EPIC
Emergency Preparedness
Infection Control

DISASTER READY

EVALUATION OF
INFECTION CONTROL

Best Practices in Arizona Skilled Nursing Facilities

August 2022

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EPIC Evaluation of Best Practices in Arizona's Skilled Nursing Facilities

August 2022

Background and Mission

The past few years have caused many to re-evaluate infection prevention and control (IPC) practices within skilled nursing facilities (SNFs). With a large proportion of COVID-19 cases and deaths attributed to this environment, public health and research organizations aim to better understand the transmissibility of infections and actionable steps to mitigate this risk. Furthermore, COVID-19 is not the only infection that is problematic within this health care setting.

To understand the common infection prevention themes that Arizona (AZ) SNFs face, the Emergency Preparedness Infection Control (EPIC) clinical team conducted a two-year evaluation study to identify common best practices, gaps, and resources that could enhance the facilities' IPC programs. This detailed information can be found in the Addendum within the final report.

This evaluation study serves as a toolkit to guide SNF facilities seeking to improve their current IPC program. The guidance provided considers the current regulatory requirements, and all recommendations are derived from local, state, and federal public health and licensing organizations. This document is a practical guide to the implementation of models of IPC proven to be successful and aims to reduce harm before it occurs.

The following are the top ten recommendations to consider to improve SNF's infection prevention programs:

Support Appropriate Infection Preventionist/Staffing

Ensure that infection preventionists (IPs) have the support of the facility and are not split in their role. If an IP is required to also be a Director of Nursing (DON) or other position, ensure there is an even split of responsibilities between the two roles. To reduce staff turnover, guarantee that wages are in line with inflation rates in addition to providing retention bonuses rather than hiring bonuses. Give IPs the authority to conduct staff training as necessary.

Create Effective Facility Screening/Visitation Practices

Screen staff, visitors, and vendors for COVID-19 signs and symptoms upon entering the facility. Utilize a paper screening form or digital kiosk with a touchless or hand-held thermometer for screening responses. Facilities should ensure there is a process that verifies screening compliance with all individuals that enter the facility.

Conduct Hand Hygiene

Have alcohol-based hand rub (ABHR) dispensers available inside and outside of all resident rooms. If not available, consider having health care workers carry small ABHR dispensers in their pockets. Have the IP conduct compliance and opportunity audits on a regular basis. Review the Centers for Disease Control and Prevention (CDC) Life Safety Code requirements to determine how many ABHR dispensers can be placed within a facility.

Focus on Transmission Based Precautions/Source Control

Have CDC signage strategically placed in the facility to reduce confusion with facility made signage. Know when various source control measures need to be enacted based off of COVID-19 and other infectious disease outbreaks. Ensure that PPE is being used safely and that extended reuse procedures are only being used when necessary. Notify all staff members of where PPE supplies are stored.

Strengthen Environmental Services

Ensure housekeeping staff members are cleaning highest to lowest and cleanest to dirtiest. Verify that housekeepers are not cleaning resident restrooms before resident rooms. Non-isolation rooms should be cleaned before isolation rooms. Additionally, periodic education should be given to staff members on when to change gloves (after cleaning a dirtier area), and when to conduct hand hygiene (before and after donning and doffing gloves). Regular audits need to occur to evaluate EVS implementation practices.

Clean Shared Resident Equipment

A cleaning/disinfectant agent such as bleach or CAVI wipe can be used to clean the shared resident equipment. Ensure that all shared resident equipment is cleaned after each use and that the cleaning equipment is easily accessible to staff members. Have EPA-registered cleaning products stocked and readily available. It is recommended that shared resident equipment cleaning audits are conducted on a weekly basis.

Manage COVID-19 Containment

Review community transmission rates on a consistent basis (every other week) for COVID-19 testing and source control requirements. In the event of an outbreak, the first step is to contact one's county health department to partner with them. The second step is to commence and/or expand COVID-19 testing which includes contact tracing or broad-based testing depending on the circumstances of the outbreak. The third step (in conjunction with testing) is to place the residents in quarantine and/or isolation to mitigate the spread of this infection. An increase of monitoring of residents with suspected or confirmed COVID-19 should be done including assessment of symptoms, vital signs, oxygen saturation, and a respiratory exam.

Establish a Respiratory Protection Program

Review if the facility has a respiratory protection program in place. N-95 respiratory fit testing needs to be completed annually. If the user fails the fit test, then another make, model, style, or size must be tried until one is found that fits properly. If staff are unable to pass fit testing, assign them to tasks that do not require an N-95 respirator.

Audit Laundry Practices

Have soiled linen bagged and contained within the resident rooms. Consider auditing the laundry area of the facility on a regular basis. Ensure that PPE is not being reused in this area and that clean gloves and gowns are used when handling soiled linens. Consider utilizing disposable gowns or single-use washable gowns. Ensure there is a distinct separate space between the clean and dirty laundry areas.

Monitor Food Services

Verify there is a defined and separate area from the dirty receiving area to the clean, food prep area. Ensure that the dishwasher and chemical dispensers are maintained per the manufacturer's guidelines, typically monthly. Ensure that all prepared food is transported in a closed food cart or covered container and that

the food carts are appropriately cleaned and disinfected after each meal service. Keep and update the dishwashing log three times a day to verify that the equipment is working properly. Conduct frequent audits to verify that the logs are up to date.

Conclusion

This evaluation has demonstrated a deep commitment by Arizona SNFs to address the critical issues of infection prevention and control. The evaluation and resulting best practice toolkit is essential in ensuring that SNFs have easy to access resources for infection prevention and control. IPs and staff members within these facilities are instrumental in the implementation of these practices, and they are clamoring for essential resources to assist them in IPC best practices. In order to ensure a stable workforce in Arizona's SNFs, we must address competitive pay, provide consistent and pertinent training/auditing, and promote ample infection control resources to staff members. To further these efforts, a boots-on-the-ground approach that involves on-site technical infection prevention and control assistance and training may be helpful to ensure that Arizona's SNF staff members and vulnerable residents are operating in a safe environment and have access to the resources they so desperately need.

Part I: Background and Objective

Background

The COVID-19 pandemic showcased the importance of proper infection prevention and control (IPC) practices within skilled nursing facilities (SNFs). Suddenly, facilities had to utilize extended-use protocols for personal protection equipment (PPE) due to disrupted supply chains and supply shortages. COVID-19 quarantine and isolation units had to be created on a moment's notice. Visitors, for many months, were not allowed to visit their loved ones due to the risk of spreading the virus. Staff members were leaving the profession in droves due to burn-out and low wages. Hospitals were at full capacity. Unfortunately, many SNF residents' and staff members' lives were lost due to this aggressive and non-discriminate virus.

Thankfully, the vaccines have been able to provide some relief from the rapid spread of COVID-19 and now, two years from the initial start of the pandemic, facilities are able to start moving towards a post-pandemic model of care. However, there is a need to ensure that the spotlight on infection prevention and control does not dim as COVID-19 has not been the only infection impacting SNFs.

An estimated 1-3 million serious infections and 380,000 annual deaths have been reported in this health care setting prior to the COVID-19 pandemic.[1] Residents within these facilities are more prone to infections and antibiotic resistance.[2] It is for these reasons that leaders must prioritize implementing evidence-based IPC practices within their organizations as infections within this population can lead to high health care expenses, extended hospital stays, and high rates of mortality.[2] A study conducted in the state of Georgia found that the cost of potentially avoidable hospitalizations in 2006 could have saved Medicare anywhere from $47-$71 million in annual health care costs.[3] It is imperative in terms of resident safety and healthcare costs that unnecessary infections within SNFs are mitigated. The first steps towards this goal are to understand the challenges that SNFs face, the associated costs, and the resources available to implement these practices.

Objective

To understand the common infection prevention themes that Arizona (AZ) SNFs face, the Emergency Preparedness Infection Control (EPIC) clinical team conducted a two-year evaluation study. The foundational year (2020-2021) included assisting ten AZ facilities in completing the 20054 Infection Prevention & Control (IPC) and COVID-19 Centers for Medicare and Medicaid Services (CMS) targeted surveys. The second year (2021-2022) aimed to build upon the knowledge that was collected from the CMS surveys and identify common best practices, gaps, and resources that could enhance the facilities' IPC programs. This detailed information can be found in the report Addendum**.**

While this report's main objective is to assist AZ SNFs in building a robust IPC program to prevent the risk of harms and deaths due to infections, the burden of ever-changing regulations that occurs with state and federal surveys is recognized. Therefore, the guidance provided considers the current regulatory requirements, and all recommendations are derived from local, state, and federal public health and licensing organizations.

Part II: Best Practice Recommendations

This document serves as a de facto toolkit and resource guide to facilities seeking improvement in their current IPC program. It is a practical guide to the implementation of models of IPC proven to be successful and aims to reduce harm before it occurs. For brevity, the recommendations are narrowed down to ten best practices. Resources are also provided for each topic. Finally, a "costs to consider" section for each domain is included, however, this does not include explicit values as these may vary between vendors.

The following are the top ten recommendations to consider when improving SNFs infection prevention programs:

Support Appropriate Infection Preventionist/Staffing

CMS currently requires that an SNF has a part-time infection preventionist (IP).[4] According to the CDC, facilities that have over 100 beds should have a full-time IP on staff.[5] Those with fewer than 100 beds can consult their IPC risk assessment to identify their staffing requirements. Ensuring that a facility has proper support including education and training for their IP can help reduce healthcare-associated infections (HAI). Recently, a facility in California brought on a full-time IP that focused on training and audits. Within 11 months they were able to improve audit compliance and best practices to have a 99% success rate.[6]

The average IP salary is $96,000 within the United States.[7] This position is highly paid for a reason. IPs have numerous important duties such as: identifying patterns of infections; educating staff members, residents, and families to reduce these infections; conducting surveillance and analysis; evaluating antibiotic prescribing practices, and more.[8]

Many of the IPs within AZ are new to the role. Therefore, appropriate training, education, and mentoring can assist this individual as they grow into this expansive role. Given staffing challenges, consider following the CMS federal rule that other health care professionals, such as those who are primarily trained in nursing, medical technology, microbiology or epidemiology, and who have acquired additional training in infection control, to be a facility's IP.[9] In addition, some facilities have a "team" of IP's that consist of 2 -3 individuals that collectively work together. Staffing shortages have been rampant within SNFs throughout the country.

According to the Center for Medicare Advocacy, the SNF profession has lost about 15% of its workforce, or 238,000 staff members, since the start of the pandemic.[10] The burnout from the pandemic, low wages/benefits, and poor treatment of staff may have caused many to leave the profession.

The federal definition for a full-time employee is one who works at least 30 hours a week for over 120 days a year.[11] There are an average of 90 FTE members in a US SNFs per 100 residents.[12] It is important to anticipate the time allowance necessary to conduct annual staff training related to infection prevention and control (IPC) topics to reduce the risk of health care- associated infections. Unfortunately, the exact number of FTE training hours needed to improve infection prevention outcomes are not specified in the research. The CDC states that "education and training need to be provided to health care personnel (HCP) initially upon hire; periodically during employment, such as via annual refresher training; and as needed to address a specific need, such as new job duties, new medical devices or equipment, or outbreak control."[13]

Even if a facility can offer regular training for staff members, the high turnover rates within the profession are cause for concern when combating infections. There is limited information on costs associated with IPs and SNFs. The report, *The Cost of Frontline Turnover in Long-Term Care* by Dorie Seavey, explores the associated costs related to high staff turnover in the long-term care profession.[14] Frequent staff turnover can cause an increase in facility costs for overtime and temporary employee replacements. This in turn decreases the number of hours spent on infection prevention specific activities. Overall, frequent turnover rates can cause a decrease in quality of care, low employee morale, and decreased admission rates for the SNF.

One way to combat this issue is to ensure that current employees are paid a competitive wage for the profession. As stated earlier, the average national salary for an IP is around $96,000 for IPs, while nurses make around $60,000, and CNAs make just under $30,000.[7,15,16] With rising costs associated with inflation over the past few years, facilities should consider raising salaries by at least 8.5% to match inflation rates as of August 2022.[17]

The following resources can be used by the facilities to increase staffing retention rates, IP training, and educating the staff on enacting proper IP protocols within their facilities:

1. The Oregon Patient Safety Commission videos provide guidance on infection prevention education for long-term care facilities. https://www.youtube.com/playlist?list=PLwK925MY2VnNbPlcuM8UYrWYzV7-fk_jW

2. The EPIC Toolkit provides a list of resources ranging from understanding the role of an IP to establishing a baseline of compliance. https://epic.disasterreadyaz.org/epic-toolkit/epic-toolkit/

3. The CDC Project Firstline videos provide guidance in both English and Spanish on infection control topics. https://www.cdc.gov/infectioncontrol/projectfirstline/resources/videos.html

4. Department of Health Services Long-Term Care Office of Arizona has created an article that describes the staffing requirements for nursing homes. https://www.azauditor.gov/sites/default/files/02-13Highights.pdf

5. APIC is in the process of developing a board certification for long-term care IP's much like the current CIC certification that is aimed towards acute care. https://www.cbic.org/CBIC/Long-term-care-certification.htm

6. Costs to consider:
   a. Salary of IP
   b. Full- time v. part-time IP
   c. Time dedicated to training staff members
   d. Time dedicated to auditing staff members
   e. Retention bonuses
   f. Inflation cost of living raises
   g. Competitive salaries/benefits, particularly for direct care workers
   h. Increase in job positions within facility to ensure above adequate staffing

Create Effective Facility Screening/Visitation Practices

COVID-19 screening of all staff, visitors, and vendors remains a federal requirement. Every individual entering the facility is required to wear a face covering or mask, complete a self-attestation form verifying that they are free from COVID-19 signs and symptoms, and have not been exposed to COVID-19 within a 10 day time period.[18] Facilities commonly utilize a paper screening form or digital kiosk with a touchless or hand-held thermometer for screening responses. Facilities should ensure there is a process that verifies screening compliance with all individuals that enter the facility.

Facilities may contact their local health authorities for guidance on how to structure their visitation to reduce the risk of COVID-19 transmission. Per CMS regulations, the following situations are recommended when allowing visitors:[18]

- If a resident's roommate is not up to date with all recommended COVID-19 vaccine doses, or immunocompromised (regardless of vaccination status), visits should not be conducted in the resident's room, if possible.
- For situations where there is a roommate and the health status of the resident prevents leaving the room, facilities should attempt to enable in-room visitation while adhering to the core principles of infection prevention.
- Visitors should wear face coverings or masks and physically distance when they are around other residents or health care personnel, regardless of vaccination status.
- Residents, regardless of vaccination status, can choose not to wear face coverings or masks when other residents are not present and have close contact (including touch) with their visitor.
- Residents (or their representative) and their visitors, who are not up to date with all recommended COVID-19 vaccine doses, should be advised of the risks of physical contact prior to the visit.
- Currently, facilities are not required to test visitors and vendors for COVID-19 when they enter the facility. This option is up to the facility to decide and for the facility to cover related costs.

The following resources and costs to consider will assist the IP in determining proper visitation and screening practices for their facility:

1. The updated CMS memo describes visitations practices allowed in SNFs as of March 10th, 2022. QSO-20-39-NH REVISED (cms.gov)

2. COVID-19 testing protocols per CMS for residents.https://www.cms.gov/files/document/covid-medicare-payment-covid-19-viral-testing-flow-chart.pdf

3. Costs to consider
   a. Cost of screening kiosk
   b. Cost of touchless thermometer
   c. Cost of source control for visitors (masks)
   d. Time to train receptionist on proper screening practices
   e. Time to teach residents about source control options when hosting visitors
   f. Time to teach visitors about source control options
   g. Cost of COVID-19 testing kits

Conduct Hand Hygiene

The CDC recommends that SNFs have alcohol-based hand rub (ABHR) with 60-95% alcohol inside of every resident room and outside if possible via the policy *Interim Infection Prevention and Control Recommendations to Prevent SARS-CoV-2 Spread in Nursing Homes.*[5] Having easy access to ABHR ensures that all individuals in the facility can appropriately conduct hand hygiene.

Unless hands are visibly soiled, ABHR is preferred over soap and water in most clinical situations, due to evidence of better effectiveness compared to soap and water. Hand rubs are generally less irritating to hands and, in the absence of a sink, are an effective method of cleaning hands. It is also federally required to offer residents the opportunity to conduct hand hygiene before meals and after toileting.[19]

One common explanation for not having ABHR inside and outside of the resident rooms is because it "violates the fire code". However, from our observations, we find that facilities do not violate the fire code protocols. Per the CDC Life Safety Code Requirements for the use of alcohol based-hand rub (ABHR) dispensers, the following requirements must be met:[20]

- Corridor is at least 6 feet wide
- Maximum individual dispenser capacity is 0.32 gal. (0.53 gal. in suites) of fluid and 18 oz. of Level 1 aerosols
- Dispensers shall have a minimum of 4-foot horizontal spacing
- Not more than an aggregate of 10 gallons of fluid or 135 oz. aerosol are used in a single smoke compartment outside a storage cabinet, excluding one individual dispenser per room
- Maximum quantity of ABHS allowed in-use (i.e., in dispensers) is 10 gallons in-use outside of a store cabinet within a single smoke compartment
- Storage in a single smoke compartment greater than 5 gallons complies with NFPA 30
- Dispensers are not installed within 1 inch of an ignition source
- Dispensers over carpeted floors are in sprinklered smoke compartments
- ABHR does not exceed 95% alcohol
- One dispenser per room off corridors is NOT included in the calculation. Dispensers inside of resident's room do not count towards the 10 gallons within the hallways due to being a different smoke compartment

In order to measure hand hygiene compliance, facilities should consider conducting competency and opportunity audits on a scheduled basis. A competency audit is where a staff member, such as the IP, watches another staff member, such as the CNA, perform hand hygiene. An opportunity audit is where the IP or other staff members evaluates if the staff member is conducting hand hygiene when it is appropriate such as before and after contact with a resident.

Audits evaluate the following hand hygiene opportunities:

- Immediately before touching a resident
- Before performing an aseptic task (e.g., placing an indwelling device) or handling invasive medical devices

- Before moving from work on a soiled body site to a clean body site on the same resident
- After touching a resident or the resident's immediate environment
- After contact with blood, body fluids, or contaminated surfaces
- Immediately after glove removal

The following resources and costs can be used by the infection preventionist to increase hand hygiene efficacy.

1. The HSAG Hand Hygiene and Personal Protective Equipment Monitoring Tool for Nursing Homes is utilized by many facilities within this evaluation. It is helpful in monitoring hand hygiene and PPE compliance among staff members. https://www.hsag.com/contentassets/57e42bf7e2a748088aa4ab3f3b31cddf/handhygieneppeaudittoolnhs_508.pdf
2. The ABHR Fire Safety Code is a beneficial resource for all facilities to determine how many ABHR dispensers are allowed within a facility hallway. https://www.cdc.gov/handhygiene/firesafety/index.html
3. The Glo Germ training video showcases how to create a hand hygiene demonstration for the HCP. https://www.youtube.com/watch?v=h-O279tiR3s
4. Many distributors of ABHR products will provide the ABHR dispensers at no cost to the facility. Check with your vendor for details.
5. The CDC ICAR, CDC long term care, and CDC NHSN auditing tools allow for facilities to identify gaps in infection control practices. Infection Control Assessment Tools | HAI | CDC
6. Costs to consider:
   a. Cost to refill ABHR containers
   b. Cost to purchase small individual ABHR containers for staff members
   c. Time taken to audit staff members on hand hygiene
   d. Time taken to teach/train residents/staff members about proper hand hygiene techniques

Focus on Transmission Based Precautions/Source Control

The purpose of transmission-based precautions is to limit the spread of infections between residents, visitors, and staff members. During the early days of the COVID-19 pandemic, using PPE as extended use was necessary given the lack of supplies. Currently, the supply chain has been restored; therefore, facilities should only be utilizing PPE in extended use under limited circumstances. Facilities should discourage the hanging and reusing of gowns, as this lends itself to the risk of cross-contamination to the health care personnel (HCP). Follow the CDC PPE optimization guidance when evaluating the need to reuse PPE.[21]

As source control, some PPE is still acceptable to wear as extended use. For example, eye protection and a face mask can be worn as extended use based on moderate to substantial community transmission rates.[22] Consideration must be taken as to when to remove and discard (face mask), or clean and disinfect (eye protection). In addition, a reusable face shield or goggles should be dedicated to one HCP and cleaned and disinfected whenever it is visibly soiled or removed (i.e., when leaving the isolation area) prior to putting it back on. Eye protection should be discarded if damaged (i. e., face shield of goggle can no longer fasten securely to the provider, if visibility is obscured and cleaning and disinfection does not restore visibility).

PART II: Program Design and Implementation

For all residents placed on transmission-based precautions, ensure the proper signage is posted on the door or wall outside of the resident room indicating the type of precautions and required PPE (i.e., droplet, contact, airborne, enhanced barrier precautions). This decreases confusion for the staff and visitors. In addition, verify that all HCP know where to find supplies to refill the PPE bins. This is especially important after hours with the leadership team off-site.

Ensure that PPE is being used safely, i.e., donning and doffing procedures. Consider auditing this practice on a scheduled basis to evaluate compliance.

1. The CDC offers a variety of transmission-based precautions signage. https://www.cdc.gov/infectioncontrol/basics/transmission-based-precautions.html
2. The CDC's optimization strategy resource communicates with facilities how to use personal protective equipment (PPE) for extended use procedures. https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/strategies-optimize-ppe-shortages.html
3. This OSHA guidance describes when and where to utilize source control for staff members. Respiratory Protection Guidance for the Employers of Those Working in Nursing Homes, Assisted Living, and Other Long-Term Care Facilities During the COVID-19 Pandemic (osha.gov)
4. The video published by the Public Health Institute of Western MA showcases how to properly clean eye protection/face shields. Doffing and Cleaning Face Shields for Reuse - Bing video
5. The article by AHRQ describes everything to expect when fit testing N-95 respirators for staff members. Respirator Fit Testing (ahrq.gov)
6. Costs to consider:
    a. Ink for facility printer
    b. Cost of PPE: gloves, gowns, eye protection, masks
    c. Time to train staff members on proper PPE donning and doffing techniques
    d. Cost of cleaning solutions to disinfect eyewear

Strengthen Environmental Services

A strong environmental services program supports a strong IPC program. According to the National Center for Biotechnology Information, cleaning is the physical removal of dirt, body fluids, and other organic matter (a clean surface cannot be presumed to be disinfected or sterile).[23] Disinfection destroys potential pathogens on a surface. Both processes are needed to properly clean and disinfect resident rooms and communal areas. It is recommended that EVS staff clean high to low and cleanest to dirtiest in a clockwise or counterclockwise manner. The resident restroom and mopping should be the last areas cleaned. Non-isolation rooms should be cleaned before isolation rooms.[24] Additionally, periodic education should be given to staff members on when to change gloves (after cleaning a dirtier area) and when to conduct hand hygiene (before and after donning and doffing gloves). Regular audits need to occur to evaluate EVS implementation practice.

Mop heads/floor cloths and buckets of cleaning and disinfectant solutions need to be changed as often as needed (i.e., when visibly soiled, after every isolation room, every 1-2 hours) and at the end of each cleaning session.[24] Mop heads or floor cloths should be cotton or microfiber.[25] Microfiber cloths are often preferred over cotton for both cleaning cloths and mop heads, because microfiber absorbs more dirt and microorganisms than cotton. Consider changing to microfiber towels for rags and mops, as this supports a

cleaner, more hygienic environment. The American Journal of Infection Control article discourages the use of cotton materials for cleaning.[26]

Follow the manufacturer instructions for use (IFU's) for all cleaning agents and supplies such as microfiber mops and towels. The manufacturer's label instructions indicate dilution, contact time (the time it should remain wet), surface compatibility and other safe use instructions.[27] For both daily cleaning and discharge cleaning, all surfaces should be cleaned and disinfected with a damp microfiber or disposable cloth saturated with the disinfectant-detergent solution. In most cases, fogging, fumigation, and wide-area or electrostatic spraying are not recommended as primary methods of surface disinfection and have several safety risks to consider, unless specified as a method of application on the product label.[28]

Ensure the use of EPA-registered cleaning and disinfecting products. In addition, during the COVID-19 pandemic, verify that all EPA-registered disinfectants are on the EPA-registered List N.

1. The following CDC resource indicates the cleaning process for housekeepers to reduce HAIs. Environmental Cleaning Procedures | Environmental Cleaning in RLS | HAI | CDC

2. The following APIC modules assist in teaching housekeepers best practices for cleaning resident areas. Environmental Services - APIC

3. The following CDC resource describes the proper cleaning process for carpets. https://www.cdc.gov/hai/prevent/resource-limited/cleaning-procedures.html

4. Based on the CDC guidelines, facilities need to use EPA-registered cleaning and disinfecting products. In addition, during the COVID-19 pandemic, verify that all EPA-registered disinfectants are on the EPA-registered List N. https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2

5. These evidence-based practices are important to follow for consistent cleaning techniques. https://www.cdc.gov/hai/pdfs/resource-limited/environmental-cleaning-508.pdf

6. The Oregon Patient Safety Commission videos provide guidance on EVS education in long-term care facilities. https://www.youtube.com/playlist?list=PLwK925MY2VnNbPlcuM8UYrWYzV7-fk_jW

7. Costs to consider:
   a. Cost of EPA-registered cleaning agents
   b. Cost of N-List cleaning agents
   c. Time it takes to train staff on proper EVS techniques
   d. Cost of PPE for EVS staff

Clean Shared Resident Equipment

One area that is often overlooked within infection prevention is regularly cleaning shared resident equipment. Shared-resident equipment that is not properly sanitized between users can increase the risk of pathogen transmission. It is a federal requirement to clean noncritical patient care equipment frequently touched by health care workers and patients (i.e., blood pressure cuffs, Hoyer lifts).[29] A cleaning agent such as bleach or CAVI wipe can be used to clean the shared resident equipment.

Consider utilizing an EPA-registered cleaning agent with a shorter dwell/contact time and adding it to the vitals cart and Hoyer lift to ensure the shared resident equipment is cleaned/disinfected after each use. The cleaning agent can be placed back in the locked location once the shared equipment is no longer being used.

It is recommended that shared resident equipment cleaning audits are conducted on a weekly basis. Ensure EPA-registered cleaning products are available to clean the shower and shower equipment after each use and placed in a locked cabinet after use for resident safety.[4] Before clipping or grooming nails, all equipment (for example, nail clippers and files) should be properly cleaned.[30] Sterilizing equipment before use is especially important when nail tools are shared among several residents.

Ensure the IP regularly checks bath gurney for rips or tears as they have been known to harbor bacteria and fungi. Methicillin-resistant Staphylococcus aureus (MRSA) can survive on some surfaces including athletic equipment like rubber mats for hours, days, or even weeks.[31] It can spread to people who touch a contaminated surface, and MRSA can cause infections if it gets into a cut, scrape, or open wound. Provide education to the HCP cleaning the shower rooms to monitor the bath gurney and notify their supervisor if there are rips, so the product can be replaced.

1. This resource by the CDC offers facilities considerations on examples of shared equipment to clean in a facility. https://www.cdc.gov/hai/prevent/resource-limited/cleaning-procedures.html
2. Costs to consider:
   a. Cost of chemicals used to clean shared resident equipment
   b. Cost to install baskets to contain cleaning agent on vitals carts and Hoyer-lifts
   c. Time to train staff on proper cleaning techniques

Manage COVID-19 Containment

According to the CDC, a COVID-19 outbreak indicates potentially extensive transmission within a setting or organization.[32] When there is one health care worker or even a resident that is positive for COVID-19, this is considered an outbreak per CMS.[33]

It has been shown that community transmission rates have a direct correlation to SNF COVID-19 rates.[34] It is important to review community transmission rates on a consistent basis (every other week) for COVID-19 testing and source control requirements. [33,35] If the SNF's county COVID-19 community level of transmission is substantially high, all residents and visitors, regardless of vaccination status, should wear face coverings or masks and physically distance at all times. In areas of low to moderate transmission, the safest practice is for residents and visitors to wear face coverings or masks and physically distance, particularly if either of them is at increased risk for severe disease or are not up to date with all recommended COVID-19 vaccine doses.

In the event of an outbreak, the first step is to contact one's county Health Department to partner with them; the CDC has a page with contacts for public health officials in the facility's area, including senior health officials, state, local, and territorial health departments, and tribes and Indian organizations.[36] Working with local public health officials is essential to mitigate the spread of this infection.

The second step is to commence and/or expand COVID-19 testing. On September 10th, 2021, the CDC updated their criteria for outbreak cohorting and testing. Facilities have the option to conduct contract tracing or broad-based testing depending on the circumstances of the outbreak.[37, 38] For example, if a COVID-19 positive health care worker was on unit A and only cared for the residents in that hallway without coming into contact with any other residents in the building, there is an option to do contact tracing and identify every resident and every staff member that the health care worker came into contact with; these are the individuals that would need testing for COVID-19. Conversely, broad-based testing might be considered if there is a facility-wide outbreak with significant or unknown exposure. For this tactic, it is important to test all residents and staff within the impacted areas and, if negative, test again 5-7 days later.[39]

In addition to testing HCP, a testing strategy needs to be in place for the residents. Residents with close contact with someone with COVID-19 infection, regardless of vaccination status, should have a series of two viral tests for COVID-19. In this situation, testing is recommended immediately (but not earlier than 2 days after the exposure) and, if negative, again 5-7 days after the exposure.[39] Testing is not recommended for people who have had COVID-19 in the last 90 days if they remain asymptomatic, including if they have had close contact or higher-risk exposure; this is because some people may be non-infectious but have detectable virus from their prior infection during this period.[5]

During a COVID-19 outbreak, the third step (in conjunction with testing) is to place the residents in quarantine or isolation to mitigate the spread of this infection.[5] If there is more than one resident in isolation, consider creating a separate COVID-19 care unit that is physically separated from other rooms or units. If possible, utilize dedicated staff in this unit. Limit the transport and movement of the residents outside of the room to medically essential purposes and, per the CDC, work with facility engineers to implement strategies to minimize airflow into the hallway such as zip walls.[5]

An increase of monitoring of residents with suspected or confirmed COVID-19 should be done including assessment of symptoms, vital signs, oxygen saturation and a respiratory exam.

In the state of Arizona, it would cost over $10 million to test every SNF and assisted living community resident and staff once.[40] That is without considering the remaining cost of how a COVID-19 outbreak can impact a facility such as PPE and employing temporary staff members. It is important to conduct COVID-19 best practices to reduce the risk of an outbreak within a facility. The state of Arizona should also consider offering subsidizing programs on COVID-19 outbreak materials to ensure SNFs are able to afford to conduct best practices for infection control.

1. These CDC resources describe how to determine what community transmission rates and on how to communicate with family and visitors on safe visitation practices.
   a. https://www.cdc.gov/coronavirus/2019-ncov/hcp/long-term-care.html
   b. https://covid.cdc.gov/covid-data-tracker/#county-view?list_select_state=all_states&list_select_county=all_counties&data-type=CommunityLevels
2. Ideally, a resident with suspected SARS-CoV-2 infection should be moved to a single-person room with a private bathroom while test results are pending. In general, it is recommended that the door to the room remain closed to reduce transmission of SARS-CoV-2. This is especially important for residents with suspected or confirmed SARS-CoV-2 infection being cared for outside of the COVID-19 care

unit. However, in some circumstances (e.g., memory care units), keeping the door closed may pose resident safety risks and the door might need to remain open. If doors must remain open, work with facility engineers to implement strategies to minimize airflow into the hallway. https://www.cdc.gov/coronavirus/2019-ncov/hcp/long-term-care.html

3. Once isolation gown availability returns to normal (which it has), health care facilities should promptly resume conventional practices. If used for isolation purposes, the gown should be changed between patients and must be removed and changed if it becomes soiled, as per usual practice. The risks to HCP and patient safety must be carefully considered before implementing a gown reuse strategy. Disposable gowns generally should NOT be re-used, and reusable gowns should NOT be reused before laundering, because reuse poses risks for possible transmission among HCP and patients that likely outweigh any potential benefits. Similar to extended gown use, gown reuse has the potential to facilitate transmission of organisms (e.g., *C. auris*) among patients. However, unlike extended use, repeatedly donning and doffing a contaminated gown may increase risk for HCP self-contamination. If reuse is considered, gowns should be dedicated to care of individual patients. Any gown that becomes visibly soiled during patient care should be disposed of or, if reusable, laundered. https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/isolation-gowns.html

4. An issue of recent concern identified involves the use of disposable (i.e., single use) versus reusable (i.e., multiple use) surgical attire and fabrics in health-care settings. Regardless of the material used to manufacture gowns and drapes, these items must be resistant to liquid and microbial penetration. Repellency and pore size of the fabric contribute to gown performance, but performance capability can be influenced by the item's design and construction. Health-care facilities must ensure optimal protection of patients and health-care workers. https://www.cdc.gov/infectioncontrol/guidelines/environmental/background/laundry.html

5. Work with facility engineers to implement strategies to minimize airflow into the hallway from rooms with resident's positive for COVID-19. (i.e., install zip walls to create additional barriers between the COVID unit and hallways). https://www.cdc.gov/coronavirus/2019-ncov/hcp/long-term-care.html

6. A CMS 1135 Wavier is what allows certain measures to take place like creating a COVID barrier and not get into trouble with the fire marshal for life safety. The 1135 blanket waiver that addresses life safety does allow these types of temporary barriers. Unfortunately, local authorities having jurisdictions like fire marshals, will object to these types of barriers. It can be considered a Life Safety Deficiency; however, the waiver allows the relaxation of the life safety code requirements as far as CMS is concerned. Local authorities will often object to this measure, but again, it is allowable under the federal regulations. 1135 Waiver: https://www.cms.gov/files/document/summary-covid-19-emergency-declaration-waivers.pdf

7. CMS is waiving requirements that would otherwise not permit temporary walls and barriers between patients. This waiver allows certain measures to take place, like creating a COVID barrier, and not get into trouble with the fire marshal for life safety. CMS 1135 Wavier

8. Costs to consider:
   a. PPE to reduce community transmission within SNFs (masks, gowns, eye protection, N-95 respirators)
   b. Cost for additional staffing (staff out ill, dedicated staff)
   c. COVID-19 testing supplies

Establish a Respiratory Protection Program

A respiratory protection program ensures employers keep their employees safe from airborne contaminants. Per OSHA, it is a federal requirement for all health care settings that utilize N-95 or higher respirators to have a respiratory protection plan. The respiratory protection program includes N-95 respirator fit-testing which includes the completion of a medical questionnaire.[41] N-95 fit testing needs to be completed annually. If the respirator fails the fit test, then another make, model, style, or size must be tried until one is found that fits staff properly. If staff are unable to pass fit testing assign them to tasks that do not require an N95 respirator.[42]

1. The Minnesota Department of Public Health has provided a step-by-step guide on what components are included in a respiratory protection guide in addition to providing many different template options for the program. https://www.health.state.mn.us/facilities/patientsafety/infectioncontrol/rpp/index.html

2. Costs to consider:
    a. Cost of annual fit-testing for staff members
    b. Cost of initial fit-testing for staff members
    c. Cost of NIOSH-approved N95 respirator for staff members
    d. Cost of fit testing supply kit(s)
    e. Time taken to train staff members on how to properly wear respirators

Audit Laundry Practices

Proper infection prevention protocols within the laundry department of a SNF improves the quality of care for residents. Good IPC protocols can decrease the risk of cross-contamination when laundering linens and reduce the spread of infection within the facility. Per CDC guidance, the purpose of the laundry portion of the standard is to "protect the worker from exposure to potentially infectious materials during collection, handling, and sorting of contaminated textiles with personal protective equipment, proper work practices, containment, labeling, hazard communication, and ergonomics".[43]

Soiled linen must be bagged and contained in the resident room. Additionally, laundry rooms need a clear and distinct separation between dirty and clean areas, if they are not in separate rooms.[4] Ensure staff have access to a handwashing sink and that equipment is serviced regularly. Consider auditing this area of the facility on a regular basis. Ensure that PPE is not being reused in this area and that gloves and gowns (clean not reusable) are used when handling soiled linens. Consider utilizing disposable gowns or single-use washable gowns. According to the CDC infection control guidelines for laundry:[43]

- A temperature of at least 160°F (71°C) for a minimum of 25 minutes is commonly recommended for hot water washing. Water of this temperature can be provided by steam jet or separate booster heater.
- The use of chlorine bleach assures an extra margin of safety.
- A total available chlorine residual of 50–150 ppm is usually achieved during the bleach cycle. Chlorine bleach becomes activated at water temperatures of 135°F–145°F (57.2°C–62.7°C).

- The last of the series of rinse cycles is the addition of a mild acid (i.e., sour) to neutralize any alkalinity in the water supply, soap, or detergent. The rapid shift in pH from approximately 12 to 5 is an effective means to inactivate some microorganisms.
- Dryer temperatures and cycle times are dictated by the materials in the fabrics. Man-made fibers (i.e., polyester, and polyester blends) require shorter times and lower temperatures.

Regardless of whether hot or cold water is used for washing, the temperatures reached in drying and especially during ironing provide additional significant microbiocidal action.[44]

1. It is essential to follow all manufacturer's instructions for use (IFUs) when laundering all fabrics. The CDC guidelines for laundry and bedding provide in-depth information on proper laundry care in long-term care facilities. Laundry | Background | Environmental Guidelines | Guidelines Library | Infection Control | CDC

2. These videos review the key concepts behind laundry and infection control within health care facilities.
   a. Infection Control Basics for Healthcare Laundry Staff Part 1: https://www.youtube.com/watch?v=zRtQ4zndmLw&list=PLwK925MY2VnNbPlcuM8UYrWYzV7-fk_jW&index=5
   b. Infection Control Basics for Healthcare Laundry Staff Part 2: https://www.youtube.com/watch?v=UR2ds8pYqlI&list=PLwK925MY2VnNbPlcuM8UYrWYzV7-fk_jW&index=6

3. The Healthcare Innovation Network laundry audit tool is useful in tracking gaps in practice for laundry services. Safe Linen and Laundry Management Audit Tool (hqin.org)

4. Costs to consider:
   a. Cost of servicing equipment
   b. Cost to purchase microfiber mops
   c. Cost to provide clean PPE
   d. Time to properly train staff on appropriate IPC techniques for laundry

Monitor Food Service

While the EPIC evaluation did not focus on the specific practices of food service, based on in-person site visits in Arizona, it is clear that food service plays an important role in infection prevention. The food service department can prevent food-borne illness by following proper IPC practices.

Verify that there is a defined and separate area from the dirty receiving area to the clean, food prep area. The dishwashing machines use either heat or chemical sanitization methods and manufacturer's instructions must always be followed.[29] The chemical solution must be maintained at the correct concentration, based on periodic testing (at least once per shift) for the effective contact time according to manufacturer's guidelines. Ensure that the dishwasher and chemical dispensers are maintained per the manufacturer's guidelines, typically monthly.

- High Temperature Dishwasher (heat sanitization):
  1. Wash - 150-165 degrees F;
  2. Final Rinse - 180 degrees F; (160 degrees F at the rack level/dish surface reflects 180 degrees F at the manifold, which is the area just before the final rinse nozzle where the temperature of the dish machine is measured); or 165 degrees F for a stationary rack, single temperature machine.

- Low Temperature Dishwasher (chemical sanitization):
    1. Wash - 120 degrees F; and
    2. Final Rinse - 50 ppm (parts per million) hypochlorite (chlorine) on dish surface in final rinse.

Maintaining and updating the dishwashing log three times a day will verify that the equipment is properly working. Consider keeping this log in the area of the dishwasher to allow for easy access. Conduct frequent audits to verify that the logs are up to date. Ensure that all prepared food is transported in a closed food cart or covered container and that the food carts are appropriately cleaned and disinfected after each meal service.

Adequate circulation of air around refrigerated products is essential to maintain appropriate food temperatures.[45] Therefore, consider creating more space at the top of the walk-in coolers if there is not 18" from the top. Record the temperature on a log and verify that it is updated daily per facility policy. Verify that there is no food stored on the floor. Appropriate ice and water handling practices prevent contamination and the potential for waterborne illness.[45] Keeping the ice machine clean and sanitary will help reduce the risk of ice contamination. Contamination risks associated with ice and water handling practices may include but are not limited to: staff who use poor hygiene, failure to wash hands adequately, or handling ice with their bare hands. Unclean equipment, including the internal components of ice machines that are not drained, cleaned, and sanitized as needed and according to manufacturer's specifications.[45]

Consider having all food service workers watch the following training videos:

1. Infection Control for Healthcare Food Services Part 1: https://www.youtube.com/watch?v=emu98LUL5JU&list=PLwK925MY2VnNbPlcuM8UYrWYzV7-fk_jW&index=9
2. Infection Control for Healthcare Food Services Part 2: https://www.youtube.com/watch?v=Mx_cTR27CI&list=PLwK925MY2VnNbPlcuM8UYrWYzV7-fk_jW&index=10
3. Costs to consider
    a. Cost of maintaining equipment on a regular basis
    b. Cost of chemicals to sanitize equipment
    c. Time to train staff on proper infection prevention practices in the food service area

Part III: Conclusion

The questionnaire and surveys brought best IPC practices and gaps to light within participating facilities over the past two years. Best practices and evidenced-based resources were derived from both Arizona and national policies and recommendations. While the recommendations may seem a bit simplistic and self-explanatory, they are proven strategies that protect residents and staff members alike.

This evaluation was conducted over a two-year period in the height of a global pandemic. During this time, the COVID-19 pandemic caused SNFs to constantly change infection prevention protocol on a moment's notice and showcased the need to go beyond minimum IPC practices when combating infections. Prior to the pandemic, SNFs were already facing a myriad of serious infections and deaths. The IPC practices that impacted those infections have not been fully eliminated, and an increase in punitive action will not cause these problems to go away either. There is a need for serious reform, IP dedicated training, and easy to access resources within the profession.

The evaluation has demonstrated a deep commitment to address the critical issues of infection prevention and control within SNFs of Arizona. This toolkit is essential in ensuring that SNFs have easy access to proven best practices. IPs and staff members within these facilities are instrumental in the implementation of these practices, and they are clamoring for essential resources. In order to ensure a stable workforce in Arizona's SNFs, we must address competitive pay, provide consistent and pertinent training/auditing, and promote ample infection control resources to staff members.

To further these efforts, a boots-on-the-ground approach that involves on-site technical infection prevention assistance and training may be helpful to ensure that Arizona's SNF staff members and residents are safe and securing the resources they so desperately need. It is imperative that infection prevention training, education, and additional IP staffing are strengthened to assist in keeping facilities compliant with state and federal regulations. These efforts will go a long way in advancing the commitment to resident and staff safety in long term care settings.

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Addendum

Abstract

As a basis for this evaluation, the Emergency Preparedness and Infection Control (EPIC) team worked with the information collected in the first year (2020-2021) of the grant implementation. The team sent out the 20054 IPC and COVID-19 targeted surveys to identify and support nursing homes with their self-reported infection control gaps. Ten nursing homes completed both surveys, two completed only the 20054 IPC survey, and two nursing homes completed neither of the surveys, but were provided onsite technical assistance. To determine current best IPC practices and gaps in practice after implementing the surveys, the EPIC team conducted an evaluation. A follow up meeting was attempted with all the facilities that participated in the initial EPIC grant. This was to compare descriptive data on what evidence-based IPC practices had been implemented and identify the IPC domains that continued to need improvement. Of the fourteen nursing homes, eight facilities completed a follow up questionnaire. A list of top ten best practices required in the CMS surveys and CDC recommendations, gaps in practices, and evidence-based resources for nursing homes was formulated to assist nursing homes with proactive IPC assistance. Every effort was given to provide guidance on staffing, costs and equipment required for the implementation of best practices in IPC recommended in the Toolkit.

Methodology

The EPIC team disseminated the 20054 IPC survey and COVID-19 targeted survey to identify and support nursing homes with their infection control gaps from 2020-2021.

Best practices were defined as those that were compliant with the survey questions. Data from self-reporting showed that 100% of the nursing homes conducted best practices within source control (infection prevention and control practices), IPCP standards and policies/procedures, infection surveillance, education/monitoring/screening of staff, reporting to the CDC, emergency preparedness, infection preventionist (IP), and staff/resident testing. Ninety-two percent of nursing homes implemented best practices on PPE, transmission-based precautions, resident care, visitor entry, and reporting to residents, representatives, and families. Eighty-three percent of nursing homes conducted best practices on general standard precautions. Overall, two nursing homes (17%) conducted best practices entirely, while ten nursing homes (83%) had one or more categories to improve on.

Category COVID-19 Targeted Survey	Best Practices	Needs Improvement	Percentage Best Practices	Percentage Needs Improvement
General Standard Precautions	10	2	83%	17%
Hand hygiene	6	6	50%	50%
PPE	11	1	92%	8%
Source control	12	0	100%	0%
Transmission based precautions	11	1	92%	8%
Resident care	11	1	92%	8%
IPCP standards and policies and procedures	12	0	100%	0%
Infection surveillance	12	0	100%	0%
Visitor entry	11	1	92%	8%
Education, monitoring, screening staff	12	0	100%	0%
Reporting to residents, representatives, and families	11	1	92%	8%
Reporting to CDC	12	0	100%	0%
Emergency preparedness	12	0	100%	0%
Infection preventionist	12	0	100%	0%
Staff and resident testing	12	0	100%	0%
Total	2	10	17%	83%

The CMS 20054 IPC Survey was successfully completed by ten nursing homes. This survey showed that 100% of the nursing homes implemented best practices on the categories of infection control coordination, and influenza & pneumococcal immunization. Ninety percent of nursing homes conducted best practices for laundry services, policy and procedure, infection surveillance, and antibiotic stewardship. Eighty percent of nursing homes implemented best practices for PPE and transmission-based precautions. Overall, four nursing homes (40%) conducted best practices entirely while six nursing homes (60%) had one or more categories to improve on.

Category 20054 IPC Survey	Best Practices	Needs Improvement	Percentage Best Practices	Percentage Needs Improvement
Coordination	10	0	100%	0%
Hand hygiene	7	3	70%	30%
PPE	8	2	80%	20%
Transmission-based precautions	8	2	80%	20%
Laundry services	9	1	90%	10%
Policy and procedure	9	1	90%	10%
Infection surveillance	9	1	90%	10%
Antibiotic stewardship	9	1	90%	10%
Influenza & pneumococcal immunization	10	0	100%	0%
Total	4	6	40%	60%

After disseminating the 2020-2021 foundational information from the 20054 IPC and COVID-19 targeted surveys, and implementing technical assistance based on deficiencies, the EPIC team conducted an evaluation in 2021-2022 to determine the effectiveness of these surveys on current IPC best practices and gaps.

Data Collection

The EPIC team attempted to follow up with all fourteen facilities that participated in the initial EPIC grant assistance by email and/or phone calls to compare descriptive data on what evidence-based IPC practices were being implemented, as well as identifying ongoing challenges and gaps in practice.

The data collection phase started in October 2021 and ended in April 2022. Within that six-month timeframe, the team attempted to schedule a follow up call for all fourteen sites. Contacting the facilities started by emailing all the facilities. After secondary and tertiary emails were sent out to the facilities, there were additional follow-up calls completed by February 2022. Overall, the team was successful in meeting with eight out of fourteen facilities.

Questionnaire Analysis

A questionnaire was developed by the EPIC team during the follow-up phone calls to analyze the viability of best IPC practice implementation, necessary staffing, and unique challenges associated with specific recommendations. The questionnaire included twenty-three questions. The following sections represent the summarized information obtained from the SNF's questionnaire returned.

Facility Screening

Overall, the eight facilities in this evaluation were utilizing best practices for facility entrance and screening. During this period, there were varying levels of COVID-19 outbreaks which explains the various screening protocols between facilities. Every facility screened their visitors in some capacity. Three of the facilities had paper logs for the screening process, three used kiosks for screening, and two did not mention their specific screening process. There were a variety of techniques used for testing temperatures: wall mounted thermometers; kiosk thermometers; and thermometers by which the temperature was taken by staff.
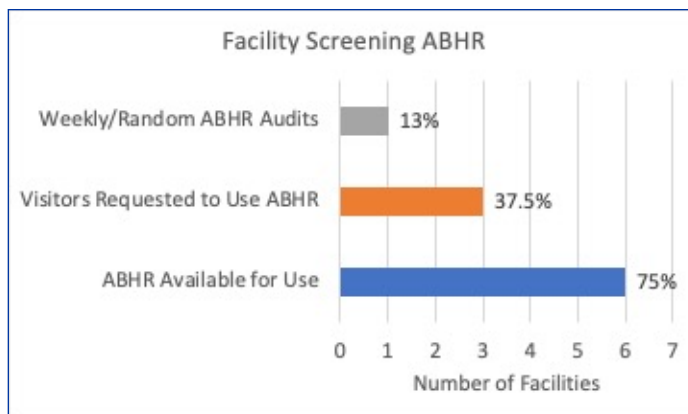
Seven facilities mentioned that the screening area was staffed during the day. It was not a common trend for facilities to ask about vaccination status or testing. Two facilities mentioned that staff were screened at a different entrance. Only one mentioned that the kiosk asked about recent exposures to COVID-19. One facility told of how it was difficult to "police" visitors to follow source control protocols due to understaffing.

Every facility had masks to offer clients, if they did not enter the facility with one. Two facilities did not allow cloth masks. Others allowed cloth masks, but they had to be clean and well fitting, though a cloth mask was not preferred. Only one facility reported that visitors were compliant with following mask procedures and were entering the facility with surgical, N-95, or KN-95 masks.

Hand Hygiene

A best practice for hand hygiene from a facility was encouraging residents to use ABHR as they enter the dining room. This same facility provided continuing education to both staff and residents on hand hygiene. One facility received a grant from Resident Communities for ABHR. Another was waiting on additional supplies from their vendors.
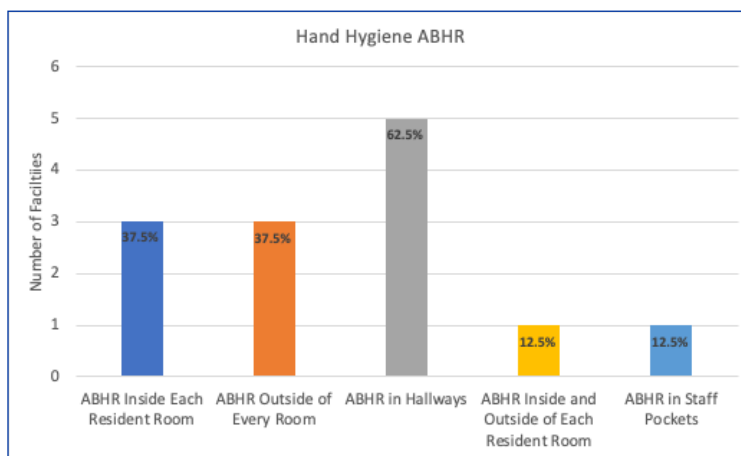
Compliance audits were conducted by all the facilities. The audits varied between weekly and a few times a month. Some facilities were trying to become more consistent with this practice. Audits were conducted by several different staff members including a weekend supervisor by one facility. Others have a specific staff educator that

conducts these audits. That same facility created their own audit form to track facility hand hygiene audits. One product used to train was [Glo Germ](#) to assist with teaching and in-services. HSAG was a common hand hygiene tool among facilities.

Opportunity audits were being completed by every facility. This practice varied between occasionally and twice weekly. One facility noted that if there was a breach in the opportunity hand hygiene audits, then it was brought to the department supervisor.

Transmission-Based Precautions

The facilities had various practices for transmission-based precaution signage usage. They ranged from utilizing CDC signage, having facility-made signs noting people to "please see nurse", and facility-made transmission-based type of precaution signage such as "contact precautions". Facilities spoke of confusion when it came to what signage to use during an outbreak. There were concerns that adding what type of precaution signage would take away from the "home-like" environment and make it seem more like a hospital, as well as some worried that providing the precaution type would be a Health Insurance Portability and Accountability Act (HIPAA) violation. Some facilities were working on creating a legend for colored signage to make it seem like a home-like environment for signage that was posted outside of each applicable door.

Personal protective equipment (PPE) bins were located outside of each isolation room. Some PPE carts were stocked in advance, but if they were not, applicable staff knew where to find additional supplies. Some facilities had barrels for PPE doffing inside the room with covers. One facility had isolation bins for the COVID-19 unit at each entrance and had their IP send out an email each morning to remind staff which rooms were on isolation protocols.

PPE gowns were being used differently within each facility due to different protocols. Some used disposable gowns, some used washable gowns as single use with discard ranging from ten washes to one hundred washes, some gowns were being worn as extended use particularly in COVID-19 units, and some gowns were rehung and reused, though they were changed every shift. For the gowns being washed using the one hundred times protocol, the staff used a grid located on the inside of the gown to check off every time it was washed, which was a best practice as it followed the manufacturer's instructions for use.

Eye protection was being worn and cleaned in a few ways within each facility. One facility had eye protection cleaned after exiting isolation rooms and then was used as extended use. It was noted that it was better to have eye protection on constantly throughout the facility per the policy, because the staff would often forget to put it back on when it was needed, i.e., during resident care. One facility cleaned eye protection with bleach wipes at the end of their shifts or when visibly soiled. One facility cleaned eye protection with soap and water. One facility had eye protection cleaned by housekeeping and put back out for staff. Another facility only had eye protection worn in isolation areas. One facility cleaned eye protection by spraying the cleaning solution directly on the eye protection and wiping the solution off using a paper towel.

Respiratory Protection Program

N-95 respirators were being used as extended use PPE within the facilities. Many facilities would place a surgical mask over the N-95 in an attempt to preserve it when entering isolation rooms, COVID-19 units, unknown units, and those requiring transmission-based precautions. N-95 supplies varied with N-95's being

worn for one shift and with staff receiving a new N-95 each day. At the time of our call, in early February 2022, one facility reported they were reusing N-95s for up to 3 shifts. These N-95s were stored in brown paper bags between uses. As of February 16th, 2022, that facility reported they were no longer having staff reuse N-95s.

The facilities varied depending on whether all the staff were N-95 fit-tested or not.

N-95 Fit Testing	Number of Facilities	Percentage
All Staff Fit-tested	3	37.5%
Some Staff Fit-tested	2	25%
No Staff Fit-tested	3	37.5%

One problem hindering this process was not having staff who were trained to fit-test. Another concern was the annual fit-testing requirement which requires all staff members to get refit-tested once a year. There was a need to have people come in and train staff on how to fit-test. There were also problems procuring adequate supplies for staff. Some facilities were being offered universal N-95 respirators that were not size-specific. Four facilities were unsure if they had a respiratory protection program in place. Three had a program in place and one did not.

Shared Resident Equipment

The following were utilized by the facilities to disinfect shared resident equipment: bleach wipes; CAVI wipes; Sani wipes; and Clorox bleach wipes. The shared resident equipment reviewed in this evaluation involved the Hoyer lifts and vital signs machines. It was common that the shared resident equipment was unable to store disinfectants on the equipment itself, but rather had to be procured elsewhere in the facility. Because of this, some of the products were stored at the nurse's station, but it was instructed that the facilities ensure all staff knew where these products were stored and what the dwell time was (the time in which a cleaning product needs to sit wet on a surface in order to be effective). A best practice was cleaning the equipment after each use. Some were not cleaning the Hoyer in between use and were just cleaning the belt, though this was being rectified. The best practice was storing wipes and gloves on a basket or bag on the cart. One facility installed a protective plastic film on each of the vital sign machines that allows staff to wipe it down completely without damaging the equipment. Once the film was worn out a new one could be applied.

There were multiple ways that cleaning the shared resident equipment was verified. Four facilities conducted audits. Two facilities conduct random audits weekly while one facility uses a monthly in-house audit form. Another technique by one facility was just doing visual audits. The other four facilities were either not conducting audits or not sure if audits were being conducted.

Environmental Cleaning

Most facilities were conducting best practices when it came to housekeeping. They were cleaning high to low, cleanest to dirtiest, with the bathroom cleaned after the resident's room, and mopping last. Some had a janitorial log to ensure they were cleaning all the high touch surfaces. Non-isolation rooms were cleaned first. One best practice was having the EVS supervisor conduct audits on a regular basis.

Gloves Changed After Cleaning Restroom	Number of Facilities	Percentage
Yes	5	62.5%
No	1	12.5%
Unsure	2	25%

One facility specifically excelled in changing gloves when getting to the restroom and performing appropriate hand hygiene. Additionally, the same facility practiced hand hygiene before and after donning/doffing gloves.

There were a variety of methods when using towels and spray solutions. One was to spray the cleaning agent onto the surface, let it sit for the appropriate dwell time, and then wipe it down. Another was to spray the cleaning agent onto the hand towels first, then wipe down the surface. One facility was using a 3-compartment system for cleaning towels. One bin contains the clean microfiber towels that were used to wipe down the equipment after it was sprayed down, i.e., mattress. The middle compartment had towels soaking in bleach water that contains the proper ratio of bleach and water. The last bin holds the towels that have been used. One facility was unsure of the cleaning process for using microfiber towels.

One facility had the housekeeping staff request additional dispensers of ABHR to be installed in different parts of the facility. Five facilities were using microfiber mops, two used a mop and bucket, and one was unsure what process was used.

Laundry

All facilities were observing best practices when it came to ensuring soiled linen was contained and bagged. Isolation rooms had their own bins for soiled linen.

Separation of Clean and Soiled Linen Areas	Number of Facilities	Percentage
Separate Rooms	3	37.5%
Same Room, Separate Areas	5	62.5%
Best Practice Compliant	8	100%

Clean gown and glove usage while sorting soiled linen was a practice that one facility's IP was monitoring closely and providing additional information to the staff. A few facilities were unsure if personal protective equipment (gowns) were being used/reused to sort the soiled linen. Some facilities noted that gowns and gloves were used every time when processing linen. Some staff wear washable gowns and throw those in the washer with that load of laundry.

There was access in the laundry area to a sink for hand hygiene in seven facilities. One facility also had ABHR dispensers in the laundry room. Five facilities have their vendors come in monthly to service equipment; the others were unsure but noted vendors do come in regularly. One facility specifically had the EVS supervisor handle this task, rather than the IP.

Addendum

Resources

There was a limited variety of resources used by the facilities. Seven out of eight facilities utilized HSAG resources. These tools ranged from hand hygiene audit tools to donning and doffing PPE signage. HSAG was a common resource, as the facilities were required to use it as part of a QIO project assigned by CMS when on outbreak status. CDC guidance and resources were also utilized by a few facilities, particularly for in-service training. One interesting practice that a facility used was having an egg timer for the COVID-19 tests to reduce spreading through cell phone touching. Additionally, corporate presentations were used as training resources.

Additional Comments

Bed capacities ranged from 58-112 with a census of 30-98 among the eight facilities. Three of the IPs were also the Directors of Nursing. A few of the facilities had turnover of their IP staff and were in the process of hiring new staff members. Several staff members expressed how helpful the EPIC monthly IP call was in helping them identify gaps in IPC practices for different areas and helping them get ready for their annual survey. One facility expressed an interest in having an onsite visit through the grant, which was provided.

Questions were asked of the EPIC team throughout the calls regarding isolation rooms and the proper processes regarding cleaning eye protection. The constantly changing CDC guidance regarding isolation and quarantine times and COVID-19 testing was a frustration among several of the facilities as they worried about ensuring they were following the new protocol properly. Staying current on resident and staff vaccination status between fully vaccinated and "up to date" was also a struggle. It was noted that this task alone could be full-time position.

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