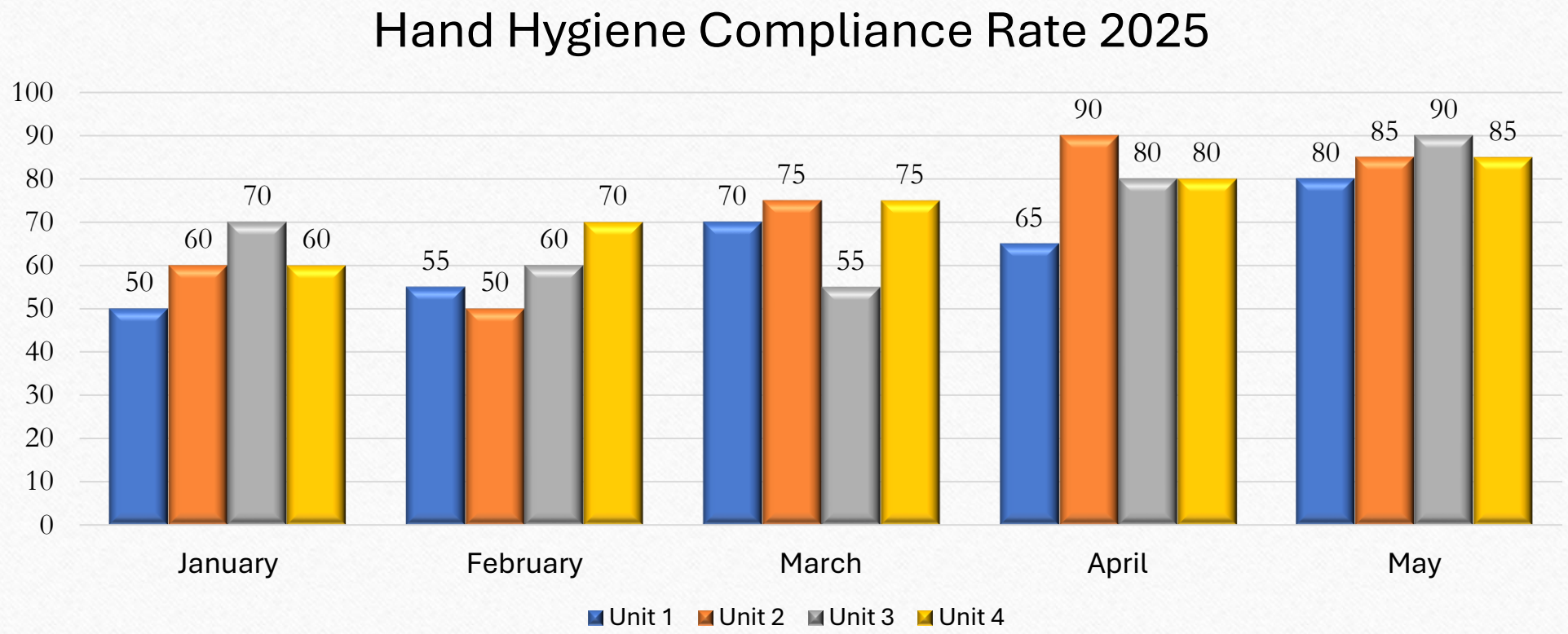
- Risk stratification involves categorizing individuals into low, medium, or high risk groups based on healthcare utilization or clinical indicators
- Allows organizations to focus monitoring efforts and allocate resources to populations at highest risk



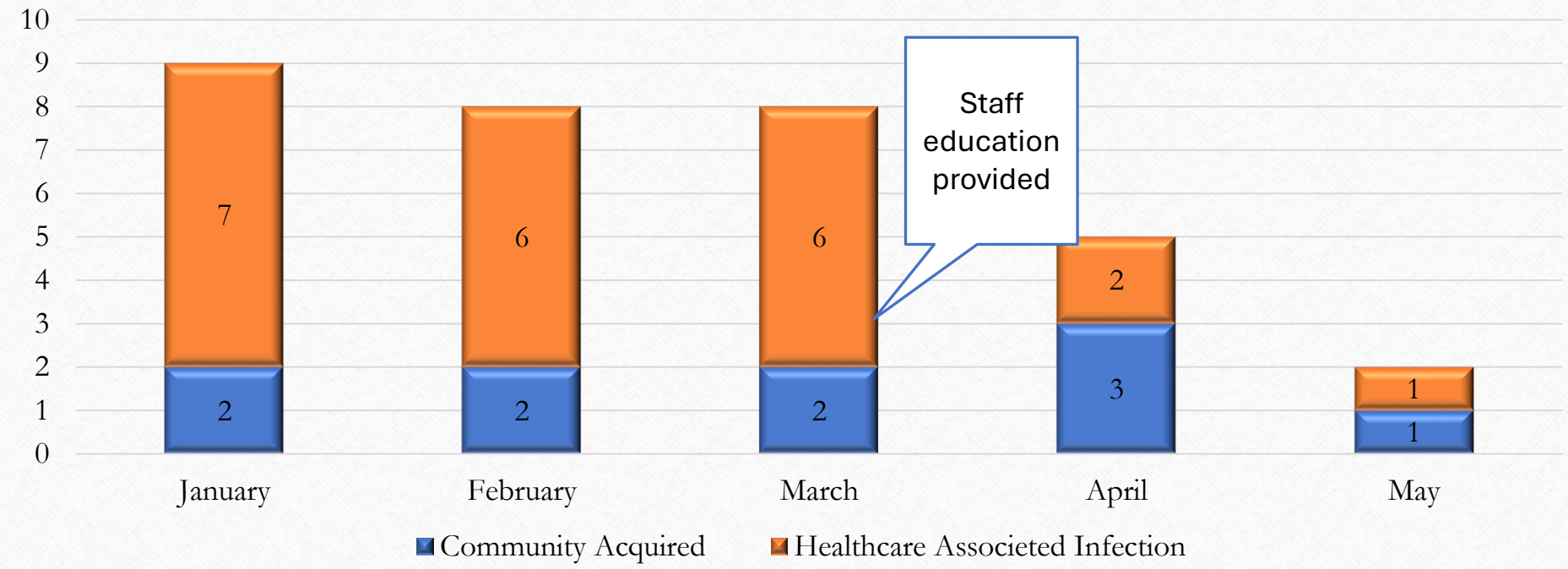
7. Report and use surveillance information

- ✓ Plan for distribution of findings
- ✓ Report to health care providers most able to impact resident care
- ✓ Report in a manner to stimulate improvement
- ✓ Use visual displays of data (e.g., charts, graphs, tables)

Sample Bar Chart



Sample Clostridioides difficile (CDI) Chart



Surveillance Plan Component

A written surveillance plan can be incorporated into an organization's IPC plan or it can be a separate document.

Should include…
Type of healthcare setting, services provided, and populations served
Surveillance program purpose, goals, and objectives
Results of the organization's risk assessment
Prioritized risk events monitored and criteria used are clearly defined
Rationale for selecting each event (outcome, process, and other)
Methodology used for case identification, data collection, and analysis
Description of applicable mandatory reporting requirements of state, federal, and other relevant agencies
Reports generated and to whom they are provided
Process and frequency used to evaluate the surveillance program


OUTBREAK

Key Terminologies

Case Definition: A standard set of criteria (like symptoms and lab tests) used to identify a disease.

Colonization: When germs are present and growing in the body but don't cause illness or symptoms.

Endemic: The **usual presence** of a disease or condition in a specific population or geographical area (i.e., malaria).

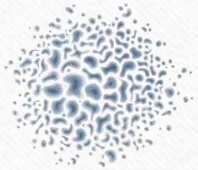
Epidemic: An **excess over the expected incidence** of disease within a given geographical area during a particular time.

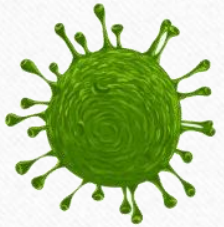
Pandemic: A **global outbreak** of disease in humans that affects at least two continents and/or exceeds expected rates of morbidity and mortality

Pseudo-outbreak: A false alarm where test results suggest an outbreak, but there's no real illness. It's often due to errors like contaminated samples or lab mistakes.

Line list: a list established to assist and guide an outbreak investigation by documenting and organizing demographic data, clinical risk factors, and host or other contributing factors.

What's an Outbreak?

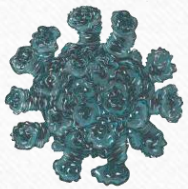




- An increase in the occurrence of cases of infection or disease over what is expected in a defined setting or group in a specified time period.
- The number of cases that constitutes an outbreak **may vary**
- The occurrence of a **single case** of a communicable disease that has been absent from the population, or the emergence of a previously unrecognized disease, must be reported immediately and prompt an epidemiologic investigation.

Causes:

Breakdowns in infection prevention practices	Contaminated products or devices
Infected or suspected patients	Infectious visitors
Healthcare personnel who are colonized or infected	Noninfectious environmental exposures



Steps in Facility Outbreak Investigation

1: Verify the diagnosis

2: Confirm presence of an HAI outbreak

3: Alert key partners

4: Establish a case definition

5: Identify and count cases

6: Organize data according to person, place, time, and size

7: Conduct targeted observations, review key concerns with HCP, and develop abstraction forms

8: Formulate and test hypotheses

9: Perform ICP assessment and implement control measures

10: Follow-up, communicate findings, and notify residents

1. Verify the diagnosis

- ✓ Ensure that the **diagnosis** is correct
- ✓ Review **laboratory report** for possible error
- ✓ Evaluate possible **changes in surveillance** and case definitions
- ✓ Review **clinical findings** and lab testing results

2. Confirm the presence of an HAI Outbreak

Verify whether the suspected outbreak is real!

- ✓ Reporting might be **increased because of changes** in reporting procedures, case definitions, or diagnostic procedures or increased local or national awareness
- ✓ Healthcare-identified cases may reflect a larger community outbreak.
- ✓ Pseudo-outbreaks can occur due to laboratory errors or contaminated equipment, without actual clinical illness.

3. Alert key partners about the outbreak

- ✓ Ensure **key facility staff** are informed
- ✓ Inform the **clinical laboratory** to **save all isolates** that might be related to the outbreak
- ✓ Notify other local and state public health officials
- ✓ Notify other hospitals and facilities that share residents to identify additional cases or take necessary control actions.
- ✓ Notify regulatory partners (such as FDA or EPA) if investigation involves regulated medical devices or products
- ✓ Notify professional oversight organizations

4. Establish a case definition

A case definition is used to identify infected or possibly infected persons.
A case definition normally includes:

- ✓ **Clinical information** about the disease
- ✓ **Demographics** of affected residents
- ✓ **Location** of possible exposure or time of onset
- ✓ **Defined time**

The initial case definition should be narrow enough to focus investigative efforts but broad enough to capture the majority of cases.

Continuation…

The case definition should consider the known causative agent and may include both infected and colonized residents.

A stratified case definition may be utilized to reflect varying levels of diagnostic certainty.

Confirmed: Must have **laboratory verification**

Probable: Has typical clinical features and an epidemiologic link to confirmed cases but **without lab confirmation**

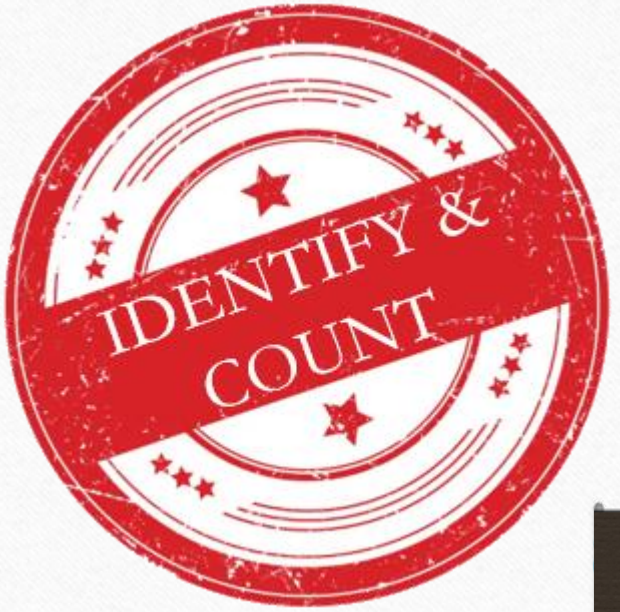
Possible: Has fewer of the **typical clinical features** or **weaker epidemiologic links** to confirmed cases

Continuation…

Case Definition Examples

1. Residents in the same facility with respiratory symptoms during last three months that were admitted to higher level of care
2. New Vancomycin-resistant enterococci infection or colonization in more than one resident of one unit within two-week period of time.
3. Generalized, maculopapular rash lasting ≥3 days compatible symptoms in a resident who travelled in measles affected country within 21 days before symptom onset.

5: Identify and count cases



Outbreaks are often initially detected by observant healthcare personnel or identified through routine surveillance activities.

Additional cases may be identified using a variety of data sources, including:

- ✓ Microbiology reports
- ✓ Medical records
- ✓ Symptom logs
- ✓ Surveillance records
- ✓ Interviews with HCP/physicians
- ✓ Pharmacy records
- ✓ Radiology records
- ✓ Pathology records
- ✓ Employee health records

6 – Organize data

Create a line list

- ✓ The line list is perhaps the single most important tool in any outbreak investigation and merits considerable discussion and effort.

- ✓ Helps guide the outbreak investigation and permits rapid examination of exposures

Construct an epidemic curve

- ✓ Visually demonstrates the outbreak's magnitude and time course

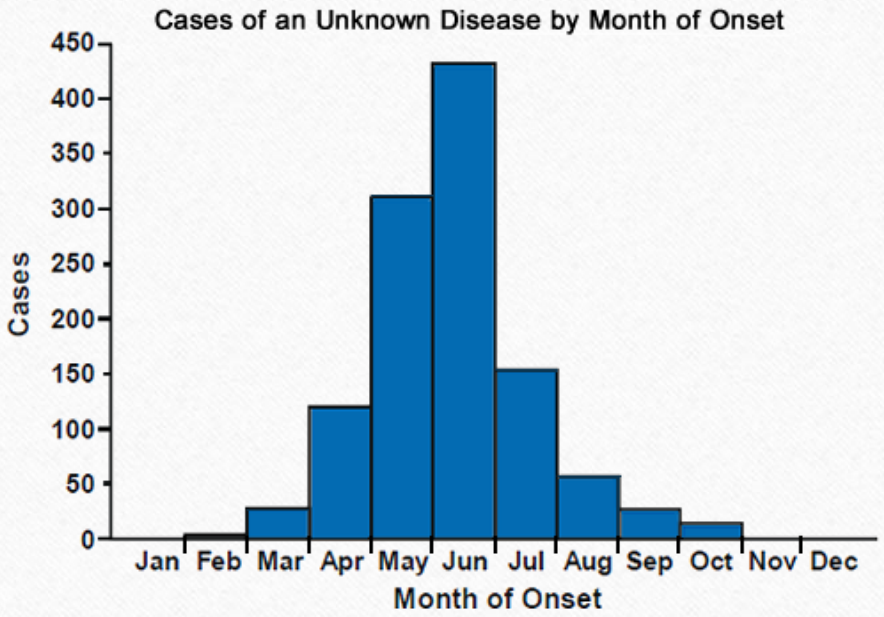
Continuation…

Line list example:

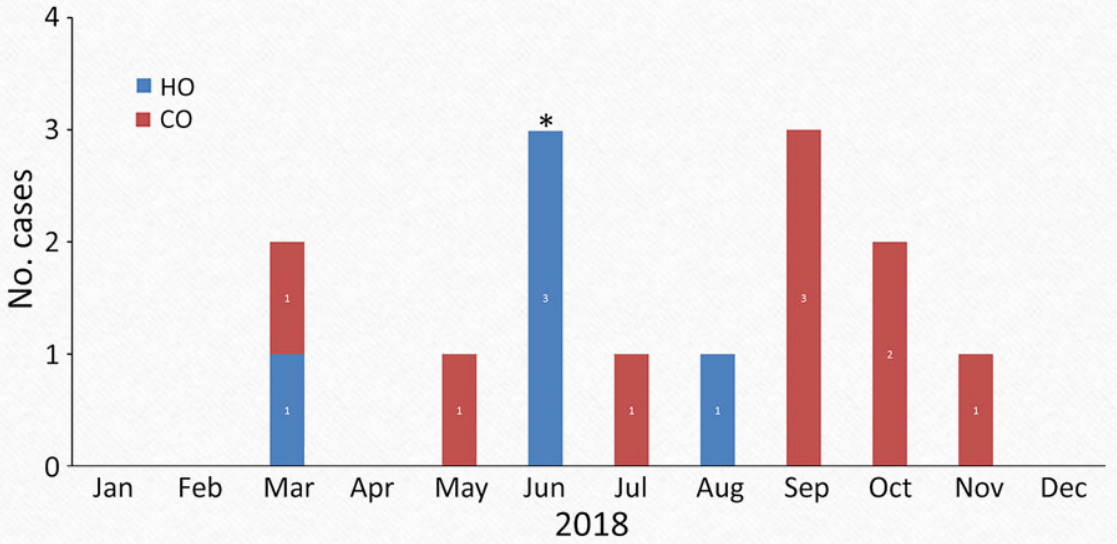
Unit	Name	DOB	Unit	Disease	Onset Date	S/Sx	Laboratory Done	Date Collected	Result	Treatment	IP Review	Assigned IP

Continuation…

Epidemic curve example:



KPC-3–Producing *Serratia marcescens* Outbreak between Acute and Long-Term Care Facilities, Florida, USA



Epidemic curve of carbapenemase-producing *Serratia marcescens* infections by month in 2 hospitals of a large healthcare system in Miami, Florida, USA, 2018. Asterisk (*) indicates the implementation of new interventions in response to the outbreak. CO, community-onset; HO, hospital-onset.

7 . Conduct Targeted Observations, Review Key Concerns with HCP, Develop Data Abstraction Forms

Public health will guide the outbreak investigation and will:

- ✓ Evaluate if daily practices differ from established infection control guidelines and facility policies
  *Discrepancies are best identified through a combination of direct observation and HCP self-reported practices
- ✓ Review literature for previous reports of similar outbreaks in comparable care settings
- ✓ Discuss with facility HCP to help generate hypotheses
- ✓ Create or implement standardized data abstraction forms or assessment tools for consistent evaluation

8 . Formulate/Test Hypotheses

- ✓ To determine the cause and extent of an outbreak, conduct targeted sampling and testing
  - Who, where and what should be tested guided by epidemiologic findings
- ✓ Consider testing of HCP
  - After careful consideration of how results will help control the outbreak
- ✓ Conduct analytic studies
  - Use analytic studies to compare the frequency of exposure to suspected risk factors between affected individuals (persons w/ HAI) and unaffected individuals (persons w/ HAI).

9 . Perform Infection Control Assessment and Implement Control Measures

- ✓ **Conduct an infection control assessment** by:
  - Determining appropriate control measures based on findings from the assessment
  - Identifying the gaps and guide outbreak response.
  - Using a standardized infection control assessment tool for consistency and thoroughness.
  - Performing a targeted walkthrough focused on areas potentially linked to the suspected source of transmission (e.g., specific care locations or departments).
- ✓ **Recommend and implement control measures promptly** as soon as deficiencies are identified to prevent further spread.

Continuation....

Examples of Control Measures:

- ✓ Isolation, room placement (cohorting), and Transmission-based precautions
- ✓ Closing a unit (or the facility) to new admissions until transmission has ceased
- ✓ Environmental control measures
- ✓ Adherence monitoring
- ✓ Post-exposure prophylaxis, as appropriate
- ✓ Visitor restriction (as appropriate)
- ✓ Ensure affected resident status is communicated when transferred, or flagged internally

Step 10 – Follow-up, Communicate Findings, and Notify Residents

Complete follow-up stages of the outbreak investigation

Case definition refinement, case finding and surveillance continuation, and review control measures

Communication of findings

Investigation report should include

1. Outbreak characteristics
2. Infection control problems that most likely contributed to outbreak
3. Any interventions instituted and their effects
4. Recommendations for preventing future outbreaks

Resident Notification

Resident Notification

- ✓ **Establish transparency** between healthcare personnel and residents to build trust and support outbreak management.
- ✓ **Identify potentially exposed or infected residents** who may benefit from follow-up testing or clinical evaluation.
- ✓ **Limit the spread of multidrug-resistant organisms or other public health threats** by applying recommended precautions to exposed residents and their contacts.
- ✓ **Support case finding** by informing residents and providers about the outbreak, associated exposures, and relevant clinical signs and symptoms.

Important Considerations

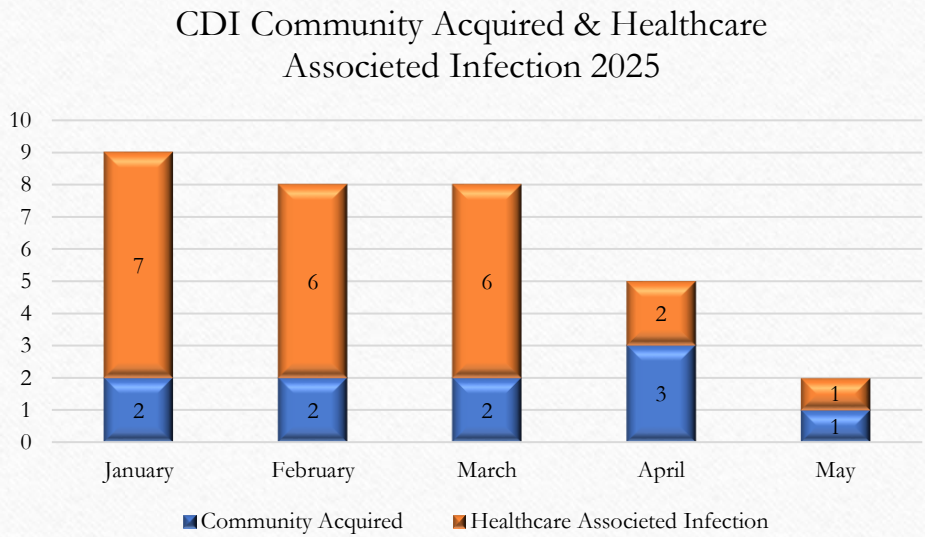
- ✓ Healthcare-associated infection (HAI) outbreaks can lead to legal action and carry significant financial and reputational consequences for affected facilities.
- ✓ There may be pressure to conduct investigations swiftly and implement control measures rapidly.
- ✓ Public health documentation related to outbreak responses is often subject to Public Records Act requests. Therefore, it is essential to:
  - Maintain detailed records of all actions taken during the investigation and response.
  - Exercise caution and professionalism in all forms of communication, including emails and written correspondence.
  - Operate under the assumption that all investigation records may become publicly accessible or be used in legal proceedings.

Reporting

- Once surveillance is completed, the data should be collected and analyzed and their significance summarized.
- Internal reporting may include discussing findings at the infection prevention or quality assessment and assurance committee

Internal Reporting:

- ✓ Resident/client/patient and their significant support systems and family members
- ✓ Nursing
- ✓ Admitting
- ✓ Therapy
- ✓ Life enrichment/activities
- ✓ Environmental services
- ✓ Maintenance
- ✓ Nutrition/dining services
- ✓ Administration
- ✓ Facility board of directors and owners



External Reporting:

- Local/county health department
  - ✓ Contact information for the local or state health department.
  - ✓ The specific individuals within the state or local health department who specialize in different diseases or disease categories (e.g., respiratory outbreaks, gastrointestinal outbreaks, tuberculosis, sexually transmitted disease, immunization, and so forth).
  - ✓ State and local health department-required forms and how they should be submitted.
- State/provincial health department
  - ✓ State and local health department-required forms and how they should be submitted.
- CDC's National Healthcare Safety Network (NHSN)
  - ✓ The CDC's NHSN is the nation's most widely used HAI tracking system and is considered the gold-standard surveillance system for HAIs.

NHSN
NATIONAL HEALTHCARE SAFETY NETWORK

COUNTY HEALTH
All together better.

California Department of PublicHealth

Summary

- The Infection Preventionist must have a foundational understanding of epidemiological principles and be able to apply them effectively to healthcare-associated infection (HAI) surveillance.
- Accurate and consistent data collection, documentation, analysis, interpretation, and communication of findings are critical components of a robust infection prevention and surveillance program.
- An effective infection prevention and control (IPC) surveillance program in a long-term care (LTC) facility requires a collaborative, team-based approach within internal and external agencies.
- Surveillance of process measures is essential for guiding targeted prevention strategies and enhancing adherence to best practices that reduce infection risk.


Thank You

References:

Infection Prevention Guide to Long-Term Care

APIC Text Chapter 10, 11, 12

NHSN

ipc-riskassessment.xlsx

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