Navigating Long-Term Care Infection Prevention in a Post-Pandemic World

Guidelines, Regulations, and Recommendations

Purell BRAND® HEALTHCARE

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Introduction – What to Expect from This Guide

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Partnering for Change

What you do has always been hard – but more so now as the world gets busier. **We are here to help.**

This guide is designed to help you navigate the changing landscape of guidelines and regulations for long-term care in the post-pandemic world. It will also help you evaluate important aspects of your infection control program.

Part 1 recognizes the outsized impact the COVID-19 pandemic had on long-term care and highlights key hygiene intervention changes that can be made to improve resident safety.
Part 2 reviews the relevant regulations and guidance covering hand hygiene and surface disinfection, calling out where changes have been made due to the pandemic.
Part 3 shares a simple but effective outline for evaluating hand hygiene and surface disinfection products so you can assess with confidence what you need for your infection prevention program.
Part 4 addresses the path to improved safety culture and infrastructure, including critical resources that can help you create your own plan to get there.

We understand that the challenges facing the long-term care market are many and that your road ahead will be challenging. That said, we have seen the resilience you and your teams have demonstrated throughout the past few years and know that you have the commitment, compassion, and determination to lead your teams to a safer, healthier world. We hope that this resource proves to be a valuable tool for you on your journey. If you would like to share feedback or need further help, please do not hesitate to reach out to us at **healthcare@gojo.com.**

Stay well,

PURELL® Healthcare

The Impact of COVID-19 on Long-Term Care

The COVID-19 pandemic unraveled over a decade's worth of patient safety gains in healthcare.[1] The long-term care (LTC) sector, which has long experienced challenges, was particularly hard-hit. A population of older residents with chronic illnesses and immunodeficiencies, coupled with an environment with underlying patient safety inadequacies, contributed to the disproportionately dire situation in LTC.

The U.S. Government Accountability Office reports that most nursing homes had infection control deficiencies prior to the pandemic, and half of those had persistent problems.[2] In all healthcare settings, the pandemic degraded patient safety quickly and aggressively, suggesting that healthcare's safety culture and infrastructures were not as resilient as they needed to be (or were believed to be).

COVID-19 also put supply chains to the test in alarming ways, further adding to safety and infrastructure challenges. Many LTC facilities were unable to obtain critical supplies, such as personal protective equipment (PPE), alcohol-based hand rub (ABHR), surface disinfectants, and a host of other supplies.

Many new manufacturers and distilleries began making ABHR for the first time without knowledge of proper formulation, creating an abundance of unpleasant and unsafe hand sanitizer in the market.

The presence of dangerous impurities, inadequate levels of active ingredients, and other safety concerns led the U.S. Food and Drug Administration (FDA) to include more than 350 brands of ABHR on their "Do Not Use" list.[3]

While it's unclear how much sub-optimal ABHR remains in the market, its influence on healthcare workers' (HCW) overall perception of ABHR is cause for concern. A return to products with strong research and development behind them is critical moving forward.

Continued staffing issues and cost pressures have further compounded the challenges. Despite it all, those who work in LTC continue to demonstrate extraordinary tenacity, skill, flexibility, and creativity as they work toward building a better future.[4]

While improving the quality of LTC will take concerted reform efforts, small but impactful changes can happen now. A commitment to basic resident safety and infection prevention, particularly hand hygiene, surface disinfection, and compliance with standard, transmission-based, and enhanced barrier precautions, is a critical starting point.

This guide provides an overview of key elements of hand hygiene and surface disinfection to provide support as you navigate the journey forward. Further information on precautions can be found on the CDC's **Infection Control Basics** site and **PPE Use in Nursing Homes Guidance.**

Guidelines and Regulations in Long-Term Care

The many regulations and guidelines that LTC facilities must follow can be confusing, especially as they relate to hand hygiene and surface disinfection. But the good news is that regulations are typically informed by prevailing scientific consensus.

Hand Hygiene in Long-Term Care

Centers for Medicare and Medicaid Services (CMS)

In LTC, CMS establishes the requirements that an institution must meet in order to participate in Medicare and Medicaid and receive reimbursement. Specific to Infection Prevention and Control, F-Tag 880 (F880) includes the areas of compliance assessed during a CMS Survey.

F880 requires nursing facilities to "establish and maintain an infection prevention and control program designed to provide a safe, sanitary, and comfortable environment and to help prevent the development and transmission of communicable diseases and infections."[5]

Centers for Medicare and Medicaid Services F-Tag 880 Key Elements of Compliance for Hand Hygiene:

- Implement an infection control and prevention program that incorporates staff procedures for care, including hand hygiene, standard and transmission-based precautions (e.g., PPE).
- "Hand hygiene" is a general term that applies to handwashing, antiseptic handwash, and ABHR. "Handwashing" refers to washing hands with soap and water.
- Perform hand hygiene (e.g., handwashing and/or ABHR) consistent with accepted standards of practice. For example, the preferential use of ABHR instead of soap and water in most clinical situations – except when hands are visibly soiled (e.g., blood or other body fluids), after caring for a resident with known or suspected C. difficile infection (CDI) or norovirus infection during an outbreak, or if rates of CDI are high. In these circumstances, soap and water should be used.
- Soap, water, ABHR, and a sink should be readily accessible in appropriate locations, including, but not limited to, resident care areas and food and medication preparation areas. Staff in direct contact with residents must perform hand hygiene (even if gloves are used).
- **Hand hygiene is performed:**
  - Before and after contact with the resident.
  - Before performing an aseptic task.
  - After contact with blood, other body fluids, or visibly contaminated surfaces.
  - After contact with objects in the resident's room.
  - After removing PPE (e.g., gloves, gown, facemask).
  - After using the restroom.
  - Before meals.

CMS

FDA

Food and Drug Administration (FDA)

The FDA Division of Over-The-Counter (OTC) Drug Products regulates the use of topical antiseptic drug products used in healthcare. ABHR and antimicrobial soaps used in healthcare settings fall under this category. The regulatory pathway for most soaps and ABHR used in healthcare is via the Monograph process.

The Healthcare OTC Monograph Final Rule represents the regulatory standards for the marketing of ABHR and antimicrobial soaps not covered by a New Drug Application. The Monograph establishes conditions under which certain OTC active ingredients are generally recognized as safe and effective. The Monograph is a "recipe book" that specifies allowed ingredients, doses, product form, indications for use, and warnings and provides a set of labeling and testing requirements for manufacturers.[6]

Centers for Disease Control and Prevention (CDC)

The CDC published a **Guideline for Hand Hygiene in Health-Care Settings** in 2002, which remains the prevailing consensus guideline for hand hygiene in the U.S.[7] The guideline provides a review of hand hygiene data and specific recommendations to promote improved hand hygiene practices and to reduce transmission of pathogens to [residents] and HCW.

CDC

CDC Hand Hygiene Guidelines:

1. If hands are not visibly soiled, use ABHR for routinely decontaminating hands in all other clinical situations (IA).*
2. When hands are visibly dirty or contaminated with proteinaceous material or are visibly soiled with blood or other body fluids, wash hands with either a nonantimicrobial soap and water or an antimicrobial soap and water (IA).
3. Provide personnel with efficacious hand hygiene products that have low irritancy potential, particularly when these products are used multiple times per shift (IB).* This recommendation applies to products used for hand antisepsis before and after [resident] care in clinical areas.
4. To maximize acceptance of hand hygiene products by HCW, solicit input from employees regarding the feel, fragrance, and skin tolerance of any products under consideration. The cost of hand hygiene products should not be the primary factor influencing product selection (IB).
5. Before making purchasing decisions, evaluate the dispenser systems of various product manufacturers or distributors to ensure that the dispensers function adequately and deliver an appropriate volume of product (II).*

Note:

*Category IA recommendations are those strongly recommended for implementation and strongly supported by well-designed experimental, clinical, or epidemiologic studies; IB recommendations are strongly recommended for implementation and supported by certain experimental, clinical, or epidemiologic studies and a strong theoretical rationale. Category II recommendations are suggested for implementation and supported by suggestive clinical or epidemiologic studies or a theoretical rationale.

WHO

World Health Organization

WHO Guidelines on Hand Hygiene in Health Care are the most comprehensive global hand hygiene consensus guidelines to date, published in 2009.[8] WHO guidelines provide a thorough review of evidence of hand hygiene and recommendations to improve practices and reduce transmission of pathogens.

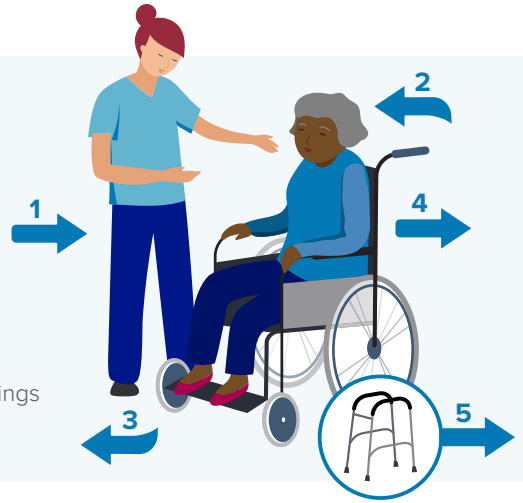
WHO developed **"My Five Moments for Hand Hygiene"** to provide a simple visual for the critical moments to perform hand hygiene. They also offer an implementation toolkit containing a practice framework and practical application tools. It also provides an **adaptation of the guidelines for outpatient, home-based, and LTC facilities**.[9]

WHO Hand Hygiene Guidelines:

1. Use ABHR as the preferred means for routine hand antisepsis in all other clinical situations described in items 4(a) to 4(f), if hands are not visibly soiled (IA).* If ABHR is not available, wash hands with soap and water (IB).*
2. Wash hands with soap and water when visibly dirty or visibly soiled with blood or other body fluids (IB) or after using the toilet (II).*
3. If exposure to potential spore-forming pathogens is strongly suspected or proven, including outbreaks of CDI, handwashing with soap and water is the preferred means (IB).
4. Perform hand hygiene:
   - **a.** Before and after touching the [resident].
   - **b.** Before handling an invasive device for [resident] care, regardless of whether or not gloves are used.
   - **c.** After contact with body fluids or excretions, mucous membranes, non-intact skin, or wound dressings.
   - **d.** If moving from a contaminated body site to another body site during care of the same [resident].
   - **e.** After contact with inanimate surfaces and objects (including medical equipment) in the immediate vicinity of the [resident].
   - **f.** After removing sterile (II) or non-sterile gloves.

My Five Moments for Hand Hygiene

1 Before touching a resident
2 Before clean/aseptic procedure
3 After body fluid exposure risk
4 After touching a resident
5 After touching resident surroundings



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Direct and indirect transmission are the two ways pathogens can spread. Both types of transmission can be interrupted by proper hand hygiene and surface disinfection.

Direct transmission involves body surface to body surface contact and physical transfer of microorganisms, such as a HCW with contaminated hands touching a resident.

Indirect transmission can occur when a piece of contaminated equipment comes into contact with a resident.

Resident Hand Hygiene

Resident hand hygiene is important. If assistance is needed, staff should help residents with washing their hands after toileting, before meals, and other times when indicated. They should also assist with the use of ABHR as necessary.[5]

Providing residents with individual-use hand hygiene products (e.g. ABHR or hand wipes) and encouraging their use is recommended.[5,7] However, many residents struggle with manual dexterity and may have issues using individual-use hand hygiene products.[10,11] They may be unaware that the products have been provided[12] or may not know when to use them.

The following are areas to consider:

- Ensure individual-use products are highly visible and easy to open and use.
  - Wipes can be difficult for residents to open and use.
  - Push down pumps or single-use packets of ABHR may be easier to use.
- Staff members should receive training on when and how to assist residents with hand hygiene.
- Environmental Services team members should ensure that high-traffic areas (such as dining halls) have well-stocked dispensers or products.

SHEA Compendium of Strategies to Prevent Healthcare-Associated Infections

The Society for Healthcare Epidemiology of America (SHEA) is a professional society that improves public health by establishing infection-prevention measures and supporting antibiotic stewardship among healthcare providers.

SHEA published a Compendium of Strategies to prevent healthcare-associated infections (HAI). This effort is highly collaborative and synthesizes up-to-date evidence, expert consensus, and practical considerations, bridging the gap between older published guidelines and new evidence as it emerges.

SHEA released an updated Hand Hygiene Compendium in 2022 offering 7 essential practices that are foundational to HAI reduction. The Compendium's principles and practices may be indicated in any healthcare setting, including long-term care.[13]

Essential practices include:

- Promote the maintenance of healthy hand skin and fingernails
- Select appropriate products – confirm that the volume of ABHR dispensed is consistent with the volume shown to be efficacious
- Ensure accessibility of hand hygiene supplies
- Ensure appropriate glove use to reduce hand and environmental contamination
- Take steps to reduce environmental contamination associated with sinks and sink drains
- Monitor adherence to hand hygiene
- Provide timely and meaningful feedback to enhance a culture of safety

SHEA

Are non-ABHR permitted in LTC?

While documented incidences of ABHR ingestion in LTC settings are almost non-existent in the literature, a perception exists that the potential for ingestion is high, leading to interest in alternatives to ABHR.

Benzalkonium chloride (or BAK, a type of quaternary ammonium compound) is another active ingredient that is sometimes used in hand sanitizers (referred to as “non-ABHR”).

In their guidelines for hand hygiene, CDC states, “Because of weak activity against gram-negative bacteria, benzalkonium chloride is prone to contamination by these organisms. Several outbreaks of infection or pseudoinfection have been traced to quaternary ammonium compounds contaminated with gram-negative bacilli.”[7]

For this reason (and because of the status of ABHR as the gold standard for hand hygiene in healthcare settings) non-ABHR are not recommended in any healthcare setting. This is especially true in LTC, where the well-documented risks of infection are high and the benefits of having ABHR as a method to mitigate the spread of pathogens is crucial.

Does ABHR contribute to bacterial resistance?

No. The ethyl alcohol in ABHR kills germs within seconds by physically destroying the cell membrane and denaturing proteins within the bacteria. Because ethyl alcohol evaporates from the hands within seconds and no residual alcohol is left on the skin, there is no opportunity for microorganisms to become resistant.

Additionally, ABHRs do not eliminate the normal, healthy flora of hands. The target of AHBRs is the transient flora, or the microorganisms that are often acquired by HCW during contact with residents or environmental surfaces, which colonize the superficial layers of the skin and are commonly associated with HAIs. Normal flora colonize the deeper layers of the skin, are less likely to cause infections, and are more resistant to removal through hand hygiene.[14]

Can you still use ABHR in the context of C. difficile?

Yes. SHEA recommends 1) increasing awareness of the presence of C. difficile among HCW, 2) emphasizing the importance of using gloves to reduce contamination according to Standard and Contact precautions, and 3) not removing access to ABHR and maintaining its availability. In the case of an outbreak, encourage handwashing with soap and water after resident care, but ABHR should remain accessible.

Why? HCW need access to ABHR to perform hand hygiene prior to donning PPE. Also, the use of soap and water versus ABHR after caring for residents with C. difficile is controversial because we are lacking the clinical studies demonstrating an increase in C. difficile with the use of ABHR or a decrease in C. difficile with soap and water.

While ABHR does not kill C. difficile spores, soap and water may be insufficient to remove all spores. This is why strict adherence to proper use of gloves and other appropriate precautions is most critical.

Surface Disinfection in Long-Term Care

EPA

Environmental Protection Agency

The EPA regulates disinfectants used on environmental surfaces. To obtain a product registration, a manufacturer must submit specific data about the safety and effectiveness of each product.

For example, the EPA requires that manufacturers of disinfectants test formulations by using accepted methods for microbiocidal activity, stability, and acute toxicity to mammals. The manufacturers submit the testing data to the EPA along with proposed labeling. If the EPA concludes the product can be used without causing "unreasonable adverse effects," then the product and its labeling are registered, and the manufacturer can sell and distribute the product in the United States.[15]

The EPA also requires users, including HCW, to follow the safety precautions and use directions listed on the labeling of each registered product.

CDC Disinfection and Sterilization Guidelines:

CDC's Guideline for Disinfection and Sterilization in Healthcare Facilities, published in 2008, presents evidenced-based recommendations on the preferred methods for cleaning, disinfection, and sterilization of medical devices and for cleaning and disinfecting the healthcare environment.[16]

CDC

1. Clean housekeeping surfaces (e.g., floors, tabletops) on a regular basis, when spills occur, and when these surfaces are visibly soiled. **(Category II)***
2. Disinfect (or clean) environmental surfaces on a regular basis (e.g., daily, three times per week) and when surfaces are visibly soiled. **(Category II)**
3. Follow manufacturers' instructions for proper use of disinfecting (or detergent) products — such as recommended use-dilution, material compatibility, storage, shelf-life, and safety precautions and disposal. **(Category II)**
4. Use an EPA-registered sporicidal disinfectant for environmental disinfection in units with high rates of endemic C. difficile infection or in an outbreak setting. **(Recommendation)**
5. Disinfect noncritical medical devices (e.g., blood pressure cuff) with an EPA-registered hospital disinfectant using the label's safety precautions and use directions. **(Category II)**
6. Ensure that, at a minimum, noncritical devices are disinfected when visibly soiled and on a regular basis (such as after use on each [resident] or once daily or once weekly). **(Category II)**
7. If dedicated disposable devices are not available, disinfect noncritical equipment after using it on a [resident] who is on contact precautions before using this equipment on another [resident]. **(Category IB)***

Note:

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CMS

Centers for Medicare and Medicaid Services (CMS)

LTC facilities must prevent infections through indirect contact transmission. This requires the decontamination (i.e., cleaning and/or disinfecting an object to render it safe for handling) of resident equipment, medical devices, and the environment. Alternatively, the facility may also consider using single-use disposable devices or designating reusable equipment for only an individual resident.

CMS requires facilities to develop and implement written policies and procedures around environmental cleaning and disinfection, specifically stating:

"Environmental cleaning and disinfection: Routine cleaning and disinfection of frequently touched or visibly soiled surfaces in common areas, resident rooms, and at the time of discharge; and NOTE: Privacy curtains should be changed when visibly dirty and should be laundered or disinfected with an EPA-registered disinfectant per the curtain and disinfectant manufacturer's instructions. Routine cleaning and disinfection of resident care equipment including equipment (e.g., blood pressure cuffs, rehabilitation therapy equipment, blood glucose meters, etc.) shared among residents is recommended."[5]

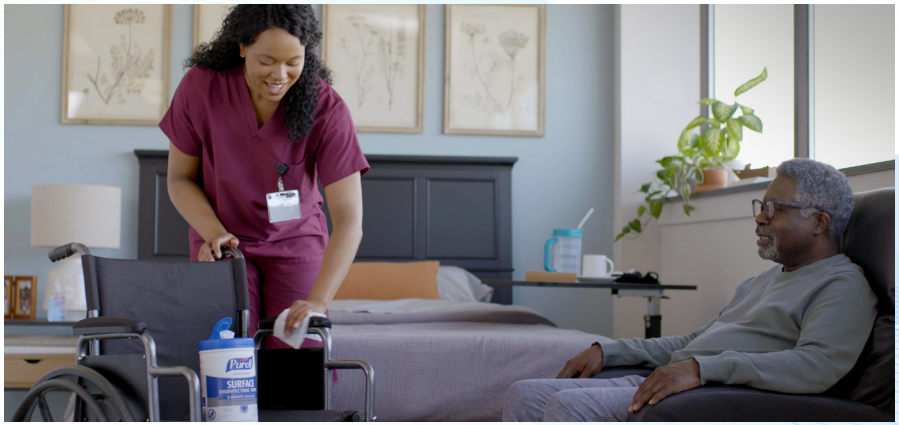
Critical items are those that enter sterile tissue or the vascular system, must be sterilized, and are, therefore, not the target of surface disinfection.

Noncritical items are those that come in contact with intact skin but not mucous membranes.[16] Noncritical items are divided into noncritical resident care items (e.g., blood pressure cuffs, stethoscopes, wheelchairs, therapy equipment) and noncritical environmental surfaces (e.g., bed rails, bedside tables).

Noncritical items require cleaning followed by either low- or intermediate-level disinfection following manufacturers' instructions. Disinfection should be performed with an EPA-registered disinfectant labeled for use in healthcare settings. All applicable label instructions on EPA-registered disinfectant products must be followed (e.g., use-dilution, shelf life, storage, material compatibility, safety precautions, and disposal).

CMS also requires process surveillance, or the review of practices by staff, including cleaning and disinfection, stating:

"Cleaning and disinfection products and procedures for environmental surfaces and equipment (e.g., objective methods for evaluation may include direct practice observation, fluorescent markers, adenosine triphosphate (ATP) bioluminescence (a method for quantifying the concentration of environmental microorganisms), or swab cultures used primarily for outbreak investigation)."[5]



Back to Basics

Many healthcare leaders have called for a "back to basics" approach moving forward. The CDC launched Project Firstline, a national training collaborative for healthcare infection control in all settings.[17]

The training includes a series of resources that help frontline HCW "understand and confidently apply the infection control principles and protocols necessary to protect themselves, their families, and their community."

Hand hygiene, as well as the role surfaces play in the cross-contamination of healthcare pathogens and other key topics, are covered through a variety of media.

The CDC's Clean Hands Count hand hygiene education campaign is another toolkit that provides ready-to-use education for frontline HCW.[18] Available materials explain the importance of hand hygiene, when and how to perform it, and glove use in the context of hand hygiene. A section devoted to the science of hand hygiene called "Show Me the Science" reviews myths and common areas of misunderstanding and concern.

Hand Hygiene

Formulation Counts

With every formulated product, the balance of individual ingredients plays a defining role in how the final product performs. For hand hygiene products, the balance centers on skin health, efficacy, and aesthetics.

Skin Health

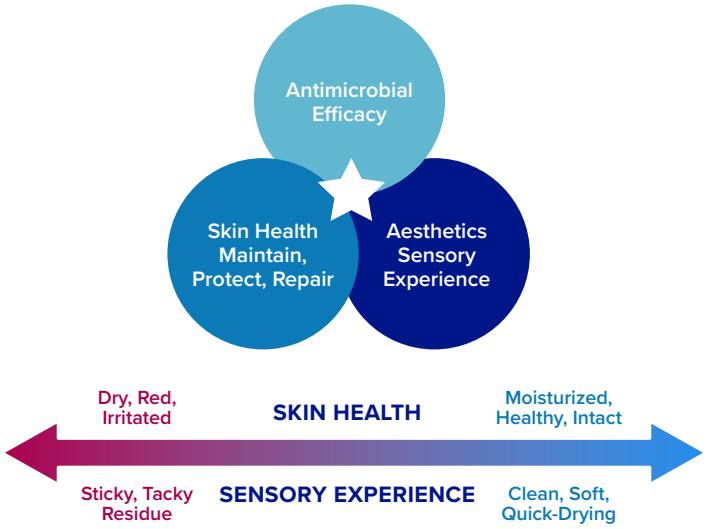
HCW are susceptible to dry skin and irritant contact dermatitis by nature of how frequently they perform hand hygiene.

Winter can be a particularly taxing time, especially when there is failure to adapt to hand hygiene best practices (e.g., using ABHR as the primary means of performing hand hygiene except in certain instances as discussed above). Low relative humidity and colder temperatures lead to a decrease in skin barrier function and increased susceptibility to mechanical stress.[19]

Because handwashing with soap and water feels soothing, HCW may revert to it as a primary means of performing hand hygiene, but in doing so dissolve oils and lipids naturally present in the skin and further disrupt the natural skin barrier.

Consequently, when ABHR is applied to already-damaged skin, an immediate stinging sensation is experienced due to channels of exposure to nerves and tissues in the deeper layers of the skin. As a result, HCW may limit or avoid the use of ABHR and overuse soap and water, unknowingly exacerbating the problem and setting themselves up for progressive skin damage.

This is why it is critical to provide HCW with a high-quality ABHR that provides optimal skin care. A short educational video from GOJO reviewing the importance of skin health is available here.



Efficacy

Proper efficacy is essential. Without it, the product does not fulfill its primary function of killing germs. The FDA's requirements for efficacy for finished products (soaps and ABHR) are outlined in the ASTM E1174 test, also known as the Healthcare Personnel Handwash Method test.[20]

In brief, this test measures reduction of a transient marker organism (i.e., Serratia marcescens) on the hands of subjects after a single product use and after 10 consecutive hand contamination and product use cycles.

ASTM E1174 methodology does not focus on formulated product volume to determine efficacy; rather the methodology focuses on bacterial reduction, and the FDA requires a 2-log[10] and 3-log[10] reduction of the bacteria after the first and tenth product application, respectively, relative to the starting concentration. Testing after consecutive product applications is critical in healthcare because it mirrors actual practice and can determine whether efficacy decreases with repeated use.

While the FDA's focus on efficacy testing is germ reduction and not a specific product volume, there is, however, a relationship between volume and efficacy.

Different manufacturers meet the 2-log[10] and 3-log[10] reduction of bacteria at different volumes. Therefore, it is important that LTC facilities ensure that the ABHR dispenser they are using dispenses the volume of product that meets the Healthcare Personnel Handwash test for their specific product. If too little product is used, efficacy will be diminished.

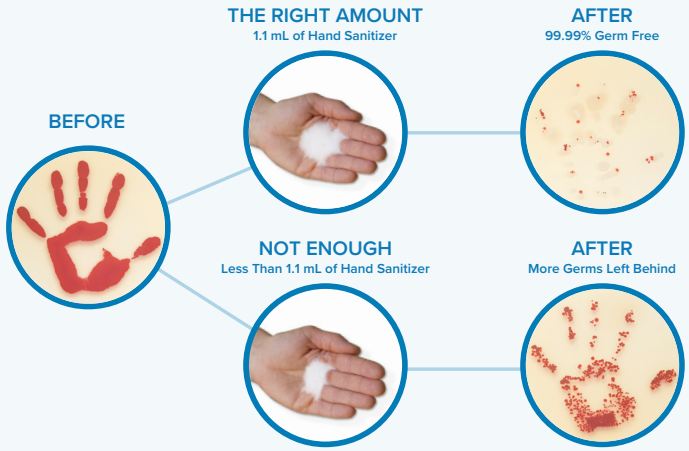
The CDC Guideline for Hand Hygiene in Healthcare Settings states that healthcare facilities should "follow the manufacturer's recommendations regarding the volume of product to use."[7] Further, the SHEA Compendium states, "Confirm that the volume of [ABHR] dispensed is consistent with the volume shown to be efficacious."[13]

the PURELL® Brand difference

PURELL® Advanced Hand Sanitizer meets FDA efficacy requirements with one dispenser dose at a mean volume of 1.1 mL (the lowest efficacious dose on the market) with an estimated dry time of 21 seconds. GOJO has published several seminal studies testing efficacy at dispensed volume and against leading competitors in well-recognized infection prevention journals.[21,22]

For many competitive products, multiple dispenser actuations are required to receive an efficacious dose per the manufacturer's recommendation, which HCW are unlikely to take the time to do. A short educational video explaining efficacy and dosing at repeated use is available from GOJO.

A Full Dose Helps Protect You and Your Residents



Study was conducted using Serratia marcescens as described in ASTM E2755-15.[24]

Aesthetics

Aesthetics, or sensory experience, is another important consideration. Formulating a hand hygiene product is a delicate balancing act. If the skin care aspect of the product isn't "just right" it can lead to unpleasant aesthetics, such as sticky, tacky buildup, pilling or balling of product, or unpleasant residue.

All of these can result in compensatory behaviors from HCW, such as over washing with soap and water to remove the product. This can lead to skin dryness and irritation.

Choosing the right product, designed for the healthcare environment and tested for aesthetics at high compliance levels, is paramount.

Lastly, including HCW in product decisions and allowing them to trial a product is also recommended by CDC and WHO guidelines and is an important aspect of building hand hygiene compliance.

Should you choose an antimicrobial or a non-antimicrobial soap?

LTC facilities are often faced with the choice of an antimicrobial or non-antimicrobial soap. The regulations and guidelines tell us it is the facility's choice. CMS defines handwashing as "... washing hands with soap and water."[5] CDC does not preferentially recommend one over the other, and WHO does not differentiate between antimicrobial and non-antimicrobial soap, simply referring to "soap."

So what should facilities do?

Whether you choose an antimicrobial or non-antimicrobial soap matters less than the quality of your overall hand hygiene program. Placing an emphasis on primarily using ABHR, the proper use of PPE, and choosing products that HCW want to use and that promote good skin health and aesthetics matters more than type of soap.

Moisturizers:

Moisturizers (lotions) are a critical but often overlooked aspect of a hand hygiene program. The CDC recommends "Provid[ing] HCWs with hand lotions or creams to minimize the occurrence of irritant contact dermatitis associated with hand antisepsis or handwashing."[7]

This is strongly recommended for implementation and firmly supported by well-designed experimental, clinical, or epidemiologic studies.

It is necessary to ensure that the chosen lotion is compatible with gloves and other hand hygiene products, does not interfere with their efficacy, and is fragrance-free or fragranced at an appropriate level for the healthcare environment.

HCW should not bring lotions from home for use during the workday that have not been approved as part of the hand hygiene program.

The Multimodal Strategy

WHO Guidelines for Hand Hygiene in Health Care Settings encourage a multi-modal improvement strategy. Chief among the strategy has been system change, or simply put, making hand hygiene possible, easy, and convenient with readily available ABHR.

CMS clearly supports the placement of ABHR dispensers, stating, "Facilities should ensure adequate access to ABHR since a main reason for inadequate hand hygiene adherence results from poor access."[5] The SHEA Compendium states that "Accessibility and visibility of dispensers and supplies may be the most important [implementation strategy] bundle element."[13]

The bottom line is that getting dispensers up on the walls is an imperative first step to getting ABHR on the hands of HCW.

Setting up hand hygiene infrastructure (i.e., making hand hygiene easy and accessible) is one aspect of the bundle of interventions in the WHO multi-modal strategy. The abundant recommendations in the strategy are carefully laid out for facilities looking to make changes. But, because of the complexity in these recommendations, prioritization is critical, and change takes time.

For the individual HCW, the most important change they can make is performing hand hygiene before and after every resident interaction. It may seem very simple, but it's important to note there is a difference between conceptually understanding or knowing something and following through with behavior.

HCWs can know conceptually what they need to do and when they need to do it, but once inside the context of their busy and often chaotic workday, they may have difficulty following through with behaviors despite what they know.

Periodic hand hygiene education is insufficient to ensure hand hygiene is performed at the right moment. On the other hand, proximity can have a very powerful impact on behavior in the moment.

Programs designed to invite speaking up and encouraging everyone on the front lines to provide consistent reminders of missed opportunities can help create and sustain a new set of habits and practices. Simple and continued reinforcement by management and peers can help hand hygiene become part of a resident safety culture.

What is the WHO Multimodal Hand Hygiene Improvement Strategy?

Based on the evidence and recommendations from the WHO Guidelines on Hand Hygiene in Health Care (2009) a number of components make up an effective multimodal strategy for hand hygiene.

1. System Change
2. Training/Education
3. Evaluation and Feedback
4. Reminders in the Workplace
5. Institutional Safety Climate

Surface Cleaning and Disinfection

The concept of Formulation Counts is equally important for surface disinfection products. The areas in which balance is critical for this category are efficacy, contact time, safety, and materials compatibility.

Efficacy

Environmental surfaces, including noncritical resident care items, are frequently contaminated with dangerous pathogens largely from contamination via hands. Contaminated environmental surfaces and noncritical resident care items play an important role in the transmission of several key healthcare-associated pathogens, including MRSA, VRE, Acinetobacter, norovirus, and C. difficile.[23,24]

Although hand hygiene is important to minimize the impact of transmission, cleaning and disinfecting environmental surfaces is fundamental in reducing their potential contribution to the incidence of HAIs.

Contact Time

Contact time, as defined by the EPA, is the amount of time the disinfectant product must be "visibly wet" and "in contact" with the surface to effectively kill all of the organism(s) that were tested and submitted for EPA approval. The "visibly wet" or "contact" time begins as soon as the product is placed on the surface. As the product begins to dry, wetness may be difficult to see.

Looking horizontally at the surface, a "sheen" may be noted indicating it is still wet. The surface should remain visibly wet, including the sheen, or detectably wet if touched with a tissue during the entire contact time as noted on the disinfectant's EPA Master Label. The surface should remain undisturbed for the given contact time.[25]

Safety

Safety is another important consideration when choosing a surface disinfectant. Safety is often considered from the standpoint of keeping residents safe by reducing pathogens in the environment, but safety is also about minimizing worker exposure to harmful chemicals.

From an exposure standpoint, environmental services personnel and HCW are directly exposed to chemicals every day. Many chemicals carry EPA toxicity warnings because of the known hazards associated with the product (e.g., acute oral and dermal toxicity, acute inhalation, and primary skin and eye irritation).[26] Choosing lower toxicity products while not compromising on efficacy where it really counts should be part of the product selection process.

Surface Materials Compatibility

When improperly formulated products with poor surface compatibility are used for repeated disinfection it can lead to unnecessary replacement of equipment and an increased risk of harboring dangerous pathogens due to cracked, broken, or pitted surfaces. Damaged or cloudy surfaces can also affect resident and visitor perception of cleanliness. While the costs associated with replacing damaged equipment and surfaces due to repeated surface disinfection are unquantified, most facilities are aware that this occurs and some even accept it as the "cost of doing business."

Resident safety, employee safety, cost, and compatibility should all be balanced by those making decisions about which surface disinfection products to bring into a facility.

Conclusion: Better Is Possible

The COVID-19 pandemic has highlighted the vulnerability of all healthcare facilities, but most especially of LTC facilities.

Rebuilding and advancing safety culture and infrastructure is going to be a long, arduous process. Implementing and sustaining evidence-based practices requires change and a commitment to collaboration at all levels on performance improvement initiatives.

It will be the caring and determined HC professionals who remain in LTC working together to bring about better clinical outcomes and improved operational efficiencies.

The good news is this change can be realized through focus on small but impactful actions. Hand hygiene is one of the most foundational aspects of safety that spans all hierarchies and disciplines, and there is much room for improvement in virtually every LTC organization.

Making improvements in hand hygiene infrastructure and behavior is painstaking work due to the complexity of the environment, the lack of resources and funding in LTC, and the commitment and devotion required over time – but improvement is achievable.

As important as hand hygiene is to the disruption and transfer of pathogens, improved cleaning and disinfection of medical equipment and environmental surfaces is fundamental to reducing their potential contribution to healthcare-associated infections. Focusing on disinfection options that can make this safer, easier, and more efficient for HCW will free them up to focus on the larger goals of your facility's infection prevention and resident safety program.

At the end of the day, performance improvement is about increasing the frequency and reliability with which HCW will engage in behaviors that will produce the desired results. And while the big picture can seem overwhelming, making small meaningful changes can add up to big improvements over time.

Closing the gap between the current state and best intentions despite the obstacles is perpetual labor, but better IS possible.

Essential References for Long-Term Care

- CMS State Operations Manual
- CDC Guidelines for Hand Hygiene in Healthcare Settings
- WHO Guidelines for Hand Hygiene in Healthcare Settings
- WHO Hand Hygiene in Outpatient, Home-based Care and Long-term Care Facilities
- Association for Professionals in Infection Control (APIC) Long Term Care Resources
- Society for Healthcare Epidemiology of America (SHEA) Strategies to Prevent HAI Through Hand Hygiene
- CDC Clean Hands Count Campaign
- CDC Project Firstline
- The Joint Commission Hand Hygiene Resources
- The Joint Commission Key Elements of a Compliant Hand Hygiene Program
- Association for Professionals in Infection Control (APIC) Hand Hygiene Resources
- NADONA Infection Prevention Resources
- NADONA Antibiotic Stewardship Certification
- NADONA IP-BC Study Guide
- NADONA IP-BC Certification

Want to Learn More?

Visit **www.GOJO.com/LTC** or contact your healthcare sales director if you have any questions on the content shared in this guide or if you want to learn more about how we can help you on your journey.

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