Time for an infection prevention restart: Getting Back on Track

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Objectives

- Describe core infection prevention practices and methods to engage stakeholders in consistent application
- Discuss emerging literature on infection prevention
- Identify leadership skills necessary to communicate, provide feedback and coach healthcare workers
- Discuss the concept of healthcare equity and its role in the prevention of healthcare associated infections

Quote

- “The more you know about the past, the better prepared you are for the future.”

Theodore Roosevelt

Infection preventionists

- Surveillance
- Education
- Partnerships
  - Employee health
  - Environmental services
  - Facilities management
  - Purchasing department
  - Nursing
  - Physicians
  - Discharge planners

Perspective

Health Care Safety during the Pandemic and Beyond — Building a System That Ensures Resilience

Lee A. Fleisher, M.D., Michelle Schreiber, M.D., Denise Cardo, M.D., and Arjun Srinivasan, M.D.

- 20 years of improvement in HAIs
- Decline since the pandemic
- Enormous stress on the healthcare system
- Stressors impacted patients and staff
- Quick degradation suggests lack of a resilient safety culture and infrastructure

Fleisher *N Engl J Med* Feb 2022

NEJM continued

- Substantial deterioration on multiple patient safety metrics since the beginning of the pandemic
- 28% increase in CLABSIs
- Increases in catheter-associated urinary tract infections, ventilator-associated events, and methicillin-resistant *Staphylococcus aureus* bacteremia
- Delta and Omicron suggest similar trends in HAI data

Infection prevention challenges

- Need to strengthen resiliency
- Need to strengthen response
- Innovative ways to address the shortage of healthcare workers
- Need to enhance interdisciplinary collaboration

Resiliency

Resilience is the process of adapting in the face of adversity, trauma, tragedy, or other significant sources of stress.

Being resilient includes learning from past experiences and developing new coping strategies moving forward.

Quote

“There is power in the ordinary. In a fast-moving, loud and polarized world, normalcy can sometimes seem radical. This year, leaders should embrace it. Keep focus on the everyday work that can too often go unsung. Help ensure the value of healthcare is not defined by its highest highs or lowest lows, but by the millions of moments between the two in which lives are improved, health is restored and suffering is spared.”

“ As we begin a new year, healthcare leaders must elevate the good occurring every day with an attitude of pride, optimism, resilience and innovation. Normalcy does not mean status quo or resistance to change. It is about keeping focus, staying the course, and putting in the work.”

Michael J. Dowling, President & CEO, Northwell Health Quoted in Becker’s Healthcare

How do we get back on track?

Strategies

- Review and reassess the damage
- Risk assessment and plan
- What HAIs increased and what remained at acceptable levels?
- Reassess which prevention processes were impacted?

Survival to best practices

How do we get back to basics?

Care bundles and frontline voice

- Follow your care bundle
- Multidisciplinary rounding
- Electronic protocols and reports
- Engage frontline feedback
- **Environmental bundle**

Gaps in CLABSI practice from studies

Teams reported changes to routine CLABSI prevention practices in intensive care units:

- Less universal decolonization (e.g. mupirocin administration and chlorhexidine bathing)
- Alterations in line care due to intravenous pumps placed in hallways (e.g. extension tubing used and less bedside checks on lines)
- Line and dressing integrity gaps related to proning of patients

Studies continued

- Opportunities in scrub-the-hub compliance
- Increases in line draws for blood cultures
- Staffing assignment changes
- Increase in pan culturing

Fakih *ICHE* 2021

Getting back to basics

- Rounding (CAUTI or CLABSI rounds)
- Re-educate line caregiver (CDC Project Firstline)
- Identify where gaps in processes are
- Listen to care givers – rounding or questionnaires
- Evaluate your policies – is there a gap or need for updates ?

Starting point

- Listen to understand
- Find innovative ways to engage the frontline team
- Remember: There is power and wisdom on the front line
- Leverage their power

Communication is key

- Not what is said, but what is understood
- Listening skills
- Being clear and succinct
- Transparency

The lost art of listening

- When you are talking, you are not listening
- When you are not listening, you are not learning
- Assess how well you listen to team members on the front line or in a meeting
- This has been called the talking to listening ratio, TLR
- Goal: TLR less than 1

Saint, S. and Chopra, V. (2019), Know Your TLR. *Journal of Hospital Medic*ine, 14: 189-189.

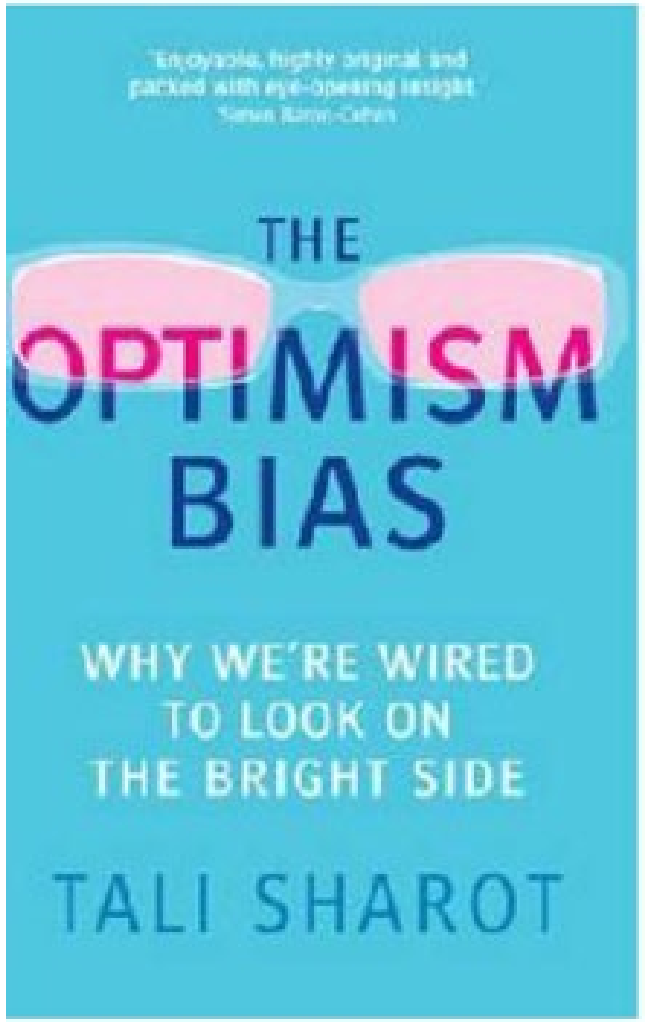
Leadership tips

- Use the Socratic method of asking questions

Example:

- How do you think our HAI reduction efforts are going?
- What can we do to improve?
- How can I help?

Taking the team to the bright side



To make progress, we need to be able to imagine alternative realities – better ones – and we need to believe that we can achieve them.

Such faith helps motivate us to pursue our goals.

Optimists in general are higher achievers.

Studies on optimism

When persons were given feedback that was better than expected, they continued to perform in ways which met or exceeded anticipated goals.

When feedback was negative, they tended to ignore new information.

Risk mitigation

Example: Improving hand hygiene

Recent Publication in *AJIC*

- Hand Hygiene needs to be programmatic, not sporadic
- It's not just about monitoring adherence
- Programs designed to improve HH compliance involve leadership support and extensive system integration

A strategy advocated by the World Health Organization (WHO) is comprised of 5 elements, which are all touted as essential and complementary: System Change (Build it); Education (Teach it); Monitoring and Feedback (Check it); Communication (Sell it); and Culture Change (Live it).

Garcia et al *AJIC* Dec *2022*

Getting back to basics

CLABSI example:

- CHG bathing – documentation issue or failure to implement
- Think about product usage - some companies can help with this

High priority - Increased Candida

The most common breaches in the anti-Candida barrier that increase the risk for Candida infections include:

- Use of antimicrobial agents (which inhibit commensal bacteria and allow Candida overgrowth).
- Use of intravascular devices (primarily central venous catheters), which may allow vascular access to Candida colonizing the skin, or may become infected by Candida that enter the bloodstream from other location (e.g., the gut).
- Gastrointestinal surgery (which disrupts the mucosal barrier, allowing commensal Candida in the gut to invade).
- Use of cytotoxic drugs, which can result in neutropenia (neutrophils and innate immunity being a key component of host defense) and mucositis (which also disrupts the mucosal barrier to Candida invasion).

Avoiding devices

VAE, CAUTI, CLABSI

Avoiding devices when possible

VAE – 2022 Compendium of Strategies - Standardization and Nursing implementation

CAUTI – Alternatives including external devices

CLABSI – Removing lines as soon as possible

Supportive evidence for bundles

Summary of findings from 2 Meta-analyses:

- Demonstrated effectiveness of insertion and maintenance bundles to prevent central-line-associated bloodstream infections in critically ill patients of all ages.
- Implementation of checklists and care bundles appear to yield the strongest risk reductions.

Lancet Infect Dis. Jun 2016 ; Blot *CID* July 2014

Urinary catheters

- One out of four inpatients receive catheters
- One out of three catheter days are unnecessary
- One out of three physicians are unaware their patient has a catheter
- One third of catheters have no order
- **Note: This may not apply to all patients e.g. spinal cord injuries.**

Saint *Preventing Hospital Infections* 2015

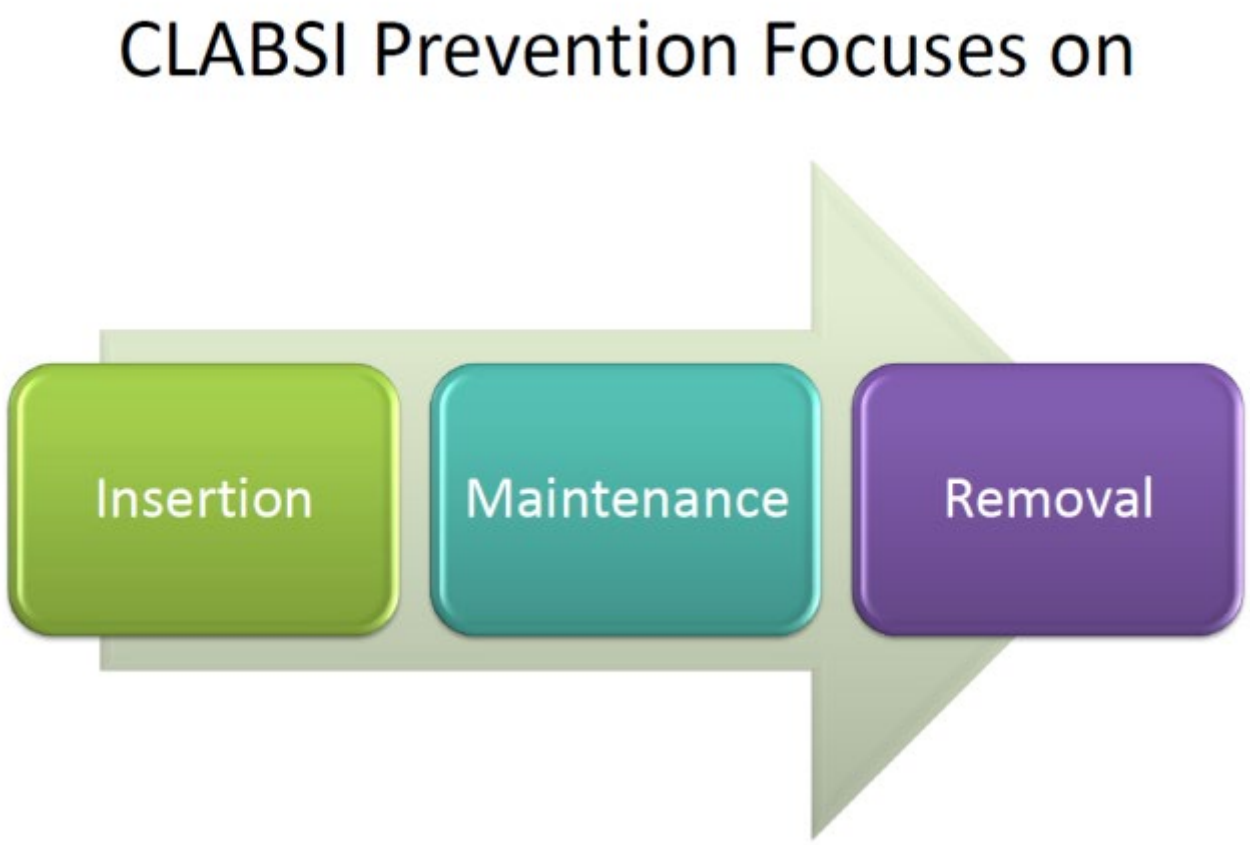
Why is maintenance important?

- Risk of CAUTI increases by 5% each day that a catheter is in place
- Up to 50% of patients with an indwelling urinary catheter for 5 days or more will have asymptomatic bacteriuria (ASB) or fungus in their urine
- Contamination can occur due to breaks in the closed drainage system or from the drainage bag
  - From patient (meatal, rectal, or vaginal)
  - From hands of healthcare worker during insertion or manipulation of catheter and collection system

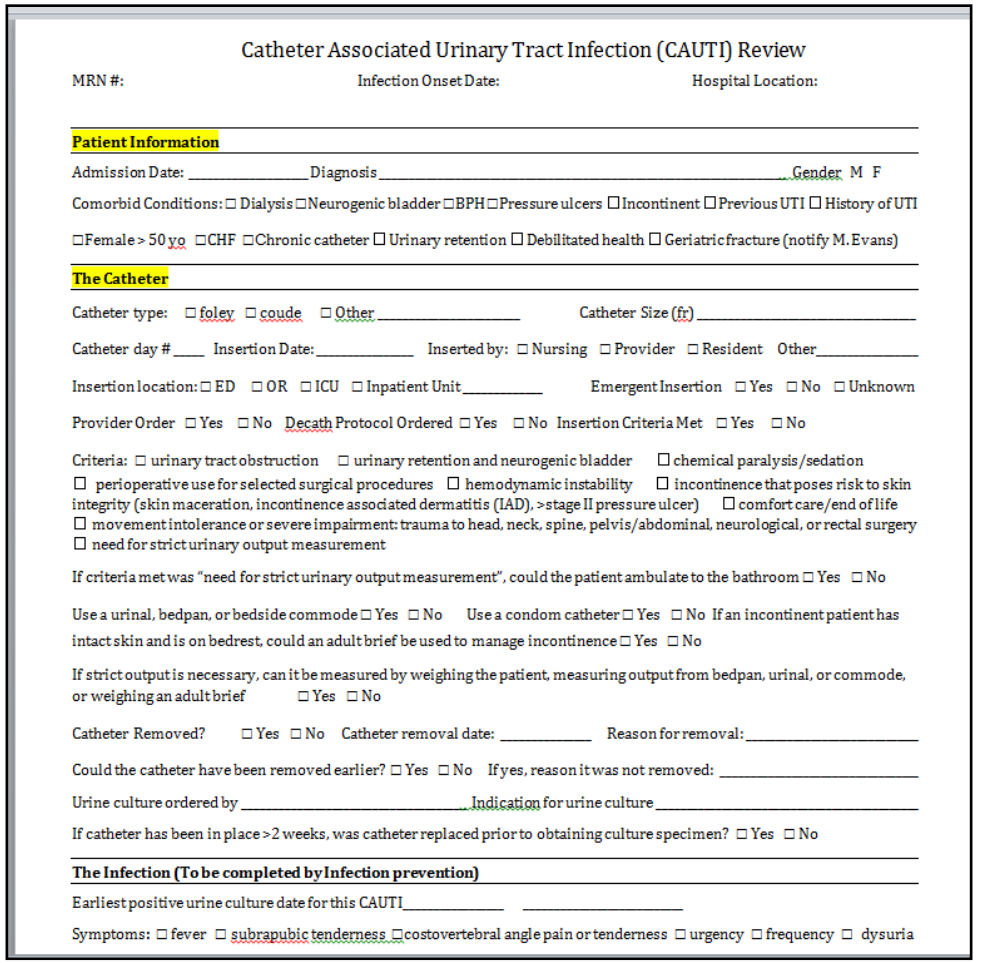
Barriers to training

- Lack of time or labor intensive
- Staff turnover
- Lack of resources to evaluate competency
- Temporary staff
- Lack of administrative support
- Lack of champions

CLABSI prevention



Root cause analysis tool



Catheter Associated Urinary Tract Infection (CAUTI) Review

MRN #: Infection Onset Date: Hospital Location:

Patient Information

Admission Date: _____ Diagnosis _____ Gender M F

Comorbid Conditions: ☐ Dialysis ☐ Neurogenic bladder ☐ BPH ☐ Pressure ulcers ☐ Incontinent ☐ Previous UTI ☐ History of UTI

☐ Female > 50 yo ☐ CHF ☐ Chronic catheter ☐ Urinary retention ☐ Debilitated health ☐ Geriatric fracture (notify M. Evans)

The Catheter

Catheter type: ☐ foley ☐ coude ☐ Other _____ Catheter Size (fr) _____

Catheter day # ____ Insertion Date: _____ Inserted by: ☐ Nursing ☐ Provider ☐ Resident Other_____

Insertion location: ☐ ED ☐ OR ☐ ICU ☐ Inpatient Unit _____ Emergent Insertion ☐ Yes ☐ No ☐ Unknown

Provider Order ☐ Yes ☐ No Decath Protocol Ordered ☐ Yes ☐ No Insertion Criteria Met ☐ Yes ☐ No

Criteria: ☐ urinary tract obstruction ☐ urinary retention and neurogenic bladder ☐ chemical paralysis/sedation
☐ perioperative use for selected surgical procedures ☐ hemodynamic instability ☐ incontinence that poses risk to skin integrity (skin maceration, incontinence associated dermatitis (IAD), >stage II pressure ulcer) ☐ comfort care/end of life
☐ movement intolerance or severe impairment: trauma to head, neck, spine, pelvis/abdominal, neurological, or rectal surgery
☐ need for strict urinary output measurement

If criteria met was "need for strict urinary output measurement", could the patient ambulate to the bathroom ☐ Yes ☐ No

Use a urinal, bedpan, or bedside commode ☐ Yes ☐ No Use a condom catheter ☐ Yes ☐ No If an incontinent patient has intact skin and is on bedrest, could an adult brief be used to manage incontinence ☐ Yes ☐ No

If strict output is necessary, can it be measured by weighing the patient, measuring output from bedpan, urinal, or commode, or weighing an adult brief ☐ Yes ☐ No

Catheter Removed? ☐ Yes ☐ No Catheter removal date: _____ Reason for removal: _____

Could the catheter have been removed earlier? ☐ Yes ☐ No If yes, reason it was not removed: _____

Urine culture ordered by _____ Indication for urine culture _____

If catheter has been in place >2 weeks, was catheter replaced prior to obtaining culture specimen? ☐ Yes ☐ No

The Infection (To be completed by Infection prevention)

Earliest positive urine culture date for this CAUTI_____ _____

Symptoms: ☐ fever ☐ subrapubic tenderness ☐ costovertebral angle pain or tenderness ☐ urgency ☐ frequency ☐ dysuria

Basic recommendations

Insertion practices:

- Kit or cart
- CHG/alcohol prep
- Insertion checklist
- Education
- Credentialing process for insertion
- **CHG bathing in ICU**

Other strategies

- Chlorhexidine bathing outside of ICU
- Use of midlines
- Looking at high-risk populations outside of ICU

Education

- Educate healthcare personnel (HCP) and hospital administration on clinical features, transmission, and epidemiology of *c. difficile*
- Educate patients and families on contact precautions and disease transmission
- Educate environmental services staff/leader

Frontline staff communication

- Are staff following standard precautions?
- What are our hand hygiene rates?
- Does our culture support holding each other accountable?
- Are we sure that equipment that goes between patients is adequately disinfected?
- Do you monitor appropriate PPE use?
- Do we give feedback to all stakeholders including EVS on HAI rates?

Champions for IP

- Monitor and report compliance to isolation protocols including gown and glove use
- Monitor and report compliance to equipment cleaning of items that go between patients
- Review cases of hospital HAIs to identify opportunities for improvement

Leadership

- Champions
- Education
- Communication – consistent message
- Interdisciplinary teams
- Voice of the front line
- Culture - focus on the patient

Practices to enhance interdisciplinary work

Contents lists available at ScienceDirect

American Journal of Infection Control

journal homepage: www.ajicjournal.org

Practice Forum

Integrating antibiotic stewardship and infection prevention and control programs using a team science approach

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Team science underscores elements that make up an effective team such as effective leadership, trust between leaders and team members, open communication, shared expectations, well-defined roles, understanding others' professional language, and promoting disagreement while minimizing conflict.

Sustaining best practices requires that all members of the ASP-IPC integrated team feel safe to disclose problems and discuss solutions.

From ordinary to extraordinary

Contents lists available at ScienceDirect

American Journal of Infection Control

journal homepage: www.ajicjournal.org

Major Article

An interprofessional approach to reducing hospital-onset *Clostridioides difficile* infections

Cherith Walter MSN, RN, APRN, AGPCNP-BC, AGCNS-BC [a,*], Tanushree Soni PhD, MPH, CIC [a], Melanie Alice Gavin MPH, CIC, M (ASCP) [a], Julianne Kubes MPH [b], Kristen Paciullo PharmD, BCIDP [a]

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[b] *Emory Healthcare, Atlanta, GA*

Key points

- Diagnostic stewardship decreased hospital-onset *Clostridioides difficile* infections.
- Interprofessional collaboration allowed implementation of multiple interventions.
- Accountability processes improved protocol compliance.

C. *difficile* initiative

- Response to high rates of C. *difficile.*
- Achieved a 63% reduction in HO-CDI and have sustained a 77% reduction.
- The infection rate remained below national benchmark for HO-CDI for over 4 years at a rate of 2.80 per 10,000 patient days and a SIR of 0.43 in 2020.
- Multiple evidence-based interventions were successfully implemented over several service lines over a 4-year period through the collaboration of an interprofessional team.
- The addition of an accountability processes further improved compliance with standards of practice.

Resources and other leadership skills

- Find the staff in your facility that are engaged
- Use your culture to your advantage

Critical thinking

Critical thinking is a combination of key skills/tasks, including:

- Recognizing a problem exists (a problem can be an outbreak that requires immediate response or a policy that is no longer best practice)
- Identifying and analyzing options and potential solutions
- Making a decision based on the problem

Critical thinking continued

- Prioritizing how to solve multiple problems at once
- Applying decision to the problem and effectively implementing the solution
- Examining what happened as a result of applying decision to improve results for the next

Tips

Critical thinking skills can be hampered by several issues. Leaders should be aware of pitfalls:

- Experience – the way we've always done it
- Power differential – belief that someone with more authority or power in the hierarchy is the decision maker or has more accurate information
- Group think – Desire for harmony or conformity in the group results in an irrational or dysfunctional decision-making
- Preconceptions – Forming an opinion before all the facts are collected
- Time – seeking a quick, easy solution; tendency to oversimplify

Helping the front line understand

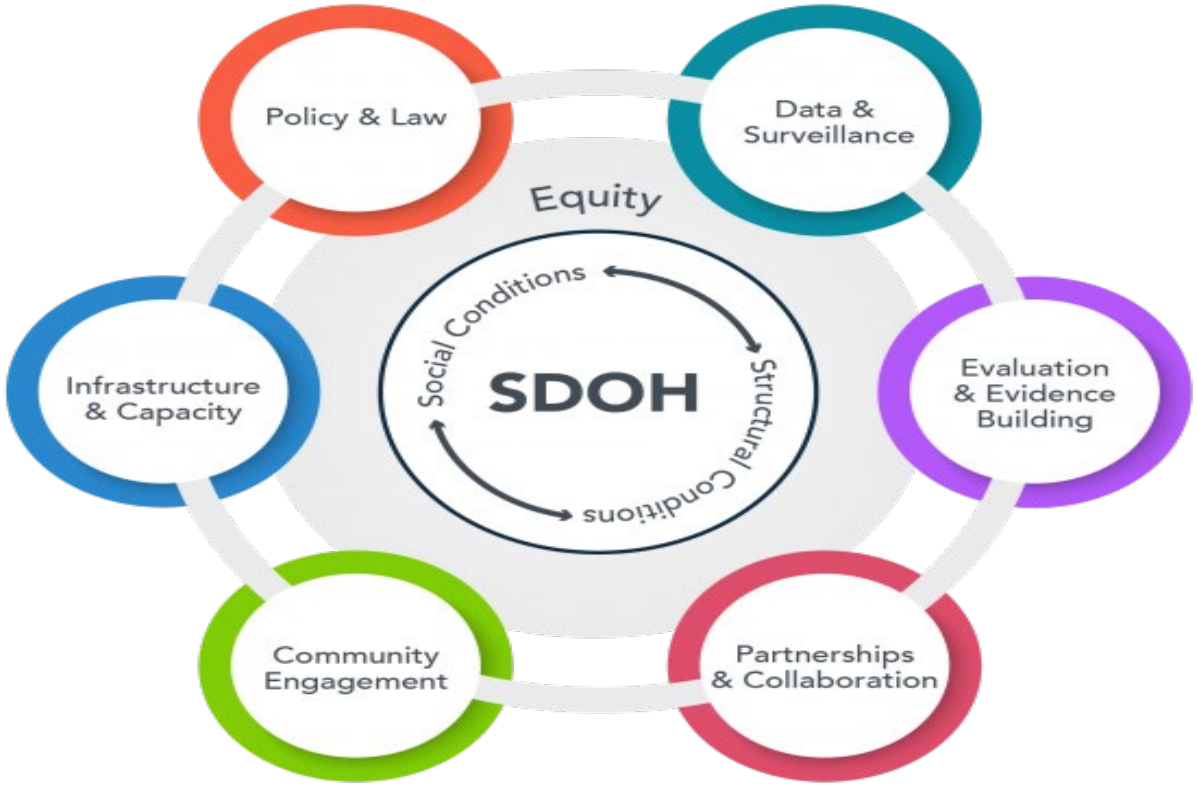
Although we can't see them, germs are everywhere, and they need somewhere to grow – a place where they can live. These places, called **reservoirs,** are found on and in our bodies and in the environment.

Reservoir: A place where germs live

Source CDC. Gov. Project First Line

Social determinants of health and healthcare inequities

CDC


Policy & Law
Data & Surveillance
Equity
Social Conditions
SDOH
Structural Conditions
Infrastructure & Capacity
Evaluation & Evidence Building
Community Engagement
Partnerships & Collaboration

Background

Some existing literature has identified the presence of racial/ethnic inequities in HAI incidence and outcomes.

Few studies to date have evaluated whether HAI prevention efforts have mitigated these inequities.

Factors contributing to inequities in HAI prevention may include unconscious bias of healthcare professionals towards:

- minoritized patients;
- socioeconomic and structural inequities disparately affecting minoritized communities; and
- insufficient research evaluating and addressing HAI inequities.

Chen *CID* 2021

HAIs

Drivers:

- Potential unconscious bias of healthcare professionals towards minoritized groups
- Hospital location
- Literature supports HAIs in select groups:
  - MRSA, SSI

APIC recommendations

APIC Task Force identified 6 items:

- NHSN – Race and ethnicity not currently included
- National partnerships
- Research
- Policy
- Community involvement
- Infection prevention education

Nix et. al *AJIC* Jan. 2023

CDC actions

- Template for collecting variables on HAI outbreaks
- Created standard variable list to determine impact on outbreaks

Local-level interventions

- Annual risk assessment
- Population at risk
- Vaccine-preventable disease
- Disease entities – i.e. sickle cell
- Education

Important actions

- Help infection preventionists develop disparity reduction skills
- Include this in competency and certification

Starting Point

- Annual infection risk assessment
- Annual infection prevention plan

Include in your plan

- Evaluation of community disparities
- Population at risk
- Educational plans and prevention strategies for that population

Final thoughts

Encourage the frontline staff

Work collaboratively

Be optimistic

Remember that the ordinary can be extraordinary