



Ask an IP: Learning and Communication Series

Preventing Catheter Associated Urinary Tract Infections (CAUTIs) in Skilled Nursing Facilities

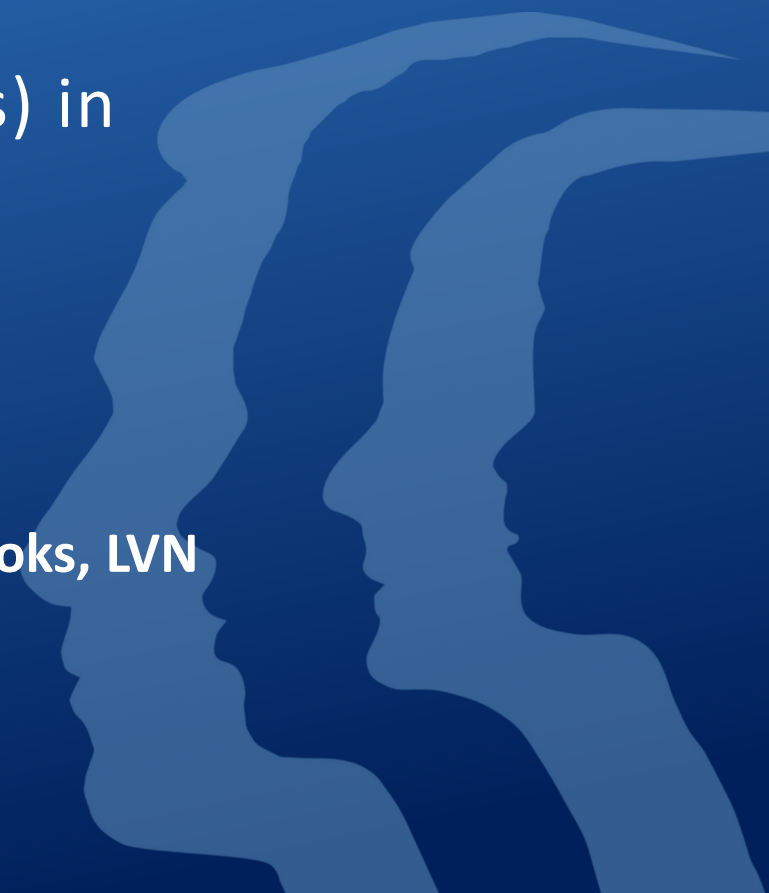
Marco Marquez, MPH, CIC + Walteena Brooks, LVN

Infection Preventionists

Healthcare Outreach Unit

Acute Communicable Disease Control (ACDC) Program

Los Angeles County Department of Public Health





LACDPH Infection Preventionist Team

- Jehan Mephors, RN
- Marco Marquez, MPH, CIC
- Walteena Brooks, LVN

Contact Us: LACSNF@ph.lacounty.gov

Website:

<http://publichealth.lacounty.gov/acd/AskAnIPProgram/index.htm>



Disclosures

- There is no commercial support for today's call
- Neither the speakers nor planners of today's call have disclosed any financial interests related to the contents of this meeting
- This call is meant for healthcare facilities and is off the record, reporters should log off now



Housekeeping

- **Microphones** are disabled. For questions, please use the chat
- **Cameras:** please keep them turned off during the presentation
- **Recording:** the presentation is being recorded and will be posted on the Ask an IP Website within a few weeks following the session
- We will not review COVID-19 guidelines (including CDPH AFLs) during these sessions



Today's Objectives

- Understand the causes and risk factors for CAUTIs
- Review prevention strategies associated with insertion, maintenance, and removal practices
- Identify key features of CAUTI monitoring, surveillance, and reporting
- Engage with real world scenarios to identify process gaps



Introduction to CAUTIs





What are CAUTIs?

- CAUTI = Catheter-Associated Urinary Tract Infection
 - Urinary tract infection (UTI) that develops within a patient with an indwelling urinary catheter in place for more than 48 hours
- Most common type of healthcare associated infection (HAI)
- Most common pathogens involved: *E. coli*, *Klebsiella pneumoniae*, *Enterococcus spp.*



Why are CAUTIs Important in SNFs?

- SNFs care for older, high-risk populations
- CAUTIs can lead to unnecessary suffering like pain, fever, increased risk of sepsis
- Preventable, with proper hygiene, IPC, and maintenance



How CAUTIs Effect Residents and Facilities

- Residents
 - Serious complications, sepsis, hospitalization, death
 - Increase hospital visits, disrupting care, and increasing the risk of other complications
- Facilities
 - CMS reductions/penalties in Medicare/Medicaid reimbursements
 - Reputational damage for facilities with high infection rates



Audience Question 1

What is a CAUTI?

- A. An infection caused by improper hygiene practices in residents without catheters.
- B. An infection in the urinary tract caused by a catheter, common in healthcare settings.
- C. A rare type of infection that occurs only in hospitals.



Answer

What is a CAUTI?

- A. An infection caused by improper hygiene practices in residents without catheters.
- B. An infection in the urinary tract caused by a catheter, common in healthcare settings.**
- C. A rare type of infection that occurs only in hospitals.



Causes and Risk Factors





Patient-related factors (non-modifiable risk factors)

- **Advanced age:** Increased risk due to weakened immune systems.
- **Comorbidities:** Immune-suppressing conditions (E.g. cancer).
- **Chronic Health Conditions:** (E.g. diabetes).
- **Immobility:** Limited mobility often leads to catheter use.



Modifiable risk factors: Catheter-specific

- Prolonged catheter use
- Poor insertion technique.
- Lack of proper maintenance and hygiene.



Audience Question 2

Which of the following is a modifiable risk factor for developing a CAUTI?

- A. Frequent hand hygiene by staff.
- B. Prolonged use of an indwelling urinary catheter.
- C. Daily monitoring of catheter necessity.



Answer

Which of the following is a modifiable risk factor for developing a CAUTI?

- A. Frequent hand hygiene by staff.
- B. Prolonged use of an indwelling urinary catheter.**
- C. Daily monitoring of catheter necessity.



Signs and Symptoms



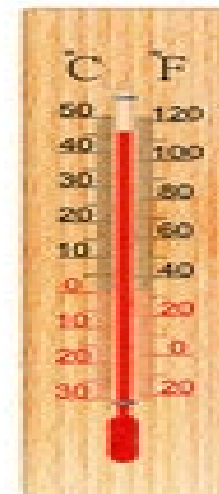


Symptoms of CAUTI

- Fever or chills.
- Cloudy, foul-smelling, or bloody urine.
- Suprapubic (lower abdominal) pain or discomfort.
- Confusion or delirium (common in older adults).
- Flank pain (indicates potential kidney involvement).

Fever or Chills

- A fever indicates the body is responding to an infection.
- A temperature of 100.4F (38C) or higher is considered a fever.
- Chills often accompany fever and suggest a systemic response to infection, possibly due to CAUTI.





Cloudy, Foul-Smelling, or Bloody Urine

- Cloudy urine may indicate pus or bacteria.
- Foul-smelling urine suggests bacterial overgrowth.
- Bloody urine (hematuria) may occur due to irritation
- **Prompt Action:** Always assess and notify the doctor/healthcare provider if these changes are observed and document change in condition

Suprapubic (Lower Abdominal) Pain or Discomfort

- Pain in the lower abdomen is a common symptom of bladder infection caused by a catheter.
- Residents may report pressure, cramping, or discomfort.
- **Key Note:** Always inquire about pain levels during rounds.



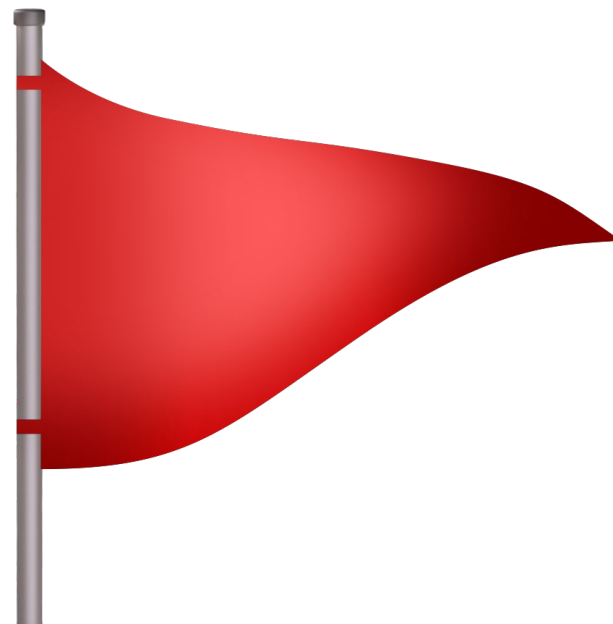
Confusion or Delirium (Common in Older Adults)

- Older adults may not show typical infection symptoms. Instead, confusion, agitation, or changes in mental status may be early signs.
- **Take Action:** Monitor for any sudden behavioral changes and report immediately.



Flank Pain (Indicates Potential Kidney Involvement)

- Pain in the side or back near the kidneys suggests the infection has spread to the upper urinary tract.
- **Key Point:** Flank pain is a red flag for pyelonephritis (kidney infection), requiring urgent attention.





Audience Question 3

Which of the following is a common symptom of CAUTI?

- A. Shortness of breath.
- B. Cloudy or foul-smelling urine.
- C. Joint pain.



Answer

Which of the following is a common symptom of CAUTI?

- A. Shortness of breath.
- B. Cloudy or foul-smelling urine.**
- C. Joint pain.



What Determines a CAUTI?

- Presence of an indwelling catheter at the time of infection or within 48 hours before symptom onset.
- Fever, suprapubic pain, flank pain, or changes in urine.
- Positive urine culture with greater than or equal to 100,000 colony-forming units (CFU)/ml of no more than 2 organisms.
- No treatment required if there are no symptoms, even if the urine is positive
- Symptoms must align with CAUTI and not other infections like pneumonia or bloodstream infections.

What Does NOT Determine a CAUTI?

- Positive urine collection alone: without symptoms, it is asymptomatic bacteriuria.
- Symptoms unrelated to a urinary catheter do not qualify as a CAUTI.
- Mild urinary changes (e.g., color) without systemic symptoms are not CAUTI.



Case Scenario

Mr. Johnson a 75-year- old resident with an indwelling catheter, reports feeling fatigued. His urine is cloudy and has a strong odor. No fever or abdominal pain is noted. A urine culture shows 100,000 CFU/ml of E.coli. Is this a CAUTI?

- A. Yes, because the urine culture is positive.
- B. No, because there are no systemic symptoms like fever or pain.
- C. Yes, because the urine is cloudy and has a foul smell.



Answer

Mr. Johnson a 75-year- old resident with an indwelling catheter, reports feeling fatigued. His urine is cloudy and has a strong odor. No fever or abdominal pain is noted. A urine culture shows 100,000 CFU/ml of E.coli. Is this a CAUTI?

- A. Yes, because the urine culture is positive.
- B. No, because there are no systemic symptoms like fever or pain.**
- C. Yes, because the urine is cloudy and has a foul smell.



Prevention Strategies for CAUTI





Insertion Best Practices

- Catheter selection
- Medical Necessity/Indication
- Sterile technique



Maintenance Protocols: Daily Necessity Assessment

- Reassess catheter necessity every day.
- Remove catheter as soon as no longer needed.
- Document changes in condition or reason for continued use.



Maintenance Protocols: Proper Securement and Drainage

- Ensure the catheter and tubing are secure to prevent tugging.
- Keep the drainage bag below bladder level to avoid backflow.
- Empty the drainage bag regularly using aseptic technique.



Removal of Catheter

- Empower nurses to remove catheters as soon as medically indicated.
- Follow proper hygiene during removal to avoid contamination
- Ensure proper disposal of catheters.



Educating Staff on CAUTI Prevention

- Hand Hygiene
- Aseptic Technique
- Daily Necessity Checks
- Maintenance Best Practices
- Documentation



Educating Residents/Visitors on CAUTI Prevention

- Purpose of catheter
- Signs of infection to watch for
- Importance of hygiene (especially around catheter site)
- Avoid tugging and twisting
- Keep drainage bag properly positioned



Audience Question 4

What is the most effective way to prevent prolonged catheter use?

- A. Ensure catheters are secure.
- B. Reassess catheter necessity daily.
- C. Document insertion in the medical record.



Answer

What is the most effective way to prevent prolonged catheter use?

- A. Ensure catheters are secure.
- B. Reassess catheter necessity daily.**
- C. Document insertion in the medical record.



Monitoring, Surveillance, Reporting





Data Collection and Responsibilities

- Follow NHSN criteria.
- Lab results to confirm CAUTI.
- Track clinical symptoms.
- Include documentation of catheter insertion and maintenance
- IP oversees data collection, validates CAUTI cases, and report findings.
- Nursing staff to complete daily assessments, symptom monitoring, and accurate documentation.
- Lab will ensure timely and accurate processing of urine cultures.



Surveillance Practices

- Regular audits of catheter use, insertion and maintenance.
- Track CAUTI rates and trends within the facility.
- Conduct root cause analyses for each confirmed CAUTI.
- Utilize surveillance tools (e.g., NHSN database) for reporting



Reporting Protocols

- **Internal Reporting:** Share findings with leadership and infection control/prevention committees.
- **External Reporting:** Report CAUTIs to NHSN per regulatory requirements.
- Notify public health agencies for specific pathogens, if required (dependent on disease/infection, please refer to list of reportable diseases and conditions)



Tools and Checklists for Monitoring

- **Checklists:** ensure proper insertion, maintenance, and timely removal
- **Audits:** Conduct regular audits of catheter use and adherence to protocols
- **Training and Education:** Regular staff training to reinforce proper techniques and incorporate feedback from audits.
- **Monitoring for prevention:** Use tracking tools to visualize trends and compliance data.



Audience Question 5

Which step is most critical for identifying a CAUTI during monitoring?

- A. Tracking symptoms and clinical changes.
- B. Reporting all positive urine cultures.
- C. Using CFU thresholds to confirm infection



Answer

Which step is most critical for identifying a CAUTI during monitoring?

- A. Tracking symptoms and clinical changes.**
- B. Reporting all positive urine cultures.
- C. Using CFU thresholds to confirm infection



QAPI





Definition and Purpose

- QAPI = Quality Assurance and Performance Improvement)
 - Data-driven, proactive approach to improving the quality of care and outcomes in our facilities
- Purpose
 - Provides the framework for analyzing issues and implementing prevention strategies
 - Integrates monitoring and maintenance standards with systematic problem solving
- Regulatory Requirement:
 - Mandated by CMS for SNFs as a part of participation requirements



QAPI Goals for CAUTI Prevention

- Systemic Focus
 - Identifies and addresses systemic issues contributing to CAUTIs
- Data-Driven Decisions
 - Uses infection surveillance data to guide prevention efforts
- Sustainability
 - Implements changes that are measurable and maintainable over time
- Staff Engagement
 - Encourages staff to participate in QAPI activities related to CAUTI prevention

Key Components of QAPI for CAUTI Prevention

- Performance Improvement Project (PIP)
 - Focus on a PIP specifically centered around reducing CAUTI
 - E.g. reducing indwelling catheter usage by 20% over 6 months
- Root-Cause Analysis (RCA)
 - Analyze every CAUTI event to identify process breakdowns
 - E.g. inadequate documentation of catheter necessity



Key Components of QAPI for CAUTI Prevention

- Data Collection and Monitoring
 - Track catheter days, infection rates, and trends over time
 - Use tools like NHSN for standardized tracking
- Education and Training
 - Provide targeted education based on RCA findings
 - E.g. reinforce aseptic insertion practices



Engaging Staff in QAPI

- Encourage participation
 - Involve all staff in identifying and addressing barriers to CAUTI prevention
- Feedback mechanisms
 - Create opportunities for staff to share observations and suggestions
- Celebrate success
 - Recognize individual and team contributions to QAPI initiatives



Case Studies/Scenarios





Case Scenario

Mrs. Carter is admitted to your facility with a urinary catheter in place from the hospital. The catheter was inserted for monitoring but is no longer needed.

Question: What should the team do about the catheter?

- A. reassess if catheter is still necessary
- B. if there is no medical reason, remove to reduce risk of infection
- C. remove the catheter right away
- D. A & B



Answer

Question: What should the team do about the catheter?

- A. reassess if catheter is still necessary
- B. if there is no medical reason, remove to reduce risk of infection
- C. remove the catheter right away
- D. A & B**



Case Scenario

Scenario:

Mr. Carter, an 81-year-old resident, has an indwelling catheter due to urinary retention. During a routine catheter care observation, the nurse notices that the drainage bag is lying on the floor, and the tubing is kinked.

Question:

What is the best immediate intervention?

- A. Replace the catheter with a new one using aseptic technique?
- B. Elevate the drainage bag and straighten the tubing.
- C. Clean the catheter tubing and reposition it under the resident's leg.
- D. Leave the setup as is and note the findings in the chart.



Answer

Correct Answer:

B. Elevate the drainage bag and straighten the tubing.

Rationale:

The immediate step is to address the positioning issue to prevent urine backflow, which can increase the risk of infection. While replacing the catheter may be considered if contamination occurs, that is not the first step unless clinically indicated.



Case Scenario

Mr. Jackson, a 70-year old male resident is admitted to the SNF after surgery for a knee replacement. The nurse prepares to insert an indwelling catheter due to urinary retention. During the procedure, the following occurs:

1. Nurse performs hand hygiene and dons gloves
2. The sterile catheter kit is opened but sterile drape not used
3. The catheter is inserted successfully, but no documentation of the indication is completed in patient's chart

Question: What went wrong in this scenario?



Answer

- Sterile drape not used
- No documentation for indication in chart



Case Scenario

Mrs. Thompson, a 79 yr. old resident, has had an indwelling urinary catheter for five days. During morning rounds, she is found to have a temperature of 100.8 F. Her urine appears cloudy and has a strong odor.

QUESTION:

What should the nurse do first?

- A. Document the findings and recheck her temperature in four hours.
- B. Notify the physician and prepare to collect a urine sample.
- C. Increase Mrs. Thompson's fluid intake and monitor her symptoms.
- D. Remove the catheter immediately to eliminate the risk of infection.



Answer

Correct Answer:

B. Notify the physician and prepare to collect a urine sample.

Rationale:

The nurse should report the findings to the physician and follow facility protocols for collecting a urine sample to evaluate for a potential CAUTI. Removing the catheter



Resources





Resources

- AHRQ CAUTI Toolkit: <https://www.ahrq.gov/hai/tools/cauti-hospitals/index.html>
- CDC CAUTI Prevention: : <https://www.cdc.gov/infection-control/hcp/cauti/index.html>
- CDC/NHSN CAUTI training module:
<https://www.cdc.gov/nhsn/training/continuing-edu/cbts.html>
- CDC/NHSN CAUTI Criteria:
<https://www.cdc.gov/nhsn/pdfs/pscmanual/7pscCAUTICurrent.pdf>



Resources

- CDPH CAUTI adherence monitoring tool:
<https://www.cdc.gov/infection-control/hcp/cauti/index.html>
- CDPH CAUTI presentation:
https://www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/10h_CAUTI.Prevention_Approved2.22.19.pdf
- LAC DPH Reportable Diseases and Conditions:
<http://publichealth.lacounty.gov/acd/docs/ReportableDiseaseList.pdf>
- LAC DPH TNT Program (QAPI content):
<http://publichealth.lacounty.gov/acd/TNTProgram/index.htm>



LACDPH Project Firstline

[Translate](#) A-Z Index [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#) [ALL](#) [Font Size](#) | [A](#) [A](#) [A](#)

COUNTY OF LOS ANGELES Public Health [Q](#) [Instagram](#) [Facebook](#) [Twitter](#) [YouTube](#) **Acute Communicable Disease Control**

[Vaccine Hub](#) [Therapeutics](#) ▾ [Reporting](#) [Health Facilities](#) ▾ [Cases and Contacts](#) ▾ [LAHAN Alerts](#)

PROJECT FIRSTLINE

Project Firstline (PFL) is a national training and education collaborative created by the Centers for Disease Prevention and Control (CDC) to increase infection control knowledge and understanding among the frontline healthcare workforce.

Project Firstline’s innovative content is designed so that—regardless of a healthcare worker’s previous training or educational background—they can understand and confidently apply the infection control principles and protocols necessary to protect themselves, their residents, their facility, their family, and their community from infectious disease threats, including COVID-19.



Regional Healthcare Network (RHN)

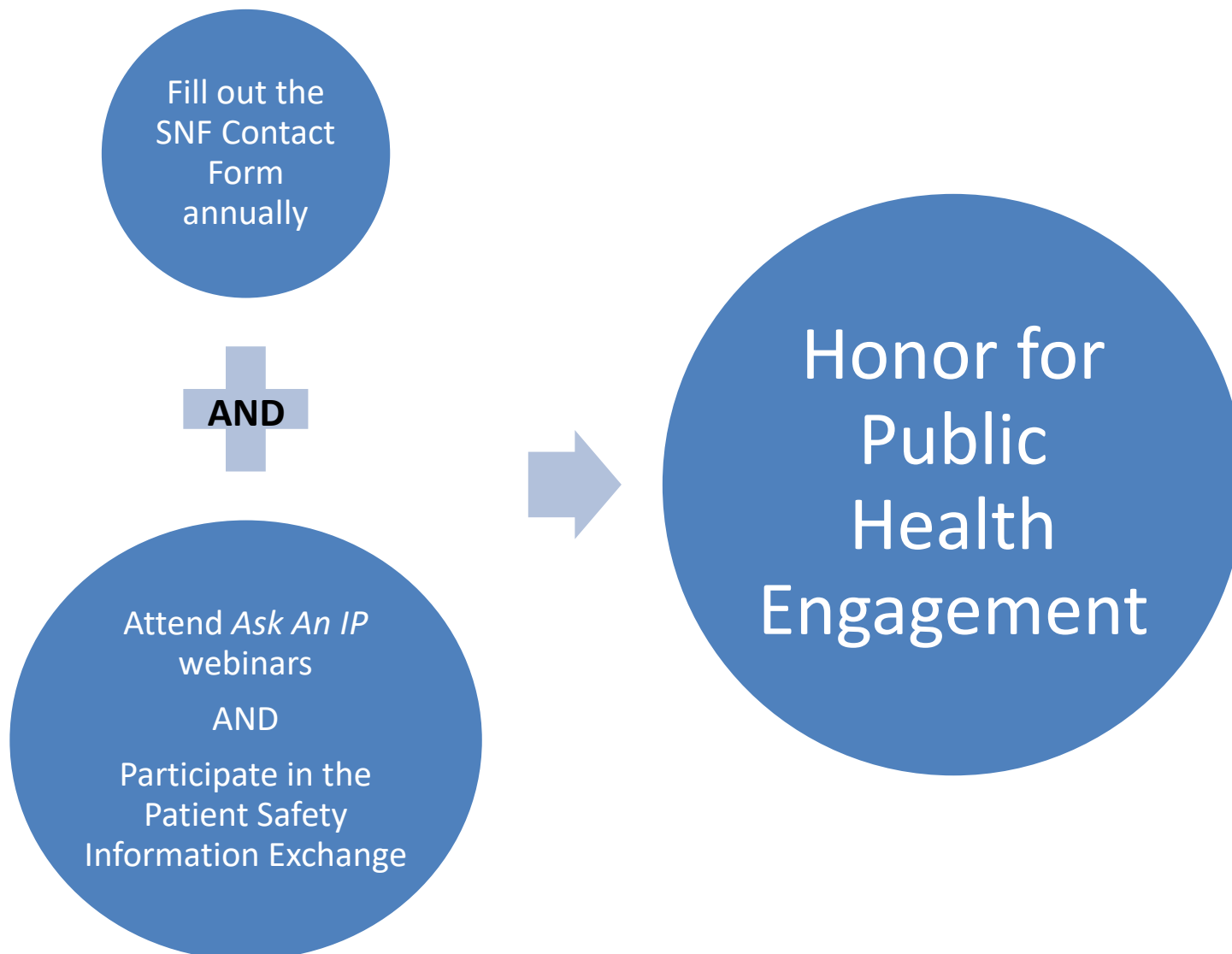
- The RHN is a new program to connect healthcare facility leaders across Los Angeles County and facilitate the sharing of helpful information between facilities
- Opportunity to meet with other leaders in your regional network to identify and address ways to improve specific health concerns specific to your regions
- Meetings take place quarterly, next virtual meetings in February
- Email RHN@ph.lacounty.gov to learn more and sign up for the next session



Honors Categories

- Public Health Engagement
- Vaccination Coverage
- Infection Preventionist Professional Development
- Preventive Action

Public Health Engagement





Vaccination Coverage

Honor for achieving at least 2/3

Resident
COVID-19
vaccination
rate \geq 80%

Staff
COVID-19
vaccination
rate \geq 80%

Staff
Influenza
vaccination
rate \geq 90%



Honor for Infection Preventionist Professional Development

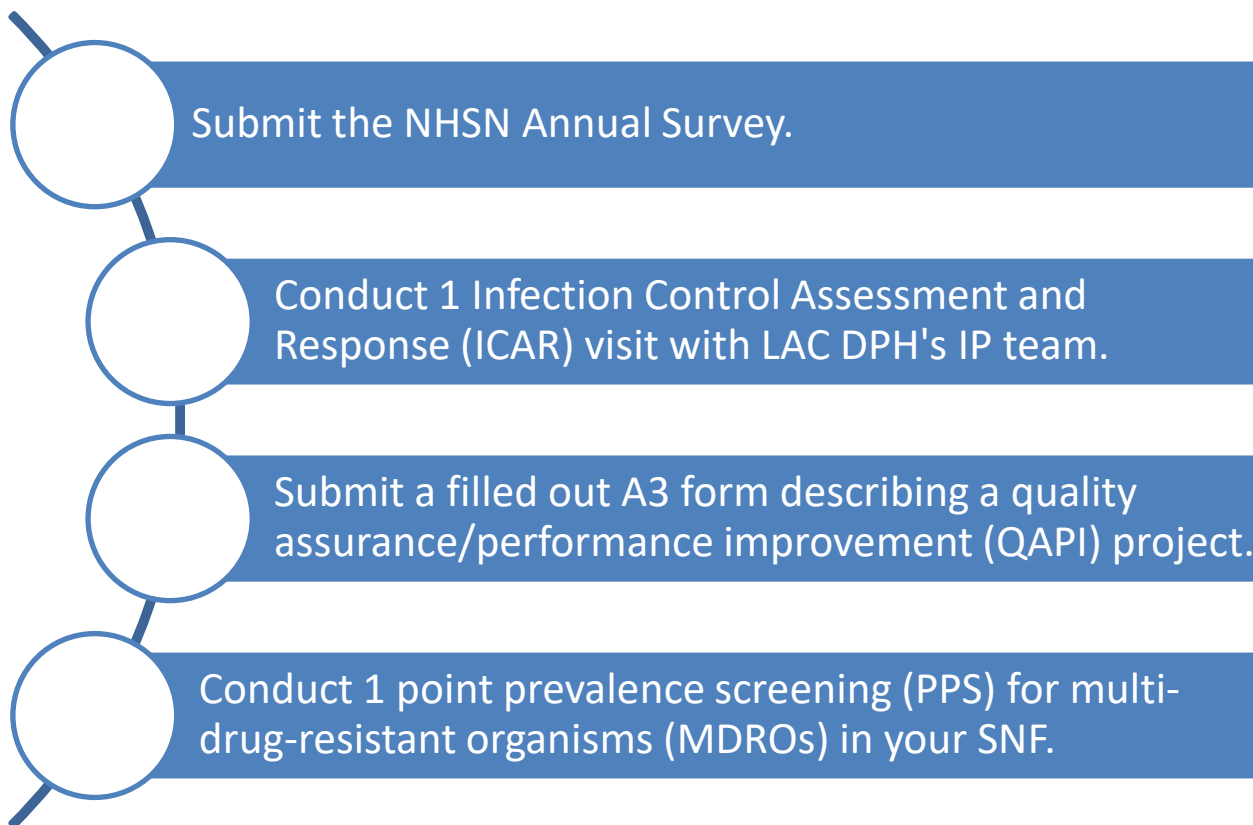
- One IP with national certification from the Certification Board of Infection Control (CBIC).
 - a-IPC: Associate Infection Prevention and Control
 - LTC-CIP: Long-Term Care Certification in Infection Prevention
 - CIC: Certification in Infection Control
 - BCIDP: Board Certified Infectious Disease Pharmacist

AND

- One IP who has been working at the SNF for 1 year or more.

Both criteria do not need to be met by the same IP.

Honor for Preventive Action for at least 2/4

- 
- Submit the NHSN Annual Survey.
 - Conduct 1 Infection Control Assessment and Response (ICAR) visit with LAC DPH's IP team.
 - Submit a filled out A3 form describing a quality assurance/performance improvement (QAPI) project.
 - Conduct 1 point prevalence screening (PPS) for multi-drug-resistant organisms (MDROs) in your SNF.



Infection Control Assessment and Response (ICAR)

- ICAR website:
- <http://publichealth.lacounty.gov/acd/snficarprogram.htm>
- Please visit the website and sign up for a visit to fulfill one of the criteria for the SNF Honor in the Preventive Action category and to get real time feedback on your infection prevention and control practices.



Thank you!





Questions?

Email LACDPH anytime at hai@ph.lacounty.gov

Or visit our website at

<http://publichealth.lacounty.gov/acd/HOU.htm>

