



# Hospital-Acquired Pneumonia Prevention by Engaging Nurses (HAPPEN)

## Implementation Guide

6 steps to implementing oral care for non-ventilated patients to prevent pneumonia in your hospital or long-term care unit (adapted for non-VHA use)

**Updated October 11, 2022**

### About this Guide

This implementation guide is adapted from the toolkit for Veterans Health Administration (VHA) facilities to implement a structured oral care program to prevent non-ventilator associated hospital-acquired pneumonia (NV-HAP) for patients in the acute care setting or residing in long-term care.

VHA invites other health care organizations to utilize the educational materials, references, tools, and resources to implement a structured oral care program at their facility. The guide includes an introduction and overview and outlines six steps for implementing the practice of oral care for non-ventilated patients in the acute care or long-term care setting. You will find a list of publications in the citations and recommended reading section that will help sites in this process as well.

- **Step 1:** Prepare Foundation
- **Step 2:** Obtain and Organize Supplies
- **Step 3:** Adopt Templates, Tools, and Patient Education Materials
- **Step 4:** Customize and Conduct Nursing Staff Trainings
- **Step 5:** Implement
- **Step 6:** Monitor and Iterate/Scale

Adopting the oral care practice is best facilitated by a designated facility champion(s) along with a team of interdisciplinary colleagues for support. We recommend selecting a nurse manager, nursing staff member, or quality improvement expert with a nursing background with a) dedicated time to lead the practice with the support of dental professionals (when available) and b) the ability to hold staff accountable as well as recognize exceptional work. This guide provides resources to assist the facility champion(s) with engaging nursing staff to complete oral care for patients in the acute care or long-term care setting to prevent NV-HAP.

## Oral Care is Essential Infection Control

Oral care is an essential infection control practice that is often missed. Many patients in the acute care or long-term care setting fail to receive oral care education and assistance during their stay. The oral cavity harbors many types of bacteria that create a biofilm and plaque on the teeth. Without consistent oral care, the bacteria multiply at a rate of up to five times every 24 hours. This accumulation of bacteria places patients at risk for pneumonia if aspirated into their lungs during periods of sleep or sedation. Sputum samples from patients who develop HAP have been matched with the specific bacteria located in the mouths of the patients (Giuliano et al 2021). The mechanical action of tooth brushing, or denture care reduces the bacterial burden in the oral cavity and prevents pneumonia (Kaneoka et al 2015). Tooth brushing should be completed 2-3 times a day with one of the brushings or denture cleaning occurring before sleep. Recognizing and messaging oral care as infection control is foundational to a structured oral care program.

**Hospital Acquired Pneumonia (HAP)** is the most common of all Healthcare Associated Infections (HAI). The majority HAPs occur in non-ventilated patients. Non-Ventilator Associated Hospital Acquired Pneumonia (NV-HAP) accounts for approximately 65% of all HAP events (Mitchell et al 2019).

**Challenges in Case Finding:** NV-HAP occurs more than 48 hours after admission. Case finding is challenging as the occurrence of infection is not tracked with a device as with other HAI. Currently the VHA uses a discharge diagnosis code of pneumonia that is not present on admission for case finding. This limits the review of events to the time period after discharge. Cases of acute and long term care setting pneumonia are reviewed to delineate between community acquired and inpatient acquired pneumonia. When the history of pneumonia is clearly recorded by the hospitalist or other providers in the health record including present on admission status, this reduces the number of possible NV-HAP cases that must be reviewed and confirmed. Organizations outside the VHA may use the **NV-HAP Calculator** tool for baseline and ongoing NV-HAP rate monitoring. The exploration of new ways to identify NV-HAP in more real time using elements from the electronic health record (EHR) is ongoing.

#### Did You Know?

- ▶ HAP is the **most common** of all healthcare-associated infections.
- ▶ Brushing teeth **lowers patients' chances** of developing HAP
- ▶ Brushing teeth **at least twice a day** will promote health and avoid length stays related to pneumonia treatment

## Overview

Oral care has been designated as crucial to quality of life, overall health and happiness outcomes by the World Health Organization (WHO). Patients in the acute and long-term care settings may not have access to high quality oral care products and may not receive assistance with their oral care due to an absence of oral care guidelines (Abdelhafez et al 2021). Providing consistent oral care, 2-3 times daily, can reduce the incidence of NV-HAP. **This nurse-led initiative addresses the education, resources, documentation, and practice of oral care in the acute or long-term care setting with the support of dental professionals and other team members.**

In the acute or long-term care setting, oral care should be completed at least twice a day, or every 12 hours, either by the patient, their caregiver or by trained nursing staff (if the patient is not able to do so independently), to reduce the chances of developing pneumonia. It is essential that Registered Nurses (RN), Licensed Practical Nurses (LPN) and Nursing Assistants (NA) provide oral care assistance and document each time it is completed. The RN should provide patients with education on the role of oral care in overall health including the prevention of pneumonia.

All units should adopt a Standard Operating Procedure (SOP) for procurement, stocking and distribution of oral care supplies to each admitted patient facilitate the implementation of this initiative.

**Implementing an oral care practice ensures acute and long-term care patients receive oral care by:**

- ▶ Providing oral care training for RNs, LPNs, and NAs
- ▶ Engaging staff in providing and documenting oral care
- ▶ Educating patients on the role of oral care in health and the prevention of HAP
- ▶ Standard operating procedures for procurement, storage, and distribution of oral care supplies

**Step 1:** Prepare Foundation of this guide outlines how to prepare for implementation, including identifying facility and unit-based champions and selecting an implementation method.

The steps for implementation include preparing the foundation (including reviewing baseline information), obtaining resources and organizing supplies; customizing tools and patient education materials; tailoring and conducting nursing staff trainings, and monitoring progress to iterate/scale as necessary.

## Impact

Shannon Munro, PhD, APRN, NP-C, Researcher at the Salem VHA Medical Center (VAMC), developed and led the VA HAPPEN initiative in collaboration with a team of researchers also studying NV-HAP in civilian hospitals. Dr. Munro and her team completed the research on the Salem VAMC Community Living Center (CLC) units followed by the medical surgical units. From there the practice spread to all of the facilities in VISN 6 (Virginia and North Carolina) as well as Houston, Texas as quality improvement (QI).

“The incidence rate of NV-HAP on the [Salem] CLC units decreased from 105 to 8.3 cases per 1,000 patient days (by 92%) in year one with an estimated cost avoidance of \$1.76M and 8 Veteran lives saved. Likewise, the incidence rate of NV-HAP on 4H and 4J decreased from 1.2 to 0.9 cases per 1,000 patient days (by 38.6%) in year one with an estimated cost avoidance of \$360,000 and 2 Veteran lives saved.” (Munro et al, NAQ 2018, p. 363)

In 2016, HAPPEN was selected for national VHA dissemination as QI and by July 2021 the initiative had spread to every single VHA Medical Center in the nation as standard of care. HAPPEN was recognized as one of the innovative evidence-based practices in the 2020 Gears of Government President’s Award for Innovation.

This low-cost intervention improves health outcomes and enhances quality of care as cited in the reference above and can be implemented on all inpatient or long-term care nursing units using quality improvement principles (Warren et al, 2019).

| Impact to Patients   | Impact to Facilities  |
|--|---|
| <ul style="list-style-type: none"> <li>• Consistent oral care improves health and quality of life</li> <li>• Improved patient knowledge and engagement</li> <li>• Reduced risk of NV-HAP and related complications like sepsis</li> <li>• Shorter length of stay and increased chance of returning home after discharge</li> </ul> | <ul style="list-style-type: none"> <li>• Enhanced patient safety and reduced incidence of NV-HAP and associated sepsis</li> <li>• Improved antibiotic stewardship lowering the risk of multidrug resistant infections</li> <li>• Increased access to care due to shorter length of stays</li> <li>• Healthcare cost savings</li> <li>• Lower need for intensive care or post-acute/ long-term care</li> </ul> |

## Step 1: Prepare Foundation

Core actions include:

- ▶ **Action 1:** Identify Facility Champion(s)
- ▶ **Action 2:** Determine Implementation Approach
- ▶ **Action 3:** Develop Project Charter
- ▶ **Action 4:** Engage Stakeholders

### Action 1: Identify Facility and Unit Based Champion(s)

Identify 1-2 facility champion(s) to oversee the implementation process. The facility champions(s) engage other nursing staff in practice implementation and sustainment. The facility champion(s) will work with the unit-based clinical champion(s) to provide support for staff and help facilitate relationships between other services such as dental

and infection control and ensure a process for displaying process measure and outcome data for the unit. The facility champion(s) should be a nurse manager, clinical nurse leader (CNL) a bedside nurse, or a quality improvement expert with a nursing background with dedicated time for this initiative. The facility champion will assume ongoing responsibility for the implementation, coordination, tracking of cases, maintenance, and evaluation of the practice. The unit-based champion should be an RN, LPN or NA who will promote the value of this essential infection control practice among staff and patients to help facilitate successful implementation. The unit-based champion(s) coach, mentor and support staff as well as facilitate unit-based SOPs for management of supplies and documentation of oral care.

## Action 2: Determine Implementation Approach

Sites may opt to implement the initiative via a phased approach (1-2 units at a time), or a facility wide approach. In either approach, the goal is to have 100% of acute and long-term care units with an oral care program in place. Facilities with multiple cases of NV-HAP in the baseline data may want to deploy an facility wide approach or prioritize units with the highest rates first.

When deciding whether to roll out a facility wide or unit based approach, consider factors such as the current NV-HAP incidence rate, nursing staff engagement, and logistics for procuring, storing, and distributing oral care supplies to patients. Involve leadership in this decision. These important baseline considerations will help you determine if you should implement the practice via a phased approach or a facility wide approach.

To determine your facility's rate of NV-HAP, conduct chart reviews of possible cases using discharge diagnosis coding for pneumonia not present on admission. Rates of NV-HAP are calculated using the number of bed days of care or midnight census as the denominator and the number of NV-HAP cases as the numerator and expressed as number of cases per 1000 bed days of care. In the VHA, data is entered into a data collection tool for national reporting. Figure 1 shows the VHA reporting tool with a built-in calculator. The VHA follows the National Healthcare Safety Network (NHSN) Centers for Disease Control and Prevention (CDC) criteria for diagnosing NVHAP. The discharge diagnosis codes used for case finding are included in Table 1. In the VHA, all cases found using the discharge diagnosis are reviewed by an expert using the NHSN CDC criteria to verify the diagnosis. The review process will result in the removal of any cases miscoded as NV-HAP such as those contracted in the community. You may review all cases or use coded cases as the numerator without a review. The process for using a review or not must be consistent. If moving from unreviewed to reviewed data, the NV HAP rates cannot be compared.

Once you have collected the number of NV-HAP cases for the past 12 months, enter



the data in their respective columns in the Baseline Worksheet (far left tab 1) on the **NV-HAP Calculator** tool to determine baseline incidence rate. Upon launching the oral care practice, collect the same data for the post-intervention period to develop an impact statement.

NHSN CDC criteria and checklists are available here (Accessed 10/11/22):

- <https://www.cdc.gov/nhsn/pdfs/pscmanual/6pscvcapcurrent.pdf>
- <https://www.cdc.gov/nhsn/pdfs/checklists/pneu-checklist-508.pdf>

**Note:** Clearly documented aspiration pneumonitis (J69.0) due to aspiration of gastric contents/ food is a chemical pneumonia which is not considered infectious in origin, and is a VHA exclusion for NV-HAP reporting. Patients with cancer who are enrolled in hospice with a less than 6 months life expectancy are also excluded from reporting.



Figure 1. Image of VA NV--HAP reporting using the Inpatient Evaluation Center. Bed days of care (BDOC)= midnight census. Units marked as offline in the image above were closed at the time of this screenshot.

| Pneumonia International Classification of Disease (ICD) Diagnosis Codes |        |        |
|---|--------|--------|
| Code Title  | ICD-10 | ICD-9  |
| Bacterial pneumonia NOS   | J15    | 482.89 |
| Pneumonia due to Pseudomonas  | J15.1  | 482.1  |
| Pneumonia due to Staphylococcus   | J15.2  | 482.4  |
| Pneumonia due to Strep B  | J15.3  |        |
| Pneumonia due to Other Strep  | J15.4  | 482.3  |

|   |       |        |
|---|-------|--------|
| Pneumonia due to E. Coli                      | J15.5 | 482.82 |
| Pneumonia due to other gram-negative bacteria | J15.6 | 482.83 |
| Other bacterial pneumonia                     | J15.8 |        |
| Bacterial pneumonia, unspecified              | J15.9 | 482.9  |
| Pneumonia organism, unspecified               | J18   | 486    |
| Bronchopneumonia, unspecified                 | J18.0 | 485    |
| Lobar pneumonia                               | J18.1 |        |
| Hypostatic pneumonia, unspecified             | J18.2 |        |
| Other pneumonia, organism unspecified         | J18.8 |        |
| Pneumonia, unspecified                        | J18.9 | 483    |
| Pneumococcal pneumonia                        |       | 481.0  |
| MSSA pneumonia                                |       | 482.41 |
| MRSA pneumonia                                |       | 482.42 |

Table 1: Example of pneumonia diagnosis codes

Other factors to consider prior to determining an implementation approach are current oral care practices and the engagement level of the nursing staff. The **Nursing Staff Oral Care Survey** tool is helpful in the assessment of preimplementation oral care practices. This quality improvement (QI) survey contains questions to gauge how frequently nursing staff provide oral care to hospitalized or long-term care non-ventilated patients, what supplies they use, whether they experience any barriers to completing oral care, and readiness to standardize oral care into practice. The survey may be customized for specific units. Reviewing the results of the survey can help you understand the current state of oral care provision for non-ventilated patients at your facility. This survey may be done as part of implementation planning. The tool may also be used after implementation to evaluate sustainment.

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**Tip:** Keep the surveys anonymous (no names or identifying employee information) so nursing staff feel comfortable providing honest and accurate information.

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In addition to administering surveys, discuss the practice of oral care in staff meetings to assess readiness and any possible barriers to implementation. Planning for implementation of an oral care practice should be added to the agenda of unit-based or organizational nursing practice council meetings. These conversations will help you introduce the practice, garner support and develop a unit specific implementation plan.



Finally, review the Basic Resource Requirements guide shown in Figure 2 and meet with your facility's Procurement and Logistics Office to determine what oral care supplies your facility has already, what key supplies are not available and investigate the current procurement, storage, and distribution process for oral care supplies. Many facilities purchase oral care supplies, but may not have a consistent high quality supply or storage/distribution process.

| <b>Basic Resource Requirements: Oral Care Supplies</b> |   |
|--|---|
| ▶  | <b>Soft American Dental Association (ADA) approved Toothbrushes</b>                     |
| ▶  | <b>Suction Toothbrushes</b> (for patients at high risk for aspiration)                  |
| ▶  | <b>Toothpaste</b> (any ADA approved brand)  |
| ▶  | <b>Dental Floss and Mouthwash</b> (alcohol-free) optional, follow local policy          |
| ▶  | <b>Denture Cleansing Liquid or Tablets, Denture Brushes, Cups, and Denture Adhesive</b> |
| ▶  | <b>Lip Moisturizer, Petroleum Free</b>  |

Figure 2: Basic Resource Requirements

Some questions to discuss with the Procurement and Logistics Office include:

- Does the facility currently procure these oral care supplies?
- Where are they stored?
- Do nursing staff know where they are?
- Who monitors supplies?
- How does the supply get replenished when the units run out?

After considering these factors related to oral care supplies, determine which implementation approach will work best for your facility:

- **Phased Implementation:** A phased approach allows you to select a specific unit or units to pilot the practice. After reviewing baseline considerations, determine which unit(s) you think will benefit most from this practice. Your baseline assessment may reveal that some units may not be ready to implement the practice, so consider this option if that is the case.
- **Facility-Wide Implementation:** If after reviewing baseline considerations you determine all units in your facility are ready for the practice, you can implement this practice for all units. You will need to work with nurse managers from each unit to promote the practice among nursing staff and hold staff accountable for completing and documenting oral care.

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**Tip:** Implementing the practice in one or two units is a good way to gauge the success of facility wide implementation. Piloting the practice can allow you to troubleshoot and streamline to produce operational efficiencies on a small scale before scaling hospital wide.

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Determine the timeline for implementing the practice. You can use simple excel project planning tools, or other project planning tools used at your facility. Design a schedule that corresponds with your chosen implementation approach and the date you intend to start the practice. In general, a phased approach should conclude with the entire facility up and running within 6 months of the first unit. Implementation can occur over a month or two for a facility wide approach.

## Action 3: Develop Project Charter

Developing a project charter document provides an outline for implementation. A robust project charter document includes the following:

- A general project description (how you plan to deploy oral care practices)
- The problem/opportunity statement to be addressed by implementing the practice (for example, reducing variation in practice or reducing the incidence of infection)
- Scope of project (for example all inpatient areas and the operating area)
- Your facility's goals for implementing the practice (for example that 90% of patients have oral care documented 2 or more times a day)
- Your facility's timeline for implementing the practice including equipment selection, training for staff and a patient engagement plan
- The resources your facility will need to obtain (training tools, patient education supplies)
- The team members and leadership who will support implementation

Use your local organization's project charter template incorporating the above considerations. Include the problem/opportunity statement, timeline, list of resources, team members, and other information you have gathered from completing. You will also need to think through the scope and goal(s) for implementation. A major component of the project charter is identifying the team members and leadership who will support implementation. Include these individuals in your project charter, along with their time commitment. As you determine the project scope and resources, you should also consider engaging other stakeholders such as dental professionals, speech and language pathologists, occupational health or respiratory therapy who may support the practice (see stakeholder list below).

### Recommended Stakeholders

- ▶ **Nursing:** Registered nurses, licensed practical nurses, licensed vocational nurses, nursing assistants/certified nursing assistants and health care technicians who will assist patients with oral care and document the care in the health record
- ▶ **Medical Center Director (MCD):** Leader and final decision-maker that approves implementation of the practice and resource requests at your facility
- ▶ **Chief Nursing Officer (CNO):** Nurse leader and final decision-maker for nursing care standards
- ▶ **Nurse Manager/ Assistant Nurse Manager:** Nurse(s) responsible for nursing quality of care in a specific unit and holds nursing staff accountable to standards of care
- ▶ **Logistics Office:** Team responsible for procuring, storing, and distributing supplies
- ▶ **Clinical Informatics:** The team makes any necessary changes to documentation templates to capture oral care in the electronic health record
- ▶ **Quality Improvement:** Department that tracks NV-HAP rates
- ▶ **Infection Control:** Team identifies positive NV-HAP cases and assists with tracking and reporting
- ▶ **System Redesign –** Department that can assist in flow mapping and process improvement measurement
- ▶ **Dental Services:** Department that can offer expert opinions on staff/patient education and selection of ADA approved oral care product purchases; may be consulted for patients with special needs at facilities that have these services
- ▶ **Speech and Language Pathology:** Department assists in identifying and treating patients at high risk for aspiration and teaches staff how to manage the needs of these patients.
- ▶ **Occupational Therapy –** Department assists patients in improving or regaining activities of daily living skills such as tooth brushing
- ▶ **Respiratory Therapy –** Department assists with education on the importance of oral care in the prevention of pneumonia

Figure 3: Recommended Stakeholders (Munro et al 2018, NAQ)

## Action 4: Engage Stakeholders (Leadership)

Stakeholder support will help ensure the success of the implementation efforts. The creation of briefing slides and talking points that can be used to engage stakeholders will help to prepare to ask for support. It is important to be clear about what you are asking each stakeholder to do to support the effort.

Host a meeting with team members to present the project charter and provide background for implementing the practice. The meeting will provide an opportunity for team members to ask questions and solicit their feedback on the charter, obtain

recommendations regarding the approach to implementation, and to secure their buy-in for practice implementation. It is a good idea to have stakeholders attend a project charter meeting so that they understand their role and how it fits into the overall plan.

The last step for the project charter is to present it to facility leadership for approval. Any specific requests that involve funding or staffing should be detailed. How all resources contribute to the achievement of the overarching goals and expected organizational benefits should be specifically outlined.

## Step 2: Obtain and Organize Supplies

Core actions include: **Action 1:** Procure Supplies

▶ **Action 2:** Determine Storage/Distribution Plan

### Action 1: Procure Supplies

Dental experts, when available, may work with nursing staff to choose oral care supplies appropriate for the patient population. The local logistics and procurement experts may provide a catalog to choose products from or take the clinical specifications developed by the team to find a vendor. The logistics and procurement staff will assist in determining the initial and ongoing supply needs. A par level should be established to ensure equipment availability. The par level refers to the minimum quantity of supplies stocked and the procedure for reordering if supplies fall below the minimum level. Be sure to account for expiration dates of some oral care supplies (e.g., toothpaste usually has a shelf life of 2-3 years) when determining amount and frequency of supply procurement. Your facility should purchase American Dental Association (ADA) approved, high-quality toothbrushes, toothpaste, and other oral hygiene supplies such as alcohol-free mouthwash (optional), denture cleansers, denture adhesives and lip moisturizers.

### Action 2: Determine Supply Storage and Distribution Plan

Store supplies in an easily accessible location for nursing staff. Ensure that there is a process for conducting par level audits for each unit and maintain a consistent process for re-ordering and re-stocking supplies. The facility champion, unit-based champion or the nurse manager(s) need to communicate the plan to all nursing staff, so they know where supplies are stored, who to contact if supplies are low, and to provide oral care supplies to patients on their first day of admission.

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**Note:** As nursing staff adopt a process for distributing oral care supplies to patients upon admission, ensure that this distribution process includes labeling patient supplies with identifying information including their full name and the date to prevent risk of wrong-patient errors and infection. All patients should have their oral care supplies properly labeled and located in a clean, dry, accessible location in their patient rooms.

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## Step 3: Adopt Templates, Tools, and Patient Education Materials

Core actions include:

- ▶ **Action 1:** Adopt an Oral Care Documentation Template
- ▶ **Action 2:** Tailor Documentation Audit Tool
- ▶ **Action 3:** Customize Patient Education Materials

### Action 1: Adopt an Oral Care Documentation Template

In the VHA, an Activities of Daily Living (ADL) Documentation Template which includes oral care documentation has been deployed in all medical-surgical and acute rehabilitation units across the VHA using the Computerized Patient Record System (CPRS) Electronic Health Record (EHR) system. A separate ADL template has been deployed in the long-term care setting. Non-VHA hospitals may find their existing nursing documentation templates do not address oral care. The **HAPPEN Oral/Mouth Care Documentation Content** tool may serve as a guide to improving oral care documentation.

### Action 2: Tailor Documentation Audit Tool

The percent of patients having oral care documented at least once a day and the percent of patients who have oral care documented two or more times a day will serve as process measures for an oral care implementation program. In the VHA, the midnight census is used to determine the denominator. The numerator(s) are the number of patients in the denominator who have oral care documented at least once a day and the number of patients in the denominator who have oral care documented two or more times a day. Patients discharged are excluded as they are not in the midnight census. Patients admitted late in the day may only be present in a time frame that allows for one oral care event on the day of admission. While the goal is for all patients to receive and

have oral care documented 2 or more times a day, depending on the movement in and out of your unit, you may set the target at a lower rate such as 90% instead of 100% for twice a day oral care. After getting the baseline rates for the two process measures, a target should be set and interval measurement performed to assess progress. For facilities that cannot use the EHR to provide oral care documentation rates, the **Oral Care Documentation Audit** tool can be used to gather data.

The **Patient Oral Care Survey** tool may be used to gather additional information to provide better quality care for patients.

## Action 3: Customize Patient Education Materials

The development of a standard approach to providing patient education should be in place. Patient education materials are critical for engaging patients in understanding the association between oral health and NV-HAP prevention. Consider developing your own materials based on the following VHA patient education tool:

**Brochure:** The attached **Oral Care Patient Brochure** tool serves as a bedside patient education tool for nursing staff to provide to patients upon admission. Nursing staff should review the information briefly with each admitted patient, describing the importance of good oral health in preventing pneumonia. If the patient is not able to review this information, share it with their family members or loved ones.

## Step 4: Customize and Conduct Nursing Staff Trainings

Core actions include:

- ▶ **Action 1:** Coordinate Scheduling of Nursing Staff Training
- ▶ **Action 2:** Customize Nursing Staff Training
- ▶ **Action 3:** Conduct Nursing Staff Training Sessions

### Action 1: Coordinate Scheduling of Nursing Staff Training

Training is a critical step in the process. When designing the training, the equipment that will be used by the nurses in direct care should be available. If performing a live or



simulation training, attempt to set the training area to mimic the unit specifics. Lastly, consider any population specific training that needs to be included such as oral care in a patient with a tracheostomy, patients with speech and swallowing deficits and patients with cognitive deficits. This allows staff to become familiar with both the equipment and the delivery of care to their patient population. Training should conclude with feedback to the learner and documentation of competency. Oral care training and competency will likely be a one time training done at the onset of the implementation and for new staff. Engaging the staff in the decisions the planning for training fosters “buy in” and is recommended.

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Staff may also complete on line training. **You can locate the *Healthy Smiles for Veterans* training videos on TRAIN.ORG**

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Specifically schedule nursing staff to attend training sessions. You may want to send an email reminder for the training. The training email provides messaging about the importance of high-quality oral care. There should be training for all shifts. Plan to provide coverage for staff taking the training. Consider including recognition for attending the training in employee performance evaluations.

## Action 2: Customize Nursing Staff Training

You may decide to use the TRAIN.ORG didactic training video followed by demonstrated clinical competency or conduct live training. Schedule staff at specific times for either video or live training.

Training should cover education of patients and the standard operating procedures for obtaining, storing and caring for equipment on the unit. Standards for documentation of oral care and oral care education should be reviewed and a printed copy provided. All staff should receive training that covers tooth brushing and denture care. RN staff training should include review of an oral cavity assessment. You may use the attached **Oral Care Training Slides** to guide the planning process.

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**Tip:** You can locate the *Healthy Smiles for Veterans* training on TRAIN.ORG

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## Action 3: Conduct Nursing Staff Training Sessions

Implement the training plan and elicit feedback from staff during and after the training. If there are changes to your standard operating procedures, be sure to update the training content. Nurse Managers should track employee attendance at training the completion of the competency assessment. Training performance evaluation and feedback maintains quality and supports the importance of the training.

# Step 5: Implement

Core actions include:

- ▶ **Action 1:** Ensure Readiness for Launching the Practice
- ▶ **Action 2:** Launch Practice and Mitigate Challenges

## Action 1: Ensure Readiness for Launching the Practice

Ensure your facility is prepared for launching the practice. You are ready to launch once you have:

- Selected equipment, secured par levels, and have a written procedure for distributing and maintaining the oral care supplies
- Deployed training to at least 80% of the staff
- Developed standards of practice for documenting care and providing patient education

Post information announcing the launch date in areas where staff are accustomed to reviewing notices. Consider sending a reminder email to nursing staff.

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**Tip:** In posted information or in emails, be sure to include a contact person for nursing staff to reach out to for further questions or concerns.

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## Action 2: Launch Practice and Mitigate Challenges

On the day of the launch, use shift change, unit based huddles, executive meetings and other practices that widely disseminate the important events of the day to mark the implementation. Leadership rounds that mark the launch will reenforce the importance of the initiative.

Like any change in practice, reminders or cues will help create strong practice habits. Consider untethering oral care from bathing and linking it with another activity such as after meals and at bedtime or with morning, afternoon and evening vital signs to solidify a regular practice of oral care. Adding oral care as an assignment in the EHR or setting a nurse phone system reminder are other ways of forming the habit of providing oral care several times a day.

Facility and unit based champions serve as the point person for mitigating and resolving challenges, and raising any issues to leadership if necessary. Be sure to communicate this role to other staff so no issues fall through the cracks.

## Step 6: Monitor and Iterate/Scale

Core actions include:

- ▶ **Action 1:** Conduct Audits
- ▶ **Action 2:** Administer Surveys
- ▶ **Action 3:** Analyze Data and Evaluate Impact
- ▶ **Action 4:** Scale and/or Sustain the Practice

### Action 1: Conduct Audits

It is important to collect process (documentation of oral care) and outcome (incidence of NV-HAP) measure data.

The process measure data can be collected by the nurse manager (or designated staff member) as part of random chart audits. When rounding, observe that oral care supplies are available, labeled and stored according to the established procedure. When talking with patients, ask about oral care education and oral care assistance they have received. Tracking followed by feedback to staff should occur frequently during the early phase of implementation. Once habits are in place, random audits can be performed on a monthly basis. You may use or adapt the **Oral Care Documentation Audit** tool for tracking the documentation of oral care by nursing staff.

Outcome measure data involves tracking coding for pneumonia not present on admission with or without a formal chart review as described in Step 1 Action 2: Determine Implementation Approach. The chart review process may be performed by quality improvement or infectious disease staff. It is recommended that in the event that any cases that do not cleanly follow the NHSN CDC, an infectious disease specialist is consulted. The **NV-HAP Incidence Calculator** can be used in non-VHA facilities. Share process and outcome data with direct care staff in meetings and posting in communication platforms.

**Tip:** One way to keep nursing staff engaged is to provide congratulations when targets are reached for process and outcome measures and to thank nurses for including oral care in their daily practice

## Action 2: Administer Surveys (optional)

Surveying patients about their oral care assistance experience can be very helpful in understanding the practices on your unit or in your facility. You use the customizable **Patient Oral Care Survey** to ask patients about their experience. Patient experience provides a valuable perspective on the care that nursing staff provide

## Action 3: Analyze Data and Evaluate Impact

Monitoring and collecting process measure data should be done frequently during implementation. Providing the documentation data will help staff as they form practice habits. Setting benchmarks that allow for improvement but are achievable each month is a good way to improve the rates of providing oral care. Outcome data on NV-HAP rates requires observing the reports for at least six months. Analyze the data to evaluate the impact of the practice. Evaluating the impact requires comparing post-intervention data to baseline data and referencing goals.

### When evaluating impact, consider the following questions:

- ▶ Did the incidence rate of NV-HAP decline? By how much?
- ▶ Are nurses more engaged in providing oral care? Has our facility addressed barriers that they previously faced?
- ▶ Which units were most successful and why?
- ▶ If there are no improvements, or unfavorable changes, why is this so?

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**Tip:** Engage quality improvement staff to help interpret the data. Review the data with the nursing staff. Mark progress on the unit white board.

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Discuss the process and outcome measures in unit-based huddles and team meetings. Consider doing a case review when an NV-HAP event occurs. Share unit-based data and benchmarking data from other units and from any public reported data sources. Reach out to high performing units or facilities for information about best practices and stay engaged with facility champions from other units or facilities.

## Action 4: Scale and/or Sustain the Practice

### Considerations for Scaling:

- ▶ Are nursing staff in the pilot unit(s) providing consistent oral care? Are they documenting the oral care provided?
- ▶ Do the templates meet unit needs for oral care documentation?
- ▶ Can the facility streamline a process for procuring, storing, and distributing oral care supplies to all hospitalized patients?

If implementing the practice via a phased implementation approach, you and the local leaders should assess whether your facility is ready to scale the practice hospital-wide.

If you determine your facility is ready, repeat Steps 2-5 to scale the practice to all acute and long-term care units by following the facility wide implementation approach as you carry out each action.

Once all units are successfully practicing oral care, you should take steps to ensure your facility sustains the practice by:

- Continuing to monitor and evaluate the practice
- Making adjustments as necessary
- Sharing best practices across acute and long-term care
- Following internal policy development procedures to develop and maintain a Standardized Operating Procedure (SOP) or Medical Center Memorandum.
- You can also designate certain stakeholders to serve as practice experts and champions. All nursing staff and leadership should play a role in sustaining the practice to ensure it becomes the standard of care at your facility.

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