IN PURSUIT OF CLEAN HANDS

How The Leapfrog Group, WHO, CDC and Regulatory Agencies Are Shaping the Future of Hand Hygiene Compliance Monitoring in Healthcare

Presented by Ecolab Healthcare

Presenter

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Important NOTE

- This presentation is not intended to provide guidance or direction on compliance with federal, state or accrediting agency requirements. It is intended as an overview of existing regulations, conditions of participation, guidelines, and recommendations related to hand hygiene compliance.

Learning Objectives

- Following this presentation, the learner will be able to:

1. Compare and contrast the WHO, CDC, TJC and Leapfrog Group recommendations and requirements related to hand hygiene compliance

2. Describe the methods available to monitor hand hygiene compliance
   - Direct observation
   - Product tracking
   - Electronic hand hygiene compliance monitoring systems

3. Discuss how each monitoring method addresses WHO, CDC, TJC and Leapfrog Group requirements, including a breakdown of the WHO 5 Moments by monitoring method

COMPARING RECOMMENDATIONS & REQUIREMENTS

Monitoring hand hygiene compliance: CMS

CMS	CDC	WHO	TJC	LEAPFROG
Hospital Conditions of Participation CFR 42 • Subpart B: Administration Section 482.21 **Condition of Participation: Quality Assessment and Performance Improvement Program (QAPI)** • Subpart C: Basic Hospital Functions • Section 482.42 **Condition of Participation: Infection Control** • Interesting Note: A word search for “hand” brings up only one reference related to installation of ABHR dispensers				

More on CMS – Quality Assessment and Performance Improvement

A hospital **MUST**:

- Develop, implement, and maintain an effective, ongoing, hospital-wide, data-driven quality assessment and performance improvement program
- Program must include, but not be limited to, an ongoing program that shows measurable improvement in indicators for which there is evidence that it will improve health outcomes and identify and reduce medical errors.
- The hospital must measure, analyze, and track quality indicators, including adverse patient events, and other aspects of performance that assess processes of care, hospital service and operations.
- Use the data collected to
  - Monitor the effectiveness and safety of services and quality of care
  - Identify opportunities for improvement and changes that will lead to improvement.
  - Set priorities for its performance improvement activities that
    - Focus on high-risk, high-volume, or problem-prone areas
    - Consider the incidence, prevalence, and severity of problems in those areas
    - Affect health outcomes, patient safety, and quality of care
    - Performance improvement activities must track, analyze, and implement preventive actions and mechanisms that include feedback and learning throughout the hospital.
- Take actions aimed at performance improvement and, after implementing those actions, the hospital must measure its success, and track performance to ensure that improvements are sustained.
- Conduct performance improvement projects proportional to the scope and complexity of the hospital's services and operations.

Conditions of Participation CFR 42 Subpart B Administration, Section 482.21 CoP: Quality Assessment and Performance Improvement Program (QAPI)
https://www.govinfo.gov/content/pkg/CFR-2017-title42-vol5/xml/CFR-2017-title42-vol5-part482.xml

More on CMS - Quality Assessment and Performance Improvement

A hospital MAY, as one of its projects:

- Develop and implement an information technology system explicitly designed to improve patient safety and quality of care.
  - This project, in its initial stage of development, does not need to demonstrate measurable improvement in indicators related to health outcomes.

The hospital's governing body, medical staff, and administrative officials are responsible and accountable for ensuring:

- That an ongoing program for quality improvement and patient safety, including the reduction of medical errors, is defined, implemented, and maintained.
- That the hospital-wide quality assessment and performance improvement efforts address priorities for improved quality of care and patient safety; and that all improvement actions are evaluated.
- That clear expectations for safety are established.
- That adequate resources are allocated for measuring, assessing, improving, and sustaining the hospital's performance and reducing risk to patients.

Conditions of Participation CFR 42 Subpart B Administration, Section 482.21 CoP: Quality Assessment and Performance Improvement Program (QAPI)
https://www.govinfo.gov/content/pkg/CFR-2017-title42-vol5/xml/CFR-2017-title42-vol5-part482.xml

More on CMS – Infection Prevention

The hospital MUST:

- Provide a sanitary environment to avoid sources and transmission of infections and communicable diseases. There must be an active program for the prevention, control, and investigation of infections and communicable diseases.
  - A person or persons must be designated as infection control officer or officers to develop and implement policies governing control of infections and communicable diseases.
  - The infection control officer or officers must develop a system for identifying, reporting, investigating, and controlling infections and communicable diseases of patients and personnel.

The chief executive officer, the medical staff, and the director of nursing services MUST:

- Ensure that the hospital-wide quality assessment and performance improvement (QAPI) program and training programs address problems identified by the infection control officer or officers
- Be responsible for the implementation of successful corrective action plans in affected problem areas.

Conditions of Participation CFR 42 Subpart C Basic Hospital Function, Section 482.42 CoP Infection Prevention
https://www.govinfo.gov/content/pkg/CFR-2017-title42-vol5/xml/CFR-2017-title42-vol5-part482.xml

More on CMS – Hospital Infection Control Worksheet

Infection Control Worksheets are no longer used by CMS and state agencies as a survey tool, but are good tools to prepare for the survey

- Hand hygiene is performed in a manner consistent with hospital infection control practices, policies and procedures to maximize the prevention of infection and communicable disease.
- Note: Observations for compliance with hand hygiene should be assessed throughout the hospital.

CMS Summary: Hand Hygiene Compliance is not specifically addressed, but hospitals must implement, track and provide ongoing feedback on infection control initiatives that will improve quality and patient safety.

https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Policy-and-Memos-to-States-and-Regions-Items/Survey-and-Cert-Letter-15-12?DLPage=1&DLEntries=10&DLFilter=15-12&DLSort=3&DLSortDir=descending

Monitoring Hand Hygiene Compliance: CDC

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More on Centers for Disease prevention and Control

Guideline for Hand Hygiene in Healthcare Settings (2002)

Part II. Recommendations

7.B Monitor HCWs' adherence with recommended hand-hygiene practices and provide personnel with information regarding their performance

8.A Make improved hand-hygiene adherence an institutional priority and provide appropriate administrative support and financial resources.

8.B. Implement a multidisciplinary program designed to improve adherence of health personnel to recommended hand-hygiene practices.

Part III. Performance Indicators

1. A. Periodically monitor and record adherence as the number of hand-hygiene episodes performed by personnel/number of hand-hygiene opportunities, by ward or by service. Provide feedback to personnel regarding their performance.

Centers for Disease Control and Prevention. Guideline for Hand Hygiene in Healthcare Settings https://www.cdc.gov/handhygiene/providers/index.html

Monitoring Hand Hygiene Compliance: WHO

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More on WHO Multi-modal Approach:
Five components of WHO Multi-Modal approach

1a. System Change – ABHR at the Point of Use

1b. System Change – Access to Safe Continuous Water Supply, Soap and Towels

2. Training and Education

3. Evaluation and Feedback

4. Reminders in the Workplace

5. Institutional Safety Climate

When to Perform Hand Hygiene

Soap and water or alcohol-based hand rub (ABHR) should be used to reduce the amounts of microbes on hands at key moments such as:

1. **BEFORE** touching a patient

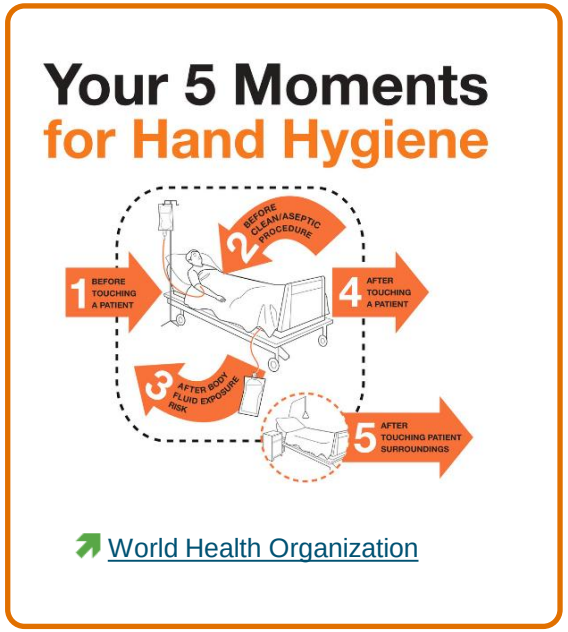
2. **BEFORE** clean/aseptic procedures

3. **AFTER** body fluid exposure/risk

4. **AFTER** touching a patient

5. **AFTER** touching patient surroundings

and whenever in doubt!



Monitoring hand hygiene compliance: TJC

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THE JOINT COMMISSION HIERARCHICAL METHOD

- Important Caveat! Not intended to be used to interpret Joint Commission requirements based solely on the content of this slide
- Joint Commission Standards are taken from CMS Rules, Regulations and CoP
- Hierarchy
  1. Rules or Regulation
  2. Conditions of Participation
  3. Manufacturer's Instructions For Use
  4. Evidence-based Guidelines
  5. Consensus Documents
  6. Organization's Infection Prevention and Control Policy

Note: Facility policy cannot be used to justify non-compliance with regulatory or device/product use requirements. Also see TJC FAQ on Manufacturer Instructions for Use.

Joint Commission and Hand Hygiene Compliance

- Effective January 1, 2018, any observation of *individual* failure to perform hand hygiene in the process of direct patient care will be cited as a deficiency resulting in a Requirement for Improvement (RFI) under the Infection Prevention and Control (IC) chapter for all accreditation programs.

"Hand hygiene is widely known to be the most important intervention for preventing health care-associated infections (HAIs)."

"While there are various causes for HAI, The Joint Commission has determined that failure to perform hand hygiene associated with direct care of patients should no longer be one of them."

Joint Commission Online. December 20, 2017.
https://www.jointcommission.org/issues/article.aspx?Article=IlZJaLJCiRBZC2IRvnKkJTqEEU2n1Rxv3fqmsKqKPb0%3d&j=3545832&e

Monitoring hand hygiene compliance: Leapfrog

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The Leapfrog Group

- **Who They Are**: The Leapfrog Group is a nonprofit third-party organization that serves as a voice for healthcare consumers and purchasers, collecting, analyzing and disseminating data to inform value-based purchasing and improved decision-making.

- **What They Do**: Leapfrog surveys its member hospitals to measure compliance with best practices and provides a score that is publicly available

- **Why They Matter:** Leapfrog Grades are publicly reported measures that inform hospital consumer decisions

Leapfrog's flagship initiatives

LEAPFROG HOSPITAL SURVEY

- Hospitals voluntarily submit data through the Leapfrog Hospital Survey to demonstrate their commitment to transparency
- The survey only reports data voluntarily submitted by hospitals across the country

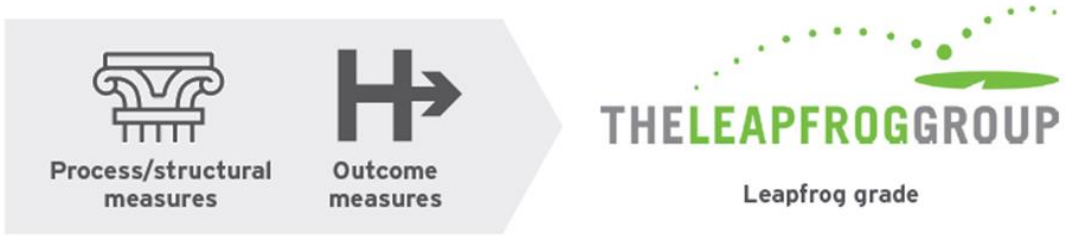
LEAPFROG HOSPITAL SAFETY GRADE

- Grades are assigned via many sources
- Hospitals with available data are given grades regardless of participation in the survey
- The Safety Grade includes data from CMS and the Survey if available

Across all states, spring 2021 Leapfrog Hospital Safety Grades
•Thirty-three percent of hospitals received an "A,"
•24% received a "B,"
•35% received a "C,"
•7% received a "D,"
•Less than 1% received an "F"

Hand Hygiene Compliance Impact

- **Approximately 22% of the hospital's total Leapfrog Hospital Safety Grade is impacted by hand hygiene***



Measure Group	Measures Included	Measure Weight	Overall Weight
Process and Structure	Bar Code Medication Administration	6.0%	50%
	Safe Practice 9: Nursing Workforce	4.3%	
	Hand Hygiene	4.2%	
	H-CAHPS-1: Nurse Communication	3.7%	
	H-CAHPS-2: Doctor Communication	3.7%	
Outcomes	Air Embolism	2.5%	50%
	Falls and Trauma	4.6%	
	CLABSI (Central Line-Associated Bloodstream Infection)	4.6%	
	CAUTI (Catheter-Associated UTI)	4.4%	
	SSI: Colon	3.4%	
	MRSA	4.5%	
	C. diff	4.1%	
	PSI 3: Pressure Ulcer Rate	4.7%	
	PSI 4: Death Rate among Surgical Inpatients with Serious Treatable Conditions	2.0%	

*Represented percentages may fluctuate by hospital

Leapfrog Monitoring and feedback Domains

- Adhering to the **MONITORING** domain
  - Collect hand hygiene compliance data on **at least 200 hand hygiene opportunities** (or a minimum percentage of hand hygiene opportunities), each month, in each patient care unit or ASC
  - Provide individuals who touch patients or who touch items that will be used by patients with **feedback** on their hand hygiene compliance
  - Use **electronic compliance monitoring system and/or direct observation** methods that meet Leapfrog's criteria for collecting hand hygiene compliance data
    - Direct Observation is valuable to observe technique and as an opportunity to coach
- Adhere to the **FEEDBACK** domain
  - Provide feedback on hand hygiene compliance data to individuals who touch patient or who touch items that will be used by patients for **monthly improvement work**
  - Use hand hygiene compliance data for creating **action plans**
  - Provide feedback on hand hygiene compliance data to hospital or ASC leadership and **hold leadership accountable** for hand hygiene performance through performance reviews or compensation

Factsheet: Hand Hygiene – The Leapfrog Hospital Survey
https://ratings.leapfroggroup.org/sites/default/files/2020-08/2020-Hand-Hygiene-Fact-Sheet.pdf

Leapfrog 2022

- Leapfrog continues to review the comments it receives on the sample size of observations that are required to Achieve the Standard (200 observations/unit/month) with its national expert panel.
- The expert panel's consensus remains that most facilities are currently under-sampling the number of hand hygiene observations and that an increased number of observations reduces the potential impact of the Hawthorne effect on human behavior.
- Leapfrog continues to urge hospitals to explore adopting electronic compliance monitoring systems for hand hygiene observations, given their many benefits over manual observations.
- Leapfrog will continue to monitor developments in this area and will make adjustments to future surveys as needed.

The Leapfrog Group Survey Materials Proposed Changes 2022
https://www.leapfroggroup.org/survey-materials/proposed-changes-2022-leapfrog-hospital-survey

Monitoring hand hygiene compliance

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Section Summary

- Hand hygiene compliance monitoring and feedback are integrated into regulations, rules, guidelines and recommendations
- A multi-modal approach is recommended by all, spelled out by WHO and Leapfrog
- The Joint Commission 2018 Statement raised the bar on hand hygiene compliance
- The Leapfrog Group places high importance on hand hygiene
  - Use direct observation and/or electronic monitoring
  - 5 Domains reinforce monitoring and feedback
  - 200 observations/unit/month is close to 1.7% of total HH events per unit using direct observation and/or electronic compliance monitoring
  - Hand Hygiene Compliance Monitoring and HAI reduction are heavily weighted in Safety Grades– combined 22% of total score impacted by hand hygiene practices
- No set compliance target has been identified

COMPLIANCE MONITORING METHODS

Hospitals Need A Strategy for HH Compliance

DIRECT OBSERVATION

The “secret shopper” or “manual tracking” method

Hand hygiene moments are recorded by different observers and tabulated manually or using an app

PRODUCT USAGE MEASUREMENT

Dispenser activity is tracked to measure product consumption

Results are compared to a theoretical number of hand hygiene opportunities

ELECTRONIC MONITORING

Gives hospitals the ability to collect, analyze and report real-time, actionable data

Comprised of an integrated system that may include badges, dispensers and sensors

Direct Observation

Description	• Direct observation of hand hygiene practices. • May be manual (pen and paper) or technology-assisted
Advantages	• The only method that can evaluate the "Five Moments for HH“ • Considered gold standard method because it is the only method that directly measures HCW HH compliance **and technique**
Disadvantages	• Hawthorne Effect, especially with manual method • Inter-observer agreement can vary, thus requiring great effort in training data collectors • Time intensive to observe and manually create reports • Short observation periods • Captures a fraction of HH opportunities

Adapted from: Innovations in Promoting Hand Hygiene Compliance. Marra AR, Edmond MB. Perspectives on Safety. May 2014. AHRQ Patient Safety Network. https://psnet.ahrq.gov/perspectives/perspective/158

Systematic Review: Validity of Direct Observation

- 71 studies included
- Aims
  - To identify and describe potential biases in HH compliance monitoring by direct observation
  - To develop a typology of biases and propose improvements to reduce bias and increase the validity of compliance measurements
- Identified bias
  - Information bias – Hawthorne effect, duration, training, inter-rater reliability
  - Selection bias – Sampling bias of timing, setting, occupational group
  - Confounding bias - Unable to control for confounders
- Published research of HH compliance measured by direct observation lacks validity.
- HH should be measured using methods that produce a valid indication of performance and quality using standardized methodology

Jeanes A, Coen PG, Gould DJ, et al. Validity of hand hygiene compliance measurement by observation: A systematic review. Am J Infect Control. 2019;47(3):313-322.

Measuring product use

Description	• Indirect way to measure hand hygiene compliance by measuring soap/ABHR consumption
Advantages	• Less resource intensive than direct observation • Possible to do it manually or electronically • Can be done in different hospital settings
Disadvantages	• Does not monitor compliance of individual HCWs, role or shift • Does not measure specific moments from “Five Moments” (i.e., show used when/where appropriate) • Does not omit visitor or patient use of product

Adapted from: Innovations in Promoting Hand Hygiene Compliance. Marra AR, Edmond MB. Perspectives on Safety. May 2014. AHRQ Patient Safety Network. https://psnet.ahrq.gov/perspectives/perspective/158

Electronic monitoring

Description	• Several different types of electronic sensors using different technologies • Real time locating systems • **Group or individual monitoring**
Advantages	• Designed to ensure that HCWs perform HH prior to and after patient care and may issue an automated notice to do so • May provide real-time feedback to HCWs • When integrated with a database, allow for automated reports
Disadvantages	• Some technologies can be expensive with high maintenance costs • Some technologies make it necessary to work closely with engineering to assess possible interference with existing equipment • Some technologies connect to hospital network and may tax the network and/or IT resources

Adapted from: Innovations in Promoting Hand Hygiene Compliance. Marra AR, Edmond MB. Perspectives on Safety. May 2014. AHRQ Patient Safety Network. https://psnet.ahrq.gov/perspectives/perspective/158

DIFFERENT APPROACHES TO ELECTRONIC MONITORING

Patient Zone Focused

- Monitors interactions between HCW badge, dispenser and patient zone (bed, stretcher, chair, etc.)

Room Zone Focused

- Opportunities defined by entry and exit of room, and compliance is monitored by use of a dispenser around that event

Group Monitoring

- Measures number of dispenses and uses a formula to calculate compliance

COMPARISON OF ELECTRONIC COMPLIANCE MONITORING METHODS

	PATIENT ZONE INDIVIDUAL MONITORING	ROOM ZONE INDIVIDUAL MONITORING	GROUP MONITORING	DIRECT OBSERVATION
Captures all 5 Moments	No	No	No	Yes, if overt monitoring
Monitors individual compliance	Yes	Some	No	Yes
Meets Leapfrog requirements for # of observations	Yes	Yes	No	Yes, if capturing 200 obs/unit/mo
Monitors compliance by role, department, unit, date, time, type of product used (soap vs sanitizer), type of HH event	Yes	Some	No	Yes
Badges assigned to individual rather than shared	Yes	Some	No	NA
Provides audio/visual cue	Yes	Some	No	Yes, if overt monitoring
Provides immediate feedback	Yes	Some	No	Yes, if overt monitoring
Measures compliance with both soap and sanitizer	Yes	Some	Some, product use only	Yes
HCW privacy – only monitors HH	Yes	Some	Yes	Yes
Minimal IT involvement	Yes	Some	Yes	Yes
Captures HH events between patients in a bay or multiple bed-room as well as entry/exit from room	Yes	Some	No	Yes, if overt monitoring
Measures product use	Yes, soap and sanitizer	Some	Yes	No
Monitors and alerts low product for both soap and sanitizer	Yes	Some	Unknown	No

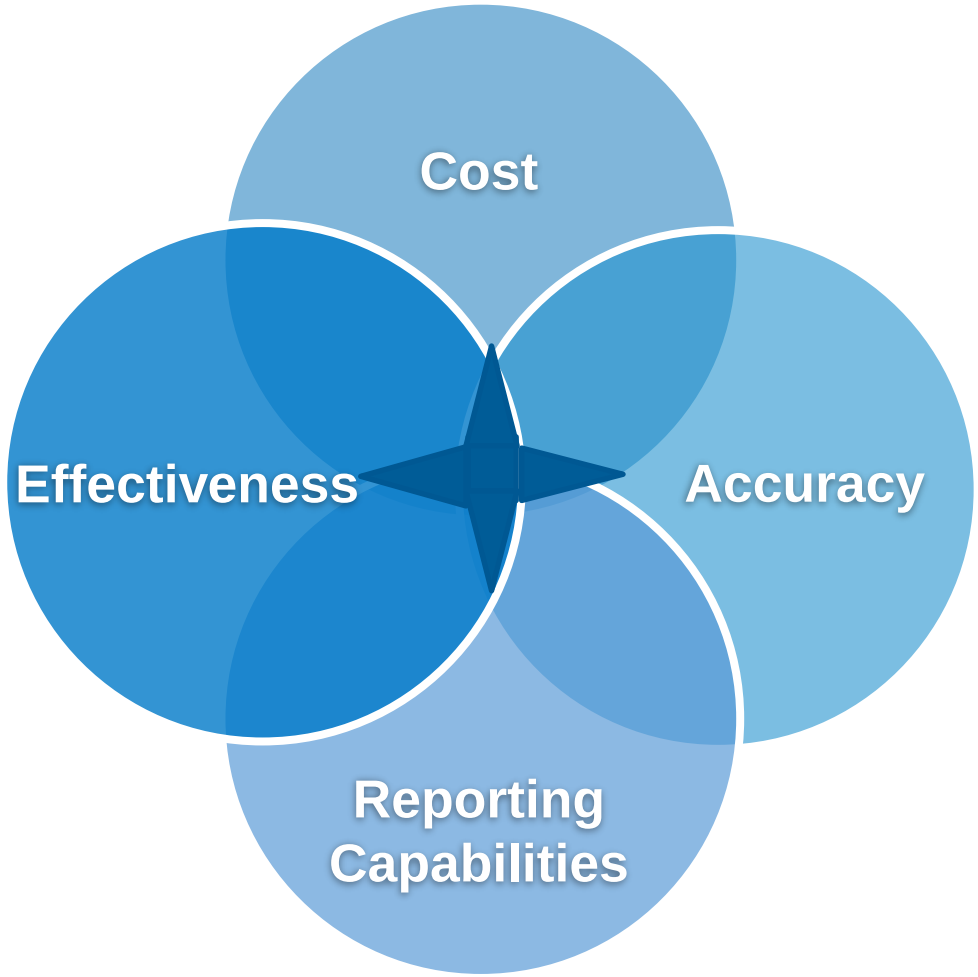
WHO 5 Moments and monitoring methods

	DIRECT OBSERVATION	PRODUCT COUNTING	ELECTRONIC – GROUP MONITORING	ELECTRONIC – INDIVIDUAL MONITORING
Before patient contact	✓	-	✓	✓
Before clean/aseptic procedure	✓*	-	-	-
After body fluid exposure	✓*	-	-	-
After touching the patient	✓	-	✓	✓
After touching surroundings	✓	-	✓	✓

*Overt observation only, not secret shopper model

Evaluating Automated Systems

- Effectiveness
- Accuracy
- Reporting Capability
- Ease of Install
- Individual HCW vs Group Monitoring
- HH Moments Monitored
- Room vs Patient Zone
- Hospital IT Requirement
- Battery Life
- Maintenance



conclusion

1. We compared the WHO, CDC, TJC and Leapfrog Group recommendations and requirements related to hand hygiene compliance

2. We described the methods available to monitor hand hygiene compliance
   - Direct observation
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3. We discussed how each monitoring method addresses WHO, CDC, TJC and Leapfrog Group requirements, including a breakdown of the WHO 5 Moments by monitoring method


Q & A