Supporting the Implementation of Personal Protective Equipment Auditing in Health Care Settings

October 22, 2021
Objectives

• Provide a refresher on best practices for personal protective equipment (PPE) use

• Discuss the importance of auditing as a tool for practice improvements in health-care settings in addition to other supports (e.g. education, removal of barriers, etc.)

• Introduce new auditing resources

Note: Although the presentation focuses on health-care settings, the information may also be beneficial to other settings (e.g. shelters, retirement homes)
Step 1: Plan
Familiarize Yourself with the Best Practices for PPE

• Before every patient, resident or client interaction, a point of care risk assessment (PCRA) as outlined in Public Health Ontario’s [Routine Practices and Additional Precautions in All Health Care Settings](https://www.publichealthontario.ca/-/media/documents/b/2012/bp-rpap-healthcare-settings.pdf?la=en) should be performed. This risk assessment helps identify the PPE that should be used for the interaction.

• Health-care workers who are required to wear PPE are trained in the use, care, and limitations of PPE, including the proper sequence of donning and doffing PPE. For more information, see Public Health Ontario’s [Recommended Steps for Putting on and Taking Off PPE](https://www.publichealthontario.ca/-/media/documents/ncov/ipac/ppe-recommended-steps).

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Ontario Agency for Health Protection and Promotion (Public Health Ontario). Recommended steps: putting on personal protective equipment (PPE) / taking off personal protective equipment (PPE) [Internet]. Toronto, ON: Queen’s Printer for Ontario; 2021 [cited 2021 Sep 15]. Available from: [https://www.publichealthontario.ca/-/media/documents/ncov/ipac/ppe-recommended-steps](https://www.publichealthontario.ca/-/media/documents/ncov/ipac/ppe-recommended-steps)
Public Health Ontario Resources to Support PPE Auditing

Resources

• **Observational Tools:**
  - Supporting the Use of PPE in Health Care Settings
  - Auditing of PPE Use

• **At a Glance:**
  - Implementing Personal Protective Equipment Audits in All Health Care Settings
Who Should be Involved in your PPE Auditing? (1/3)

• Organizations should identify at least one person to oversee implementation who will:
  • Have the support of the organizational leadership
  • Be well respected and able to access high-level administrative resources
  • Ideally have broader experience in quality and safety

• It is important for there to be early and ongoing engagement with decision-makers and influential health-care workers in the planning process
Who Should be Involved in your PPE Auditing? (2/3)

• A working group or committee can be established to champion the auditing program, consisting of:
  • Coordinator
  • Trainer
  • Observer
Who Should be Involved in your PPE Auditing? (3/3)

• Both observers and trainers should attend practical training sessions to learn when and how to perform PPE auditing

• Basic training for both observers and trainers should include:
  • the importance of preventing health-care associated infections,
  • how transmission occurs,
  • the proper technique for donning, doffing and using PPE,
  • considerations in the selection of appropriate PPE for the task at hand,
  • other considerations such as proper disposal of PPE.
Why, When, and Who Should be Audited?

• To achieve immediate and long-term improvement
• Should include a snapshot of practices across all staff types
• Auditing should take place at regular intervals throughout the year plus whenever there is a change to equipment or a process, or when rates of healthcare-associated infections are increasing
• All shifts and all types of staff such as nurses, environmental service workers, volunteers, students, physicians, dietary staff, porters, etc.
A Culture of Safety and Transparency

• Acknowledge that there are many barriers beyond the individual that can affect compliance

• Encourage a judgement and blame-free environment where staff are able to identify areas of improvement and share without fear of punishment

• Encourage collaboration across disciplines to identify unsafe practices and seek solutions to patient safety problems
Step 2: Audit
Audit Types

1. Auditing items that support the use of PPE in Health Care Settings
2. Auditing the use of PPE in Health Care Settings
Audit Type 1

Auditing Items that Support the Use of PPE in Health Care Settings

• Administrative Factors
• Training Factors
• Supply Factors

Audit Type 2

Auditing the use of PPE in Health Care Settings

- General Information
- Observed Staff Member
- Compliance

How Many Observations are Needed for Meaningful Results?

• It is important to have a large enough sample size to be meaningful
• Not collecting enough data means the rates are not reliable
• For 100 beds, it is estimated that 56 observation sessions of 20 minutes each is needed to collect enough data for reliable compliance rates (approximately 200 observed opportunities)
• The time frame for the audit period should be no less than a 2 week period
• Note: There is still a benefit to undertaking auditing if these numbers cannot be achieved

What Types of Biases May Affect Auditing Results?

• Selection bias
• Observer bias
• Observation bias (i.e., the Hawthorne Effect)
What Types of Feedback Should be Given?

- Feedback can be provided by health-care workers, management
- Immediate versus planned
- Feedback should be
  - Specific, Timely, Non-threatening
- The auditor should be open to feedback from the person being observed
  - May identify barriers to compliance
Step 3: Evaluate and Strategize
How Can the Audit Data be Analyzed?

**Crude versus Specific**

- **Time**
  - Example: Jan 2020 versus to Jan 2021
  - night shift versus day shift
  - before and after an intervention

- **Health care worker type**
  - Example: physician versus nurse

- **Single observation category**
  - mask removal
  - PPE availability
  - hand hygiene step
How Can the Audit Data be Analyzed? (continued)

• Breakdown of compliance rates supports the development of targeted and appropriate interventions to improve compliance

• Example:
  • Nurses removing mask properly – 70%
  • Physicians removing mask properly – 70%
  • Respiratory Therapist removing mask properly – 90%

• Example:
  • Appropriate mask removal in physicians in January 2021 – 70%
  • Appropriate mask removal in physicians in January 2020 – 55%
How are Compliance Rates Calculated?

Compliance calculation:

\[
\text{\# times masks were removed properly/specific HCW/staff category} \times 100\% \over \text{\# observation of mask removal/specific HCW/staff category}
\]

Example:

\[
\frac{26 \text{ appropriate mask removals in physicians}}{37 \text{ observed mask removals in physicians}} \times 100 = 70\%
\]
How Can Audit Data be Presented?

Options for displaying data:

- Graphs
- Tables
- Infographics
- Email, in-person, or posting (e.g. huddles, leadership meetings, joint health and safety committee meetings)
What Can the Audit Data Be Used For?

- Share with staff to promote improvements with best practices
- Identify practices that may require an intervention to improve compliance
- Assess the impact of interventions to improve compliance
- Monitor compliance with best practice over time
- Promote a culture of a safe and healthy workplace
## Identify Practices that May Require an Intervention for Improvement

<table>
<thead>
<tr>
<th>Area for Improvement/Barrier</th>
<th>Strategy/Action</th>
<th>Responsibility</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>No ABHR at donning area</td>
<td>Arrange placement of ABHR at all donning locations</td>
<td>Environmental Services Lead</td>
<td>Within 1 week</td>
</tr>
<tr>
<td>Waist ties not being fastened</td>
<td>Reminder to staff at team huddles</td>
<td>IPAC Lead/shift change lead</td>
<td>To start immediately</td>
</tr>
<tr>
<td>New staff not following doffing sequence</td>
<td>Provide additional training</td>
<td>Supervisor</td>
<td>Within 1 week</td>
</tr>
</tbody>
</table>
Implement Strategies
Strategies

• Strategy A: Set Goals as a Team
  • E.g. identify deficiencies, improvement huddles, share feedback

• Strategy B: Deliver Training to Staff
  • Vary educational/training methods – ongoing, education materials, shadowing, train-the-trainer

• Strategy C: Remind Staff of Key Practices
  • Reminder systems, signal words for missed practices

• Strategy D: Structure the Environment
  • Evaluate and adapt flow and the environment
Step 5: Improve and Sustain


**Improve and Sustain**

1. Communicate with and involve staff as much as possible in the process.
2. Use qualitative feedback (stories, anecdotes) to review what is and isn’t working along with your quantitative benchmarks.
3. When making decisions about what to do next, consider a “Start Stop Continue” discussion with the team.
   - Start: What should the team start doing?
   - Stop: What should the team stop doing?
   - Continue: What should the team keep doing?
4. Celebrate successes and improvements!
Personal Protective Equipment Resources

Public Health Ontario:

- **Technical Brief:** IPAC Recommendations for the Use of PPE for Care of Individuals with COVID-19, 6\(^{th}\) revision
- **Poster:** Recommended steps for putting on and taking off PPE
- **Lanyard Card:** Putting on and Taking off PPE
- **Videos:** Putting on Full PPE and Taking off Full PPE


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Public Health Ontario keeps Ontarians safe and healthy. Find out more at PublicHealthOntario.ca