Cleaner, Safer Hospitals

A programmatic approach to infection prevention

Leapfrog PAC Webinar
November 4, 2026

ECOLAB®



Five areas of the hospital.

OUR PURPOSE: “Partner to make the world cleaner, safer and healthier – helping customers succeed while protecting people and the resources vital to life.”



TODAY

Infection Prevention

- Hand hygiene
- Compliance monitoring
- Patient rooms

Environmental Services

- Environmental hygiene monitoring
- Laundry
- Cleaners & disinfectants

Pest Elimination

Inspection and prevention

Food Service

- Food safety
- Warewashing

Water

Water safety

Supported by 100+ field service representatives

In 2023, on any given day, **1 in 38** U.S. hospital patients had an infection they got while receiving care.

WHY THIS MATTERS | NEW CDC DATA, PUBLISHED JULY 2026



THE TREND



Real progress: Patients were 27% less likely to have an HAI in 2023 than in 2015

~518,000
HAIs in U.S. acute care hospitals in 2023

61% weren't tied to a device (central line, catheter, ventilator) or a surgical procedure

CDC Press Release and HAIs: Reports and Data, July 2026; Chea N, et al. N Engl J Med. 2026;395(3):255-66; Also Reported by AHA News and CIDRAP, July 2026

Hand hygiene beyond compliance: What is still getting in the way?

Karoline Sperling, MPH, MLS, CIC, FAPIC
Clinical Services Manager, Ecolab
November 2026

Presenter



KAROLINE SPERLING
MPH, MLS, CIC, FAPIC
Clinical Services Manager,
Ecolab

In this role, Karoline provides direction on generating clinical evidence, partnering with associations and key opinion leaders, and incorporating best practices into Ecolab healthcare programs and solutions. Prior to joining the team in 2023, Karoline worked as an infection preventionist for 15 years. She has a BS in medical technology and MPH in environmental health from the University of Minnesota – Twin Cities.

Disclosure: This presentation is for educational purposes. The views and opinions expressed are those of the speaker.

Objectives

01

Describe key factors that impact hand hygiene performance in healthcare settings

02

Discuss lessons learned from recent guidance, research and real-world experience

03

Identify opportunities to advance hand hygiene practices within their organizations

Poll: What is the greatest challenge for your hand hygiene program?

A. Competing priorities and workload

B. Monitoring and data

C. Feedback and accountability

D. Product access or infrastructure

E. Leadership and culture

F. I don't know!

If we know hand hygiene matters…

Why is it still so hard?

We have…

- Guidelines
- Policies and training
- Products and programs
- Evidence

We still struggle with consistent, everyday practice

Today's gap is less about awareness and more about execution

Same challenges, different decade



Technique

Volume, coverage and dry time still matter



Gloves

Do not replace hand hygiene



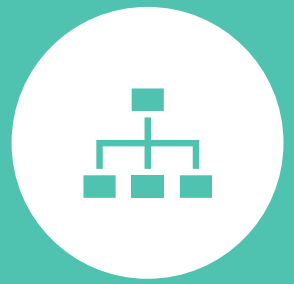
Infrastructure

More than the presence of a sink or dispenser



Monitoring

Every method has limitations



Leadership & feedback

Remains essential to improvement

Boyce, AJIC 2026; Glowicz et al., ICHE 2023

Where do programs commonly struggle?

Culture & shared accountability

Who owns it?
What happens after a miss?

Operational friction & infrastructure

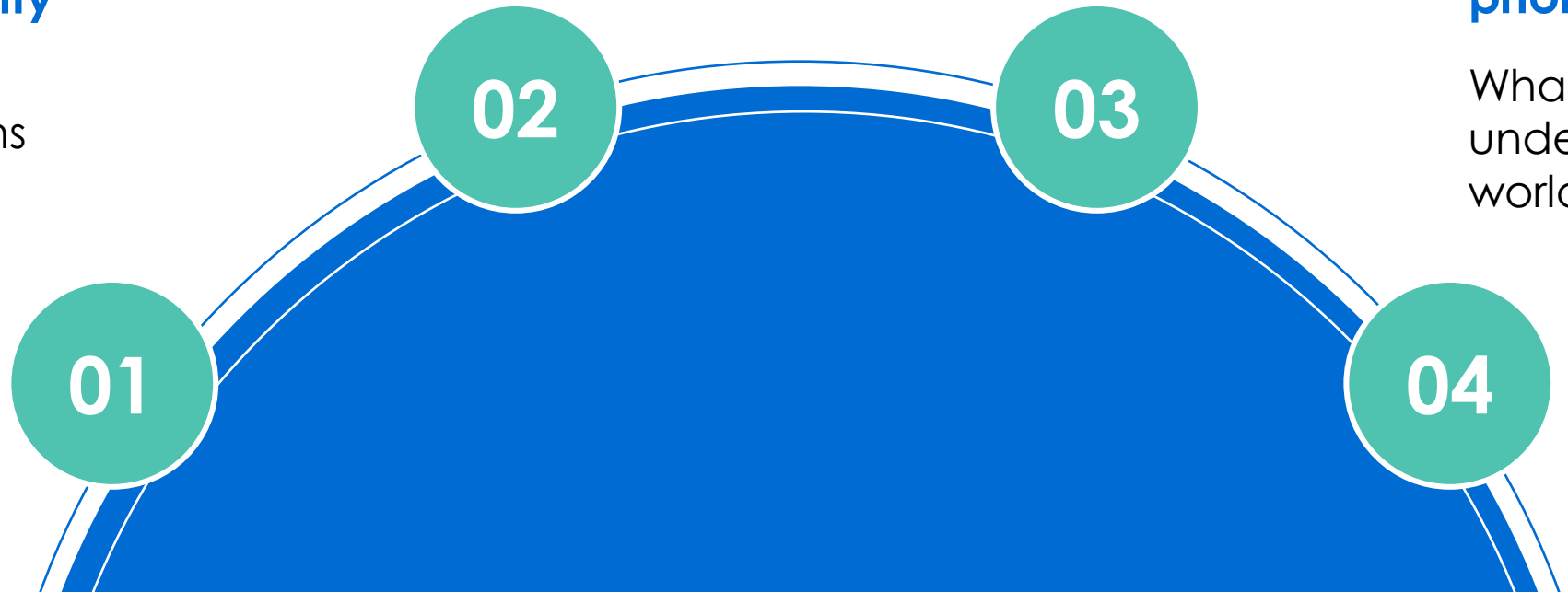
How easy is it to do the right thing?

Monitoring & feedback

Does our data lead to action?

Human behavior & competing priorities

What happens under real-world pressure?



Culture shows up after a missed opportunity

A missed opportunity

Someone speaks up

- Respectful reminder
- Shared learning
- No blame

Silence

- "Not my role"
- "That's infection prevention's job"
- "Too busy"



CDC Clean Hands, 2026

Do others model it? Is good practice recognized?

Policy vs. Practice

Infrastructure

Available where care is delivered

Functional and filled

Visible and placed in the workflow

Workarounds can be useful signals that the process may not fit the work

Workflow friction

Hands full when entering a room

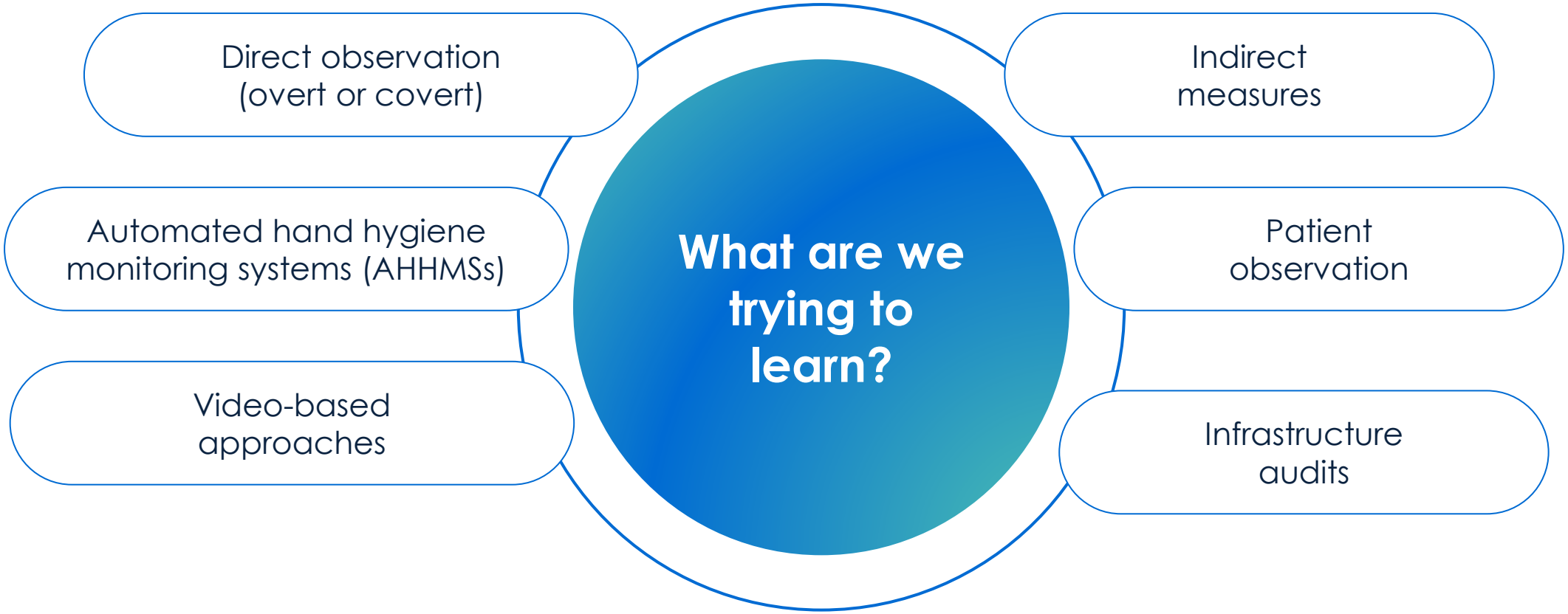
Emergencies and interruptions

PPE and glove sequences



Boyce, AJIC 2026

Methods to measure hand hygiene

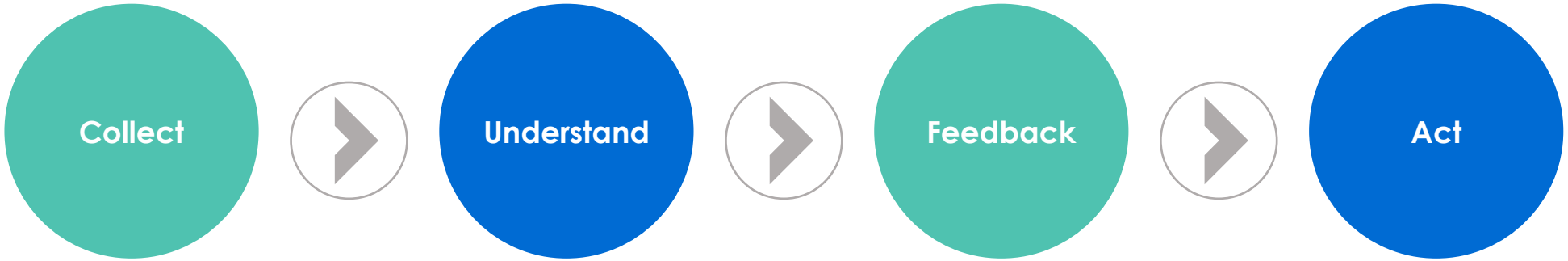


No single method does it all

Glowicz et al., ICHE 2023

Data is the beginning of improvement

03 Monitoring & feedback



Purposeful, not check-the-box

Where, when and why gaps occur

Quickly enough to matter

Did the change work? Recheck

What it looks like when a program stops at "Collect"

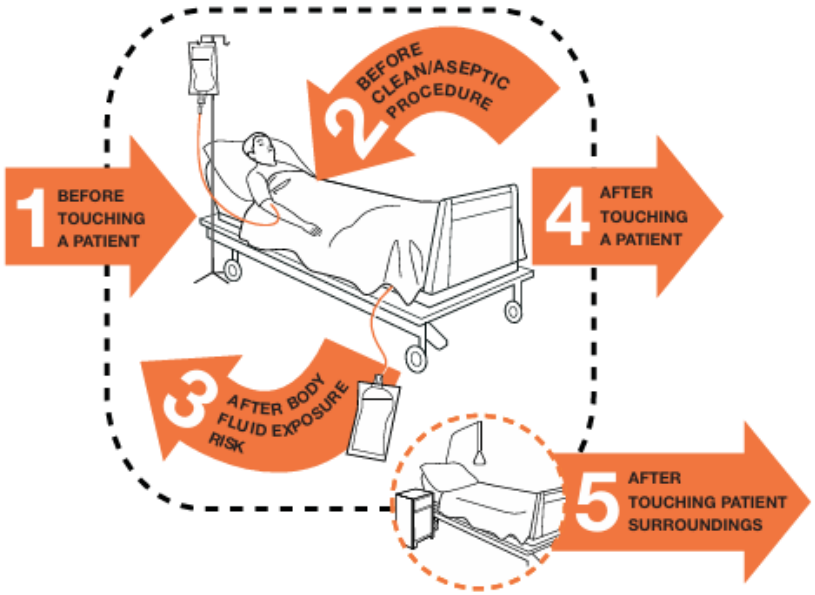
A compliance percentage emailed once a month ▶ No one can say which moment is being missed ▶ Nothing is different by the next report

The value is not the number, but what changes because of it

Knowing is not the same as doing

04 Human behavior & competing priorities

WHO 5 Moments for Hand Hygiene



Challenge is making the expected action easy, timely and routine during complex care

Clinical Infectious Diseases

MAJOR ARTICLE

Hand Hygiene Compliance at Critical Points of Care

Nai-Chung Nelson Chang,[1,2,3] Heather Schacht Reisinger,[4,5] Marin L. Schweizer,[4,5] Michael Jones,[6] Elizabeth Chrischilles,[1] Margaret Chorazy,[1] Charles Huskins,[7] and Loreen Herwaldt[1,5]

[1]Department of Epidemiology, University of Iowa College of Public Health, Iowa City, Iowa, USA, [2]Division of Epidemiology, University of Utah School of Medicine, Salt Lake City, Utah, USA, [3]Veterans Affair Salt Lake City Health Care System, Salt Lake City, Utah, USA, [4]Iowa City Veterans Affair Health Care System, Iowa City, Iowa, USA, [5]Department of Internal Medicine, University of Iowa Carver College of Medicine, Iowa City, Iowa, USA, [6]Department of Biostatistics, University of Iowa College of Public Health, Iowa City, Iowa, USA, and [7]Mayo Clinic College of Medicine and Science, Rochester, Minnesota, USA

39.0%

Overall hand hygiene compliance across 42,349 ICU opportunities

43.2%

Before critical tasks (IV lines, wounds, sterile procedures)

62.7%

After contaminating tasks (blood, body fluids, waste)

Chang et al., CID 2021

What are we learning?

01

Understand the problem

Hand hygiene compliance may indicate that a gap exists, but doesn't explain why

02

Match response to the barrier

More education isn't always the answer

03

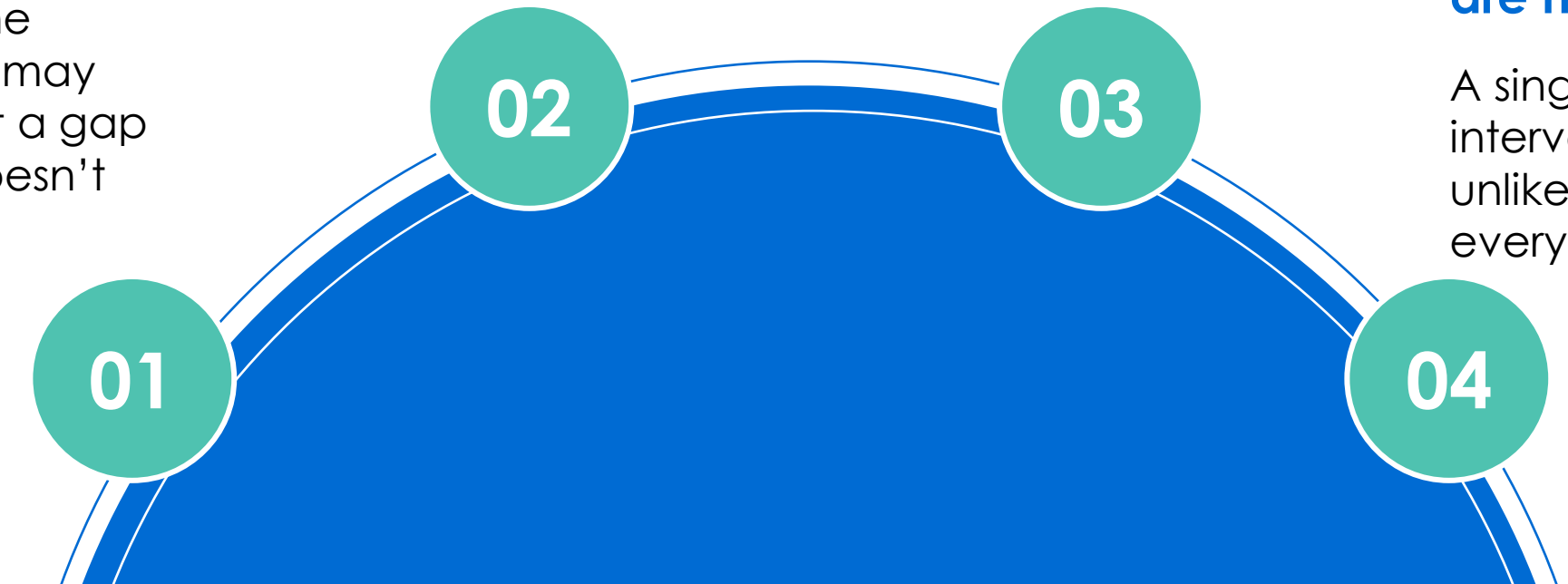
Feedback may be as important as measurement

What does effective feedback look like?

04

Strong programs are multimodal

A single intervention is unlikely to address every barrier



01

Understand the Problem



What this looked like in practice

- Unit-by-unit assessments, not a single hospital-wide plan
- Interviews about what got in the way
- Interventions tailored to each unit's barriers
- Auditor training so observations were consistent
- Local leaders engaged at the unit level
- Executive leadership recognition for units that improved

Modeled from IHI Model for Improvement

Successful programs start by understanding barriers before selecting interventions

02

Match the Response to the Barrier

If the barrier is…	Consider
Operational • Technique • Product Access • Workflow	• Targeted education & competency • Environmental assessment • Process redesign
Organizational • Feedback • Ownership • Trust in data	• Coaching and communication • Leadership engagement and shared accountability • Transparency about collection, limitations, and use

Boyce, AJIC 2026

03

The Power of Feedback

Value of audits is often the conversation they create

Overt observation by trained observers

160,917 observations across 29 units over 8 years

Real-time feedback at point of care

Compliance stayed above 95% from 2013 through 2019



American Journal of Infection Control 51 (2023) 142–148

Contents lists available at ScienceDirect

American Journal of Infection Control

journal homepage: www.ajicjournal.org

Major Article

The power of feedback: Implementing a comprehensive hand hygiene observer program

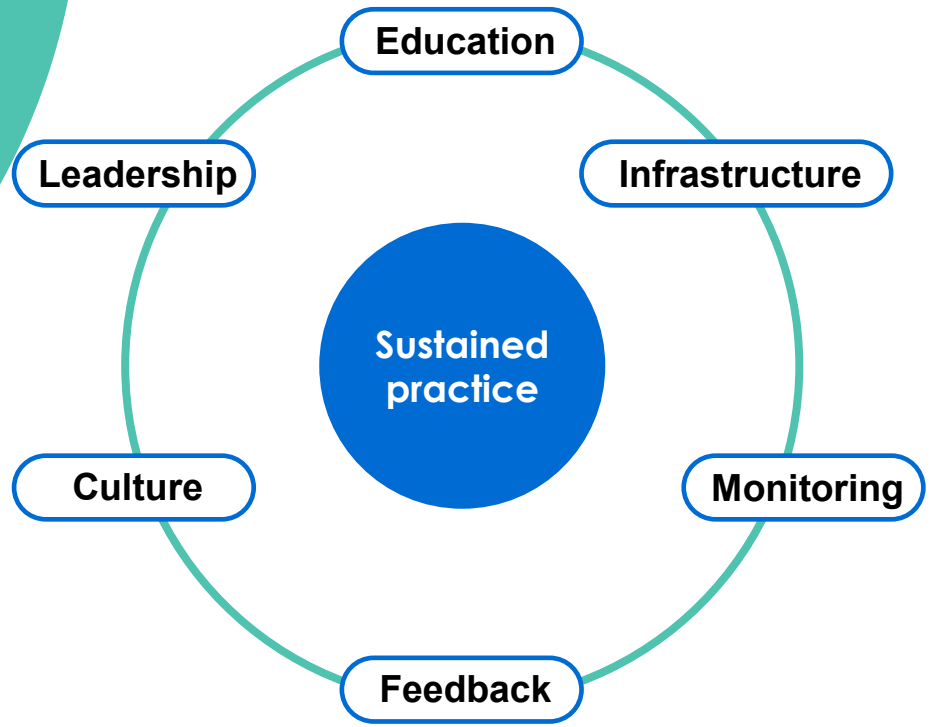
Kimberly B. Wilson MPH, LSSGB [a,*], Lauren Satchell MPH [a], Sarah A. Smathers MPH, CIC, FAPIC [a], Lauren F. Le Goff MS, MLS (ASCP)CM, CIC [a], Julia S. Sammons MD, MSCE [b,c], Susan E. Coffin MD, MPH [a,c]

[a] Department of Infection Prevention and Control, Children's Hospital of Philadelphia, Philadelphia, PA
[b] The Office of Preparedness and Response, Children's Hospital of Philadelphia, Philadelphia, PA
[c] The Division of Infectious Disease, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA

Wilson et al., AJIC 2023

04

Successful Programs are Multimodal



Glowicz et al., ICHE 2023



Start small

- One unit
- One barrier
- One measure of whether it worked

Then spread what works!



What are the gaps?

What we know matters:

- Technique: Coverage and duration, not just the moment
- Feedback: Timely and specific changes behavior
- Culture: The staff has to feel safe speaking up
- Leadership: Visible support removes barriers

What we're still learning:

- How much monitoring is enough?
- How do we sustain behavior change?
- Which feedback approaches work best?
- How do we assess technique practically?

Boyce, AJIC 2026; APIC Research Agenda, 2024

05

Five Hand Hygiene Questions Worth Asking

1. Are we measuring what matters?

- What question is our monitoring meant to answer?
- Does our data identify where to focus?

2. Have we looked for operational barriers?

- Product, dispenser, process, etc.

3. Is our feedback useful and timely?

- Not only misses but positive reinforcement
- Feedback meaningful and actionable

4. Is leadership support visible?

- Champions, resources, communication
- Removing barriers

5. Can staff remind and support one another?

- Culture of safety, shared accountability

Poll: Which question would be most useful for your organization to dive into?



Are we measuring what matters?



Have we looked for operational barriers?



Is our feedback useful and timely?



Is leadership support visible?



Can staff remind and support one another?

Moving beyond compliance

3 Takeaways

01

Hand hygiene challenges today are less about awareness and more about execution

02

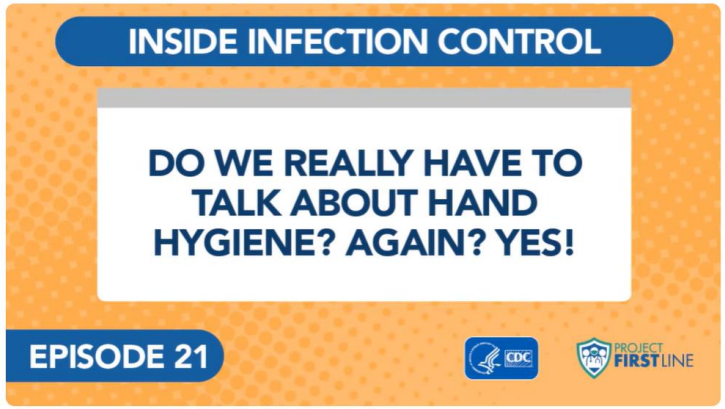
Sustainable improvement requires attention to culture, infrastructure, feedback and leadership

03

Making hand hygiene easy often requires identifying and removing operational barriers

Hand hygiene resources

- Project Firstline | CDC
  - Episode 21: Do We Really Have to Talk About Hand Hygiene? Again? Yes! - YouTube
- WHO World Health Organization Hand Hygiene Training Tools
- Hand Hygiene - MDH Minnesota Dept of Health
  - MDH Project Firstline Hand Hygiene Refresher 11/10 & 11/17
- Handy Hygiene Tips | Wisconsin Department of Health Services
- Hand Hygiene - VDH Virginia Dept of Health
- Colorado Hospital Association - Infection Prevention Resources
- Hand Hygiene | Public Health Ontario
  - Hand Hygiene Program Implementation Guide
- APIC Toolkit for Patient Hand Hygiene – APIC

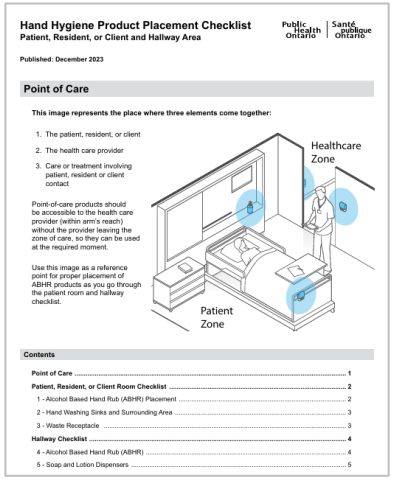






Germs are Everywhere

There are germs literally everywhere. Learn what you can do to prevent the spread of these germs.



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Clean hands need
More than a dispenser

OUR APPROACH

01 **The right products**
Hand soaps and sanitizers formulated for healthcare

02 **Within reach**
Dispensers placed where care happens

03 **Visible**
Monitoring at the patient zone
shows where moments are missed

04 **Supported**
Training, coaching and regular
data reviews with your teams

HOW IT WORKS

Wear the badge.
Work as usual.



2.5 × 1.3 × 0.4 in

Shown next to a U.S. quarter

Designed around the caregiver's workflow

- No hand gesture
- No standing still to be detected
- Nothing to log by hand

Hand hygiene is monitored only at patient zones and dispensers.

Reminders are seen only by the wearer. No PHI.

ARE WE MEASURING WHAT MATTERS?

168x

more hand hygiene events captured electronically than by manual observation

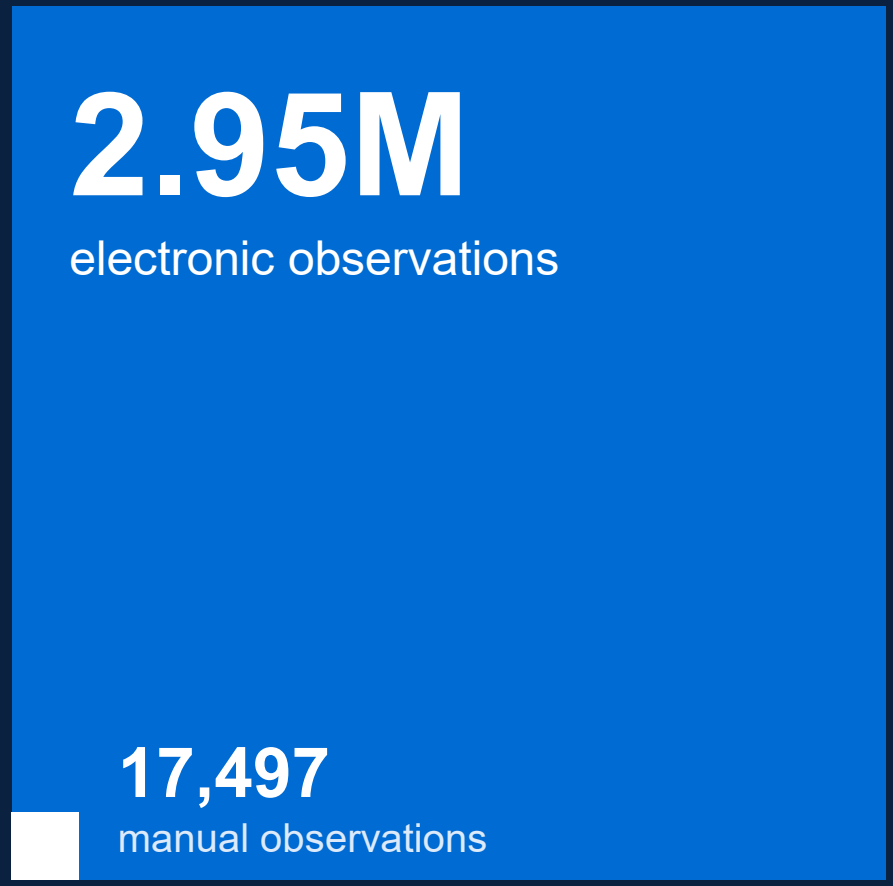
One 160-bed U.S. hospital | Sept 2021 to Nov 2024

90%

Manual observation
full-period average

46% → 85%

Electronic monitoring
baseline → sustained, last 13 months



Squares drawn to scale

529 days without a CAUTI. **420 days** without a CLABSI.

Infection streaks shown as context, not cause.

Cheesman JM, Ferrelli JG. Transforming hand hygiene compliance: a journey from implementation to sustained success [abstract]. Am J Infect Control 2025;53(6 Suppl):S55.
Baseline measured electronically, per the authors. Allegheny Health Network; hospital uses Ecolab's system.

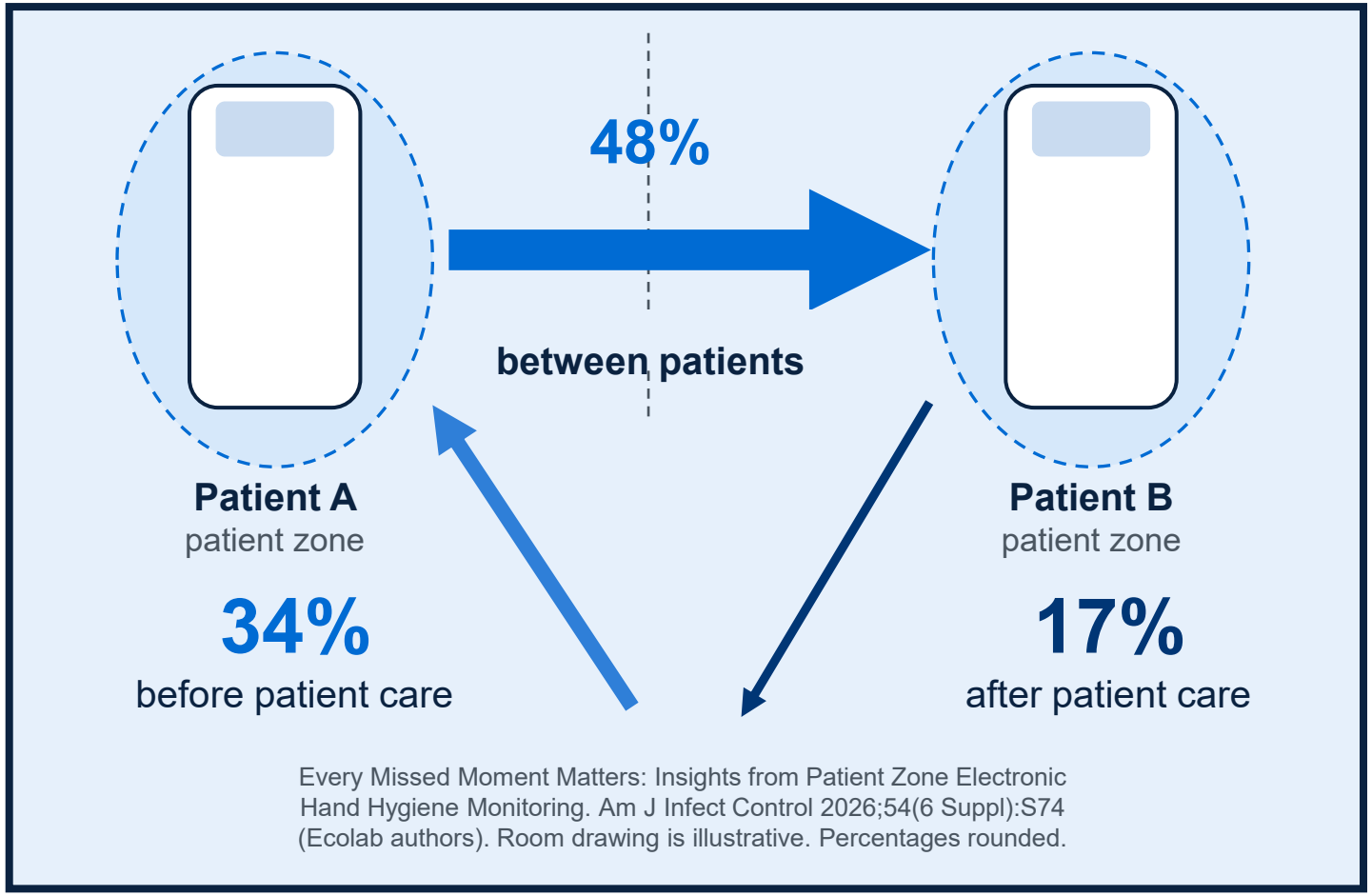
Does our data show where to focus?

48%

of missed moments happened between one patient and the next

Room-level systems may miss bedside moments, especially in semi-private rooms

1.7M+ missed moments
3 U.S. hospitals
12 months



Every Missed Moment Matters: Insights from Patient Zone Electronic Hand Hygiene Monitoring. Am J Infect Control 2026;54(6 Suppl):S74 (Ecolab authors). Room drawing is illustrative. Percentages rounded.

AS WE HEARD EARLIER...

“The value is not the number, but what changes because of it.”

Data shows us where and when.

Your teams find out why,
and decide what changes.

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Ecolab. Demonstrating a decrease in HAIs across 5 hospitals following the implementation of a hand hygiene compliance monitoring system. White paper, data on file. 2019.

THANK YOU!

Questions?

karoline.sperling@ecolab.com

ankush.modi@ecolab.com

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