New in 2019:
Section 6F Hand Hygiene Practices
Introductions

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Evidence and Rationale
So Why All the Fuss About Hand Hygiene?

*Most common mode of transmission of pathogens is via hands!*

- Infections acquired in healthcare
- Spread of antimicrobial resistance

Taken from the Centers for Disease Control & Prevention
Evidence of Relationship Between Hand Hygiene and Healthcare-Associated Infections

- Substantial evidence that hand hygiene reduces the incidence of infections
- Historical study: Semmelweis
- More recent studies: rates lower when antiseptic handwashing was performed
Self-Reported Factors for Poor Adherence with Hand Hygiene

- Handwashing agents cause irritation and dryness
- Sinks are inconveniently located/lack of sinks
- Lack of soap and paper towels
- Too busy/insufficient time
- Understaffing/overcrowding
- Patient needs take priority
- Low risk of acquiring infection from patients

Adapted from Pittet D, Infect Control Hosp Epidemiol 2000;21:381-386.
Identified Gaps in Hospital Performance

Compliance with hand hygiene opportunities

• The CDC estimates that on average healthcare providers wash their hands less than half of the times they should

HCWs following the correct technique

• Areas most often missed by healthcare providers when using alcohol-based hand sanitizer – thumbs, fingertips, between fingers

Underuse of product

• The efficacy of alcohol-based hand sanitizer depends on the volume applied to the hands

• Some hospitals have adjusted down the amount of alcohol-based hand sanitizer that is dispensed

Under-sampling of observations

• Consensus that the number of observations in most facilities is too low

New Standard
Hand Hygiene Expert Panel

John Boyce, MD, Boyce Consulting LLC

Elaine Larson, PhD, RN, FAAN, CIC, Columbia School of Nursing

Daniel Morgan, MD, MS, University of Maryland School of Medicine

Janet Glowicz, PhD, RN, MPH, CIC, FAPIC, Centers for Disease Control and Prevention

Emily Landon, MD, University of Chicago Medicine

In addition to Leapfrog’s National Expert Panel, we have a contract with the Armstrong Institute for Patient Safety and Quality at Johns Hopkins Medicine to provide scientific expertise and content management.

No industry representatives participate on our National Expert Panel. At times, we convene Advisory Committees made up of industry representatives.
Formation of New Hand Hygiene Practices (Optional in 2019)

Adapted in part from the World Health Organization’s Hand Hygiene Self-Assessment Framework.

Worked with a National Hand Hygiene Expert Panel to understand what elements are most important and relevant for U.S. hospitals.

The subsection focuses on adherence to Hand Hygiene “best practices” and includes four main topics:

• Training and education
• Infrastructure for supporting hand hygiene
• Monitoring and feedback
• Additional questions (for fact finding only)
Adapting the WHO Framework to Leapfrog Survey Questions

The WHO Self-Assessment Framework is derived from a thorough review of evidence on hand hygiene and specific recommendations to improve practices and reduce transmission of microorganisms to patients and HCWs.

The indicators included in the WHO Self-Assessment Framework are based on evidence and expert consensus.

Given the extensive research that was put into developing the WHO Framework, it was decided it made little sense to ‘start from scratch.’

The Expert Panel recognized that some of the indicators in the WHO Self-Assessment Framework are likely more applicable to health care settings earlier in the “hand hygiene journey” (e.g., the availability of clean, running water), so they helped Leapfrog identify those elements with the largest gaps for U.S. hospitals.
Current Standard:
NQF Safe Practice 19
## NQF Safe Practice 19

### 19.1
In regard to preventing hospital-acquired infections related to inadequate hand hygiene, our organization has done the following or has had the following in place within the last 12 months:

- **a** conducted a hospital-wide evaluation of the potential impact of improvements in hand hygiene on the frequency of hospital-acquired infections in our patient population.
- **b** submitted a report to the board (governance) with recommendations for measurable improvement targets.

### 19.2
In regard to preventing hospital-acquired infections related to inadequate hand hygiene, our organization has done the following or has had the following in place within the last 12 months:

- **a** held nursing leadership and physician leadership directly accountable for this patient safety area through performance reviews or compensation.
- **b** held senior administrative leadership directly accountable for performance in this patient safety area through performance reviews or compensation.
- **c** held the Patient Safety Officer directly accountable for improvements in performance through performance reviews or compensation.
- **d** reported to the board (governance) the results of the measurable improvement targets.
### NQF Safe Practice 19 (cont.)

<table>
<thead>
<tr>
<th>19.3</th>
<th>In regard to preventing hospital-acquired infections related to inadequate hand hygiene, our organization has done the following or has had the following in place within the last 12 months:</th>
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<tbody>
<tr>
<td>a</td>
<td>conducted staff education/knowledge transfer and skill development programs, with attendance documented. (p.251)</td>
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<tr>
<td>b</td>
<td>documented expenditures on staff education related to this Safe Practice in the previous year.</td>
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<tr>
<th>19.4</th>
<th>In regard to preventing hospital-acquired infections related to inadequate hand hygiene, our organization has done the following within the last 12 months or has had the following in place during the last 12 months and updates are made regularly:</th>
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<tbody>
<tr>
<td>a</td>
<td>developed and implemented explicit policies and procedures across the entire organization to prevent hospital-acquired infections due to inadequate hand hygiene including CDC Guidelines with category IA, IB, or IC evidence. (p.250)</td>
</tr>
<tr>
<td>b</td>
<td>implemented a formal performance improvement program addressing hospital-acquired infections focused on hand hygiene compliance, with regular performance measurement and tracking improvement (pp.250-251) <strong>OR</strong> monitored a previously implemented hospital-wide performance improvement program that measures, and demonstrates full achievement of, the impact of this specific Safe Practice. (pp.250-251)</td>
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Comparison of the Standards

<table>
<thead>
<tr>
<th>NQF Safe Practice 19</th>
<th>New Hand Hygiene Practices</th>
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<td>Awareness</td>
<td>Training and education</td>
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<tr>
<td>Accountability</td>
<td>Infrastructure for supporting hand hygiene</td>
</tr>
<tr>
<td>Ability</td>
<td>Monitoring and feedback</td>
</tr>
<tr>
<td>Action</td>
<td>Additional questions (for fact finding only)</td>
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</tbody>
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Content and FAQs
Reporting Period and Included Units

Reporting Period

• Answer questions based on the current status of the facility at the time that you submit this section of the Survey, unless otherwise noted.

Included Units

• Responses should reflect patient care units only, including all:
  • Inpatient units
  • Outpatient units (pre-operative, operative, procedural, and post operative)
  • Emergency Department Units

*Ancillary units are not included.*
General Terms

Individuals who touch patients or who touch items that will be used by patients

*This would include individuals who are formally engaged by the hospital to help support the patient care process and specifically those working in patient care units, including all inpatient units, outpatient units (pre-operative, operative, and post-operative), and emergency department units. This would include: doctors, mid-levels, nurses, pharmacists, environmental services staff, laboratory techs, etc. *This would also include students and volunteers.* Patients and their visitors would not be included in this definition. While patients and their visitors are important parts of the patient care process, they are not formally engaged by the hospital for this work. Individuals working in ancillary areas, such as kitchen staff, etc. would also not be included in this definition.*
I. Training and Education

• Use of a professional with appropriate training and skills for hand hygiene educational programs

• Frequency of hand hygiene training and documentation that training was completed

• Physical demonstration of proper hand hygiene

• Topics included in the hospital’s hand hygiene training
  • Evidence
  • When hand hygiene should be performed
  • How hand hygiene should be performed (using alcohol-based hand sanitizer, soap and water, gloves, minimum time, etc.)
  • How hand hygiene compliance is monitored
Definition of a “professional with appropriate training and skills”

This would include staff trained in Infection Control or Infectious Diseases, whose tasks formally include dedicated time for staff training. In some settings, this could also be medical or nursing staff involved in clinical work, with dedicated time to acquire thorough knowledge of the evidence for and correct practice of hand hygiene.

The minimum required knowledge of the trainer can be found in the WHO Guidelines on Hand Hygiene in Health Care and the Hand Hygiene Technical Reference Manual.

Examples of physical demonstration

Before new individuals to your hospital have contact with patients and the patient care space, they will need to demonstrate proper hand hygiene with soap and water and alcohol-based hand sanitizer. This demonstration could be done: through Occupational Health, as part of the TB test; at new-hire orientation; or at a department orientation. A group “teach-back” would be acceptable, but with no more than 10 students per one trainer/monitor.
II. Infrastructure for Supporting Hand Hygiene

• Quarterly audits to ensure that processes are followed:
  • Refilling of paper towels, soap dispensers, and alcohol-based hand sanitizer dispensers
  • Replacement of batteries in automated paper towel dispensers, soap dispensers, and alcohol-based hand sanitizer dispensers (if automated dispensers are used)

• Percentage of rooms or bed spaces in patient care units that have both:
  • one alcohol-based hand sanitizer dispenser per patient; and
  • an alcohol-based hand sanitizer dispenser accessible at their entrance

• Frequency of audits of the volume of alcohol-based hand sanitizer that is delivered with each activation of a wall-mounted dispenser (manual and automated)

• Whether dispensers deliver a volume of alcohol-based hand sanitizer that covers the hands completely and requires 15 or more seconds for hands to dry (ideally 1.0-1.1 mls per dose)
II. Infrastructure for Supporting Hand Hygiene – Endnotes & FAQs

Extent of a quarterly audit that checks that paper towels, soap, and alcohol-based hand sanitizer dispensers are refilled

The audit should include checking the paper towels, soap, and alcohol-based sanitizer in a sample of dispensers throughout the hospital. The sample should be based on a random or systematic sampling procedure, where the sampling plan assures wide sampling (i.e., the same places would not always be monitored). A reasonable goal would be to audit 5% of the dispensers in 20% of the units. The quarterly audit should ideally be a supplement to a system that checks these supplies on a routine basis (e.g., environmental services checks with their regular cleaning).

Audits of the volume of alcohol-based hand sanitizer

To audit the amount of alcohol-based hand sanitizer that is delivered with each activation of a wall-mounted dispenser (manual and automated), hospitals should use the following process:

1. Take a small graduated plastic medicine cup and have the dispenser deliver 10 doses of alcohol-based hand sanitizer.

2. Divide the total volume dispensed by 10 to get an average of the amount dispensed.

The audit should be a random sample across different patient care units, comprising at least 5% of dispensers on at least 50% of units.
III. Monitoring and Feedback – Indirect Monitoring

Use of indirect monitoring methods

*Indirect monitoring methods would include monitoring the hospital-wide consumption of alcohol-based hand sanitizer and soap on a regular basis (at least every 3 months).*
Why does question #10 ask about hospital-wide indirect monitoring, whereas the other questions in this section only pertain to patient care units?

*Indirect monitoring methods include monitoring the consumption of alcohol-based hand sanitizer and soap. This type of monitoring is usually not feasible at the unit level.*
III. Monitoring and Feedback – Direct Monitoring
Electronic Compliance Monitoring System

Use of an electronic compliance monitoring system

*Includes door minder or activity monitoring systems, systems that include the wearing of electronic badges, and camera-based systems*

- Current use of ECM or plans to implement within 3 years
- Implementation in inpatient, outpatient, and/or emergency department units
- Components of the ECM system and how it is used:
  - Hospital has validated the accuracy of data collected
  - System identified both opportunities for hand hygiene and that hand hygiene was performed
  - System can determine who practiced hand hygiene and verify when they practiced it (badge-based system) and the hospital provides feedback to individuals about their compliance based on this tracking
  - Unit-level data are fed back to staff at least monthly for improvement work
  - Unit-level data are used for creating unit-level action plans
III. Monitoring and Feedback – Direct Monitoring
Electronic Compliance Monitoring System – Endnotes & FAQs

Is Leapfrog encouraging hospitals to implement electronic compliance monitoring? These systems can be expensive and the technology still needs to advance.

*In an expert review of the literature, a common theme that was identified is the use of multimodal strategies to improve hand hygiene; including observations, training/education, and electronic compliance monitoring. The questions in Section 6F Hand Hygiene ask about a variety of strategies that can be used to monitor and improve hand hygiene, and while responses will not be scored or publicly reported in 2019, Leapfrog is encouraging hospitals to take a multimodal approach. As with Computerized Physician Order Entry (CPOE) systems and Bar Code Medication Administration Systems (BCMA), we anticipate that electronic compliance monitoring technology will improve over time and become an important component of a comprehensive hand hygiene program.*

Evidence for this measure can be found in the Hand Hygiene bibliography available at [http://www.leapfroggroup.org/ratings-reports/hand-hygiene](http://www.leapfroggroup.org/ratings-reports/hand-hygiene).

III. Monitoring and Feedback – Direct Monitoring

Direct Observation

Use of direct observation methods

*This may be in addition to or instead of using an electronic compliance monitoring system*

- Current use of direct observation in inpatient, outpatient, and/or emergency department units
- Direct observation methods used:
  - Observers immediately intervene prior to any harm occurring to provide non-compliant individuals with immediate feedback
  - Observations within a unit are conducted weekly or monthly across all shifts and on all days of the week proportional to staff on duty for that shift
  - The monthly sample size of observations in a unit reflects at least 200 observations or 1.7% of all possible hand hygiene opportunities in that unit, whichever number is less
  - Observations identify both opportunities for hand hygiene compliance with those opportunities
  - Observations determine who practiced hand hygiene, verify when they practiced it, and whether their technique was correct
  - Observations identify individuals who are wearing artificial nails, nail extenders, and jewelry and monitor that they are practicing proper hand hygiene
  - Unit-level data are fed back to staff at least monthly for improvement work
  - Unit-level data are used for creating unit-level action plans
- System for both the initial and recurrent training and validation of hand hygiene compliance observers
III. Monitoring and Feedback – Direct Monitoring
Direct Observation – Endnotes & FAQs

How do we estimate the number of hand hygiene opportunities in a unit in a month?

Steed et al. found in their study that a patient in a general medical-surgical ward in a small community hospital has an average of 30 hand hygiene opportunities (HHO) per 24 hour period. This estimate is even higher for academic medical centers and patients in the ICU.

To estimate the number of HHOs in a unit in a month, hospitals should use the following formula:

\[
= \text{Number of open/staffed beds in unit} \times \text{monthly occupancy rate in unit} \times \text{no. of days in month} \times 30 \text{ hand hygiene opportunities}
\]

The monthly sample size of hand hygiene observations should be at least 1.7% of the unit’s monthly HHO value or 200 observations, whichever is less.

III. Monitoring and Feedback – Feedback

- Use of “just-in-time” coaches who approach non-compliant individuals prior to any harm occurring to provide them with real-time feedback on the missed opportunity and to seek to understand the causes of the failure

- Written protocol for communicating with individuals who have challenges adhering to the established hand hygiene practices and for working to understand the potential barriers to adherence

- Regular (at least every 3 months) feedback of hand hygiene compliance data with demonstration of trends over time to:
  - Hospital leadership (including senior administrative leadership, physician leadership, and nursing leadership)
    - Hospital leadership is held directly accountable for hand hygiene performance through performance reviews or compensation
  - Hospital’s board (governance)
  - Medical executive committee
III. Monitoring and Feedback – Feedback
Endnotes & FAQs

For the purposes of responding to question #21, what are some examples of how hospital leadership can be held accountable through performance reviews or compensation?

A performance review or compensation plan should include specific language about hand hygiene performance. A list of hand hygiene practices and related goals may be incorporated into the performance review and/or compensation plan or formalized programs whereby a measure of success of those activities or programs is tied to individual performance reviews or compensation incentive plans of executives. Examples include meeting targets for hand hygiene compliance rates, having bonuses tied to structural changes like the implementation of electronic compliance monitoring systems, etc. Language pertaining solely to infection control practices and performance would NOT be sufficient.
IV. Additional Questions (for fact finding only)

• Percentage of rooms or bed spaces in patient care units that have a sink for hand washing

• Methods used for educating patients and visitors about how to properly perform hand hygiene

• Methods used for inviting patients and visitors to remind individuals to perform hand hygiene

• Individuals (CEO, CMO, CNO) who have demonstrated a commitment to support hand hygiene improvement in the last year (e.g., a written or verbal commitment delivered to those individuals who touch patients or who touch items that will be used by patients)

• Initiatives used to support continuous improvement
  • Hand hygiene e-learning tools
  • Establishment of a hospital-wide target for hand hygiene compliance
  • Regular dedicated group that meets at least quarterly to plan and conduct active hand hygiene promotion
  • Development of explicit action plans for addressing identified gaps or deficiencies
IV. Additional Questions (for fact finding only) – Endnotes & FAQs

What are some examples of demonstrating a commitment to hand hygiene improvement as referenced in question #25?

Some examples of how individuals can demonstrate a commitment to support hand hygiene improvement are written or verbal commitments given during town hall meetings, videos, e-mails from the CEO, public comments to staff, etc. This needs to be a verbal or written commitment that is delivered to those individuals who touch patients or who touch items that will be used by patients.
Plans for Scoring and Public Reporting

2019:

• Section 6F will not be scored or publicly reported in 2019.

• Hospitals should continue to report on the existing NQF Hand Hygiene Safe Practice 19 in Subsection 6E, which will continue to be scored, publicly reported and included in the Fall 2019 and Spring 2020 Leapfrog Hospital Safety Grades.

2020:

• Leapfrog anticipates scoring and publicly reporting this new Hand Hygiene Practice standard.

• New standard will replace Safe Practice 19 in the 2020 Leapfrog Hospital Survey and Hospital Safety Grade (starting with the Fall 2020 Safety Grade).
Scoring FAQs

Will hospitals earn different scores for the following scenarios:

- Electronic Compliance Monitoring System ONLY
- Direct Observation ONLY
- Electronic Compliance Monitoring System + Direct Observation

Section 6F will not be scored or publicly reported until 2020. Scoring for 2020 has not yet been established as we are hoping that hospitals will submit comments and feedback on the questions that we can use to make updates prior to 2020 when we do plan to score and publicly report.

That being said, the questions in Section 6F Hand Hygiene ask about a variety of strategies that can be used to improve hand hygiene and Leapfrog is encouraging hospitals to take a multimodal approach, which includes observations, training/education, and electronic compliance monitoring. For example, using direct observation as well as electronic compliance monitoring, coupled with training and education.

With regard to monitoring hand hygiene compliance, Leapfrog’s standard highlights electronic compliance monitoring, which early but compelling evidence suggests offers results superior to observation for many types of hand hygiene compliance (such as hand washing and the use of alcohol-based hand sanitizer). As with Computerized Physician Order Entry (CPOE) systems and Bar Code Medication Administration Systems (BCMA), Leapfrog expects hospitals to incorporate the best possible solutions to safety problems that endanger patients, and recognizes and reports when hospitals demonstrate that investment.

If you have any comments or feedback on the questions, we would welcome them. Scoring information will be shared in the Proposed Changes for 2020 which should be available in November.
Questions?