Leveraging Data to Support Infection Preventionists: Insights & Strategic Priorities from a Comprehensive Needs Assessment

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Project Firstline is a national collaborative led by the U.S. Centers for Disease Control and Prevention (CDC) to provide infection control training and education to frontline healthcare workers and public health personnel. National Association of County and City Health Officials (NACCHO) is proud to partner with Project Firstline to host the NACCHO Healthcare Infection Prevention and Control Summit (Summit), as supported through CDC Grant # 6NU38OT000306-03-05. CDC is an agency within the Department of Health and Human Services (HHS). This presentation is being hosted as part of the Summit; the contents of this presentation and Summit do not necessarily represent the policies of CDC or HHS and should not be considered an endorsement by the Federal Government.
Presentation Overview

- Objectives
- Background
- Purpose
- Methodology
- Results
- Key Takeaways & Conclusions
- Next Steps
- Questions
Objectives

- Assess Infection Preventionist Needs
- Identify Focus Areas
- Encourage Collaboration
Infection Prevention & Control: A Critical Need

• **Essential for Safety:** Crucial in safeguarding patients and healthcare workers

• **Pandemic Impact:** COVID-19 highlighted critical IPC roles and existing gaps (Martinez et al., 2023)

• **Key Challenges:**
  - Disparities in healthcare worker expertise (Martinez et al., 2023)
  - Structural issues in training programs (CDC, 2021; Martinez et al., 2023)
  - Limited resources in small, rural hospitals
Evolving Demands & Responses in IPC

- **Increased Recognition & Demand:** Frontline IPs saw a rise in demand for pandemic planning and response skills (Houben, 2024; Rebmann et al., 2023).

- **Workforce Challenges:**
  - Difficulty in retaining and recruiting skilled IPs, with high vacancy rates and anticipate retirements (Rebmann et al., 2023; Vassallo et al., 2019).
Purpose of Needs Assessment

• Inform resource development
• Identify priorities
• Facilitate collaboration
• Benchmarking & evaluation
• Advocacy and resource allocation
## Methods

### HAI/AR Director Needs Assessment
- Collected May – July 2023
  - Individual survey links emailed directly to HAI/AR Directors
  - 113 unique emails sent out
  - 38 completed
  - 34% response rate

### Infection Preventionist Needs Assessment
- Collected June - August 2023
  - HAI/AR Directors, APIC chapters, contacts, webinars, QR code at APIC conference
  - 309 completed
  - 267 IPs, 42 other
Demographics

IP Race Ethnicity

n=267

HAI/AR Race Ethnicity

n=38
IP Needs Assessment completion by region
41% of IP respondents indicated that they serve multiple roles (e.g., Quality, Employee Health, Safety, Nursing related role) in their facility, in addition to being an IP.
73% of IP programs with <1 FTE (n=33) dedicate **25 hours or less** to their facility’s infection prevention program.
Results

• Relationships

• Concerns

• Training Availability & Needs

• Resource Needs
## Relationships: Support & Engagement

### Hospital Leadership and IP Programs: HAI/AR Director Insights

- **Engagement**: 74% report active leadership engagement
- **Understanding**: 67% understand the role of IPC
- **Support**: 63% supportive of IP programs
- **Prioritization**: 59% view IPC practices as a priority

### Hospital Leadership and IP Programs: IP Insights

- **Engagement**: 66% report active leadership engagement
- **Understanding**: 68% understand the role of IPC
- **Support**: 59% supportive of IP programs
- **Prioritization**: 59% view IPC practices as a priority

58% of IPs feel heard by hospital leadership when voicing concerns about the IPC program at their facility.
>50% of IPs across all facility sizes report positive relationships with their facility leadership.

>75% of IPs at CAH facilities report positive relationships with their facility leadership.
## Relationships: Collaboration & Communication

### Collaboration & Communication: HAI/AR Director Insights

- **Collaborative Relationships:** 100% report strong collaborations with IPs and hospitals
- **IPs Understanding of Contact Protocols:** 97% understand when to contact HAI/AR team
- **Hospital Leadership Understanding of Contact Protocols:** 83% supportive of IP programs

### Collaboration & Communication: IP Insights

- **Collaborative Relationships:** 63% report strong collaborations with HAI/AR leaders
- **IPs Understanding of When to Contact:** 74% understand when to contact HAI/AR team
- **Understanding of Who to Contact:** 70% with questions or concerns

63% of IPs are aware of the work the HAI/AR program does to support IPC in their state/territory.
Awareness & Collaboration with HAI/AR Programs

• Awareness is high: Most respondents from facilities of all sizes are aware of HAI/AR program support

• **Contact Clarity:** Small facilities most confident about who to contact

• **Contact Understanding & Collaboration:** Knowing who to contact is most reported by 25-99 bed facilities. Strongest collaboration is noted in 100-299 bed facilities
Relationships Matter

**Significant positive associations** between IP job satisfaction and hospital leadership’s:
- Support for job responsibilities and program goals
- Responsiveness to concerns voiced about IPC programs

**Significant negative associations** between IP role strain and job stress and hospital leadership’s:
- Engagement with IP program
- Prioritization of IPC practices
- Support for job responsibilities and program goals
- Responsiveness to concerns voiced about IPC programs
Concerns
IP Concerns Among HAI/AR Directors

- 100% of HAI/AR directors are concerned about IP turnover
- 88% reported that IP turnover is high in their state/territory
- 89% are worried about the availability of affordable, quality IP training
Concerning HAIs

• 76% of HAI/AR Directors are moderately to extremely concerned about HAIs in their state territory.

• 41% of IPs are moderately to extremely concerned about HAIs in their facility.
IPC Training Availability & Needs
61% of IPs indicated the training and professional development opportunities available to them at their facility are somewhat adequate to adequate.

57% of IPs reported that they are somewhat to extremely concerned about the availability of affordable, quality training related to IP professional development.

54% of IPs are somewhat to extremely concerned about having time to complete IPC trainings.
Resource Needs
HAI/AR Director Reported: Do the IPs in your state/territory have the necessary resources to implement programs for the following HAIs:

- VAEs: 11% Buffer, 26% Unsure, 33% None, 15% Some
- CDI: 7% Buffer, 33% Unsure, 33% None, 19% Some
- CAUTI: 4% Buffer, 33% Unsure, 37% None, 19% Some
- MDROs: 37% Buffer, 41% Unsure, 15% Some
- SSIs: 37% Buffer, 41% Unsure, 15% Some
- CLABSI: 11% Buffer, 26% Unsure, 41% None, 19% Some

Approximately 50-60% of IPs were reported by HAI/AR directors to have most or all the necessary resources to implement programs for the listed HAIs in their state/territory.
IP Reported: Do you have the necessary resources to implement programs for the following HAIs in your facility:

- Majority of IPs reported they have most or all the necessary resources to implement programs for the listed HAIs in their facilities.

- VAEs and SSIs were reported as the HAIs most lacking in necessary resources
  - Note: Some facilities may not have ventilators which may contribute to reporting VAE resource lack

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<tr>
<td>VAEs</td>
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<td>33%</td>
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<td>SSIs</td>
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<td>CLABSI</td>
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<td>MDROs</td>
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<td>CDI</td>
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<td>CAUTI</td>
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HAI/AR Directors reported:

• Selection/Purchasing
• Water Management
• Construction Risk Mitigation
• Environmental Rounding
• Non-Critical Device Reprocessing

IPs reported:

• Selection/Purchasing
• Non-Critical Device Reprocessing
• Construction Mitigation
• Sterilization
• Water Management

Top 5 Resources that are lacking for IPC program process implementation:
Necessary Technology for Program Process Implementation

Top 5 Technology Resources that are lacking for IPC program process implementation:

HAI/AR Directors reported:

- Construction Air Quality Monitoring
- HVAC System Monitoring & Verification
- Antimicrobial Stewardship
- Competency-Based Training Programs
- Vendor Vaccination Tracking & Documentation

IPs reported:

- Vendor Vaccination Tracking & Documentation
- Construction Air Quality Monitoring
- HVAC System Monitoring & Verification
- Employee Health
- Staff Vaccination Tracking & Documentation
• IPs desire more comprehensive onboarding and training

• Time constraints and training affordability are top concerns for IPC development.

• HAI/AR Directors and IPs differ in their concerns about facility HAI issues.

• Positive relationships with facility leadership impacts job satisfaction
Next Steps & Future Directions

• Enhanced Communication & Collaboration:
  • Goal: Strengthen network among IPs, healthcare administrators, public health officials, and professional organizations

• Data Monitoring & Evaluation:
  • Goal: Ensure the effectiveness of IPC interventions and address evolving needs of IPs

• Research and Innovation in IPC:
  • Goal: Drive advancement in IPC field through innovative research and solutions.
90-Day Survival Guide (under development)
- Support and resources for IPs new to the field

Infection Prevention & Control Webinars
- Topics driven by needs assessment data and IP requests
- CEUs available
- Office hours available to answer questions

SLICE: Self-Led Infection Control Evaluation Tool
- 17 topic-specific infection prevention domains

XR Education
- Sterile Processing Department

For additional information please visit our website at Innovate IPC: https://innovateipc.org/
Thank you!

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Leveraging Data to Support Infection Preventionists Session Feedback
IP Reported: Do you have the **technology** to implement programs for the following processes in your facility?

- Vendor Vaccination Tracking & Documentation
  - Buffer: 14%
  - Unsure: 23%
  - None: 24%
  - Some: 24%
  - Most: 15%

- Contraction Air Quality Monitoring
  - Buffer: 11%
  - Unsure: 18%
  - None: 29%

- HVAC System Monitoring & Verification
  - Buffer: 10%
  - Unsure: 18%
  - None: 30%
  - Some: 27%
  - Most: 16%

- Employee Health
  - Buffer: 9%
  - Unsure: 16%
  - None: 24%
  - Some: 31%
  - Most: 21%

- Staff Vaccination Tracking & Documentation
  - Buffer: 6%
  - Unsure: 15%
  - None: 25%
  - Some: 30%

- Patient Vaccination Tracking & Documentation
  - Buffer: 8%
  - Unsure: 10%
  - None: 27%
  - Some: 30%

- Instrument Reprocessing
  - Buffer: 13%
  - Unsure: 12%
  - None: 14%
  - Some: 35%
  - Most: 26%

- Anti-Microbial Stewardship
  - Buffer: 8%
  - Unsure: 24%
  - None: 36%
  - Some: 27%

- Outbreak Investigations
  - Buffer: 2%
  - Unsure: 4%
  - None: 20%

- MDRO Flagging
  - Buffer: 13%
  - Unsure: 36%
  - None: 42%

- Surveillance
  - Buffer: 12%
  - Unsure: 41%
  - None: 43%

- HAI Reporting
  - Buffer: 11%
  - Unsure: 36%
  - None: 48%

n=233
HAI/AR Director Reported: Do the IPs in your state/territory have the **technology** to implement programs for the following processes in their facility?

- Constriction Air Quality Monitoring: 33% Buffer, 26% Unsure, 11% None, 22% Some, 4% Most, 8% All
- HVAC System Monitoring & Verification: 22% Buffer, 33% Unsure, 22% None, 4% Some, 4% Most, 13% All
- Anti-Microbial Stewardship: 7% Buffer, 15% Unsure, 52% None, 22% Some, 4% Most, 4% All
- Competency-Based Training Programs: 15% Buffer, 4% Unsure, 56% None, 19% Some, 7% Most, 2% All
- Vendor Vaccination Tracking & Documentation: 33% Buffer, 4% Unsure, 33% None, 26% Some, 6% Most, 2% All
- Audit & Feedback: 15% Buffer, 11% Unsure, 44% None, 19% Some, 11% Most, 2% All
- MDRO Flagging: 15% Buffer, 4% Unsure, 52% None, 19% Some, 11% Most, 2% All
- Outbreak Investigations: 11% Buffer, 4% Unsure, 48% None, 19% Some, 19% Most, 2% All
- Patient Vaccination Tracking & Documentation: 15% Buffer, 4% Unsure, 41% None, 33% Some, 7% Most, 2% All
- Staff Vaccination Tracking & Documentation: 15% Buffer, 4% Unsure, 41% None, 26% Some, 15% Most, 2% All
- Instrument Reprocessing: 15% Buffer, 4% Unsure, 41% None, 30% Some, 11% Most, 2% All
- Employee Health: 11% Buffer, 7% Unsure, 37% None, 37% Some, 7% Most, 2% All
- Surveillance: 11% Buffer, 44% Unsure, 41% None, 26% Some, 19% Most, 2% All
- HAI Reporting: 33% Buffer, 41% Unsure, 19% None, 15% Some, 11% Most, 2% All

n=27