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Michelle Batz
batzmama@gmail.com

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CNL as Educator in the Emergency Department:

Improving Hand Hygiene Outcomes

Michelle Batz, RN

University of San Francisco

School of Nursing and Health Professionals

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Abstract

Prevention of hospital acquired infections (HAI) is a National Patient Safety Goal. Proper and frequent hand hygiene (HH) prevents HAI and various cross-infections in any setting. Audits of visual adherence for HH generates low compliance scores. During a yearlong improvement project, low monthly compliance scores of 52% in the Emergency Department (ED) of a community hospital, were reported by hospital auditors and found to be inaccurate by ED staff due to lack of visibility of HH actions because they occurred behind curtains or closed doors. Low scores and challenges were associated with behavioral change among ED team members, requiring multiple steps to achieve effective HH and enhancing visibility. Several evidenced-based interventions were implemented increasing HH rates. Increased compliance and visibility necessitated formal and informal education, environmental, and communication changes among team members. One major environmental intervention involved creating more HH/hand washing stations (HWS) in high traffic areas. Educational interventions included reinforcement of correctly utilizing alcohol-based hand-rub (ABHR), can be less irritating than handwashing. During implementation, mini dispensers of ABHR placed on badges or belts led to significant improvement and sustainable rates of HH compliance. Placement of ABHR and HWS were vital to optimize the HH protocol adherence and visibility. Current rates of HH behaviors have been sustained at 93% for 4 months. A CNL led improvement project in the ED resulted in sustainable outcomes by addressing educational and behavioral barriers for seasoned staff who were more resistant to change.

Keywords: hand hygiene, audits, best practices, hospital-acquired infections, Emergency Department, Clinical Nurse Leader

Improving Hand Hygiene Outcomes

Clinical Leadership Theme

As outlined in the Clinical Nurse Leader (CNL) curriculum element, Clinical Outcome is the focus of this project. The role of an Educator for this project and the primary leader of the sustainability of the acquired goals fulfills the CNL role function for this project. As a CNL, taking lead in the Infection Prevention committee for this project I could organize the updates and strategically schedule training for staff. The Hand Hygiene Compliance project was implemented utilizing available resources, pertinent and auxiliary staff.

Statement of the Problem

Handwashing and hand hygiene protocols are neglected in the healthcare industry, causing an increase in healthcare-associated infections (Cure, Enk, & Tiang, 2013). Experienced staff members have habits in which they choose not to wear gloves or perform hand hygiene before dealing with a patient. Cure et al., found that nurses feel they have little or no time to stop and perform hand hygiene at every recommended hand washing moment. Nurses have verbalized that they are too busy to sanitize. When a patient needs to be attended to in an emergency, there is no time to wash hands or gel in.

Healthcare associated infections are most commonly transmitted to and from patients by healthcare staff and the improper utilization of hand hygiene (White et al., 2015). The authors argue that there are hand hygiene protocols in place in healthcare facilities to support the necessity of hand hygiene. The hand hygiene protocol is

standardized at each facility with the goal of stopping the transmission of healthcare-associated infections.

Hospital auditors are in the ED to observe healthcare workers, and their adherence to hand hygiene protocols. Audits of visual adherence for HH generates low compliance scores. During a yearlong improvement project, low monthly compliance scores of 52% in the Emergency Department (ED) of a community hospital, were reported by hospital auditors and found to be inaccurate by ED staff due to lack of visibility of HH actions because they occurred behind curtains or closed doors. Authors agree that following standard protocols can be beneficial to increase accurate compliance reporting's. The hospital infection prevention auditors must see the hand hygiene protocol adherence in the ED, which creates a major barrier when implementing a process that will enhance visibility for hospital auditors. Being appropriately audited by hospital auditors increasing compliance numbers is a major issue that needs to be addressed. According to the Centers for Disease Control and Prevention, clinical care staff and other health-care workers are the frontline defense for applying daily infection-control practices to prevent infections and transmission of organisms to other patients (Collins, 2008).

Project Overview

We aim to improve hand hygiene compliance when audited by the hospital Quality Department, in the Emergency Department (ED).

- The process begins with making hand hygiene more visual to auditors from the Quality department.

- The process ends with achieving a goal of over 90% compliance according to Quality auditing of the ED hand hygiene compliance, then maintaining the compliance by reminding staff of the importance of making hand hygiene visual at shift huddles and with mandatory online education.
- By working on the process, we expect to maintain our over 90% reported compliance from the Regional Hospital Quality Department.
- It is important to work on this now because maintaining this process and the high percentage of compliance provides comfort to staff and visitors that we are taking all necessary steps to eliminate Hospital Acquired Infections.

The Action plan will help identify and specify how the sequence of the location of hand sanitizers and compliance of proper hand hygiene with staff, can improve hand hygiene in the healthcare setting. Assisting with the decrease in transmission of healthcare associated infections and decreasing the cost of healthcare for patients and their families.

After evaluating the most common areas that healthcare providers pass by during their shifts, locations for placement of either a hand wash station or a hand hygiene dispenser are identified. There would be a mandatory hand hygiene tour identifying to the staff the newly placed hand wash stations and dispensers. Teaching staff the importance of utilizing these stations and informing them that the strategic placement has been identified as highly visible areas for auditors. The location of the newly placed stations and dispensers make it considerably easy for auditors to view the compliance taking place. Furthermore, educating and requesting that the staff over simulate hand hygiene by

rubbing hand sanitizers vigorously until completely absorbed, in public view.

Demonstrating that hand washing in the patients' room is acceptable if staff come out of the room drying their hands with paper towels and disposing wet/used paper towels in the hallway recycle bin. Again, this is an example of implementing the hand hygiene process visually for the auditors. Additionally, asking staff to verbalize their understanding will enforce learning and comprehension of this process for a better patient outcome.

Rationale

Patients seen in the ED have the expectation that they will receive timely and effective care in the ED which is essential for good patient outcomes. Delays before getting care in the ED can reduce the quality of care and increase risks and discomfort for patients with serious illnesses or injuries. Waiting times at different hospitals can vary widely, depending on the number of patients seen, staffing levels, efficiency, admitting procedures, or the availability of inpatient beds (Medicare, 2017). The ED of a community hospital is a 56- bed unit that treats acute medical conditions at various levels of acuity. The ED is on the first floor of the hospital on the East side of the building. Staffing the unit consists of an Assistant Manager, 1 Charge Nurse, 18 Registered Nurses, 1 Unit Assistant, 5 ED Technicians, and 1 Orthopedic Technician. The staff work 8 hour shifts at varied scheduled times, main shifts 8am to 4:30 pm, 4pm to 12:30am, and 12am to 8:30am. Days scheduled are 3 days to 4 days a week.

The community hospital believes that delivering top-quality, patient-centered care requires a workforce that is well-trained and highly engaged. More than 186,000

employees and 18,600 physicians bring our mission to life every day, working together toward a single purpose the total health and well-being of our members, patients and the community (Kaiser Permanente [KP], 2017). According to the community hospitals 2015 Annual Report the 2015 Financials for Operating Revenue is \$60.7B, for Operating Income is \$1.8B, and Net Income is \$1.9B (KP, 2017).

Originally the compliance with hand hygiene practices among healthcare workers in my unit has been very low in the past, averaging 49 to 53 percent. The need was to review our units' hand hygiene compliance and create interventions aimed at improving compliance. Staff often underestimate the importance of compliance and overestimate their compliance with hand hygiene procedures. After interviewing the auditing team in the Quality Assurance Department, one key need that was identified was that staff needed to be visualized performing hand hygiene.

After several staff meetings and department presentations, the hand hygiene auditing numbers have risen to the mid 90 percentiles. Achieving a successful hand hygiene compliance program has several key features that need to continue to be implemented. Including strategic placement of hand hygiene reminders; continuous visualization of hand hygiene process for auditing purposes and reinforcement of hand hygiene and its role in the prevention of HAI.

Goals to accomplish this project include achieving and sustaining hand hygiene compliance, through education, continuous feedback, strategic placement of alcohol-based solution stations, and gradual staff habit changes. Direct observation through the

departments' Infection Prevention team will assist in maintaining hand hygiene compliance. Interventions will include increasing alcohol-based solution availability, mandatory quarterly computer education, and thorough feedback.

Hand hygiene refers to killing or removal of microorganisms on the hands that have been picked up by contact with patients, staff, contaminated equipment or the environment (Centers for Disease Control and Prevention, 2017).

- 1 hour Unit Based Awareness training program:
 - 4 hours (2 hours day shift/2 hours PM shift) per day at \$70/hour = \$280
 - Training \$280 x's 4 days (Tues, Wed, Thurs, Sat - 16 hours) per week = \$1120
 - 6 weeks training (96 hours) to rotate through all staff = \$6720
- Slide show 5 moments for hand hygiene
 - Slide show post test
 - Return demonstration on steps for hand rub process
 - 5 participants per hour @ average \$70/hour = \$350
(\$350 x 96 hours= \$33,600)
 - Distribution of handouts/badge holders (See Appendix F for staff and patient handouts)

The project mission is to maintain hand hygiene compliance at the current average of >90%, involving the interdisciplinary team of Team leaders (Infection control team), Facilitators (Directors and unit managers) and team members (staff).

Easy access to hand hygiene in a timely fashion and the availability of skin-care lotion both appear to be necessary prerequisites for appropriate hand-hygiene behavior. In high-demand situations, hand rub with an alcohol-based solution appears to be the only alternative that allows a decent compliance (Pittet, 2000).

Methodology

A SWOT analysis is an examination of an organization's internal strengths and weaknesses, its opportunities for growth and improvement, and the threats the external environment presents to its survival. Originally designed for use in other industries, it is gaining increased use in healthcare (American College of Healthcare Executives [ACHE], 2017). (Refer to Appendix B for SWOT analysis diagram). **STRENGTHS** - Traditional SWOT analysis views strengths as current factors that have prompted outstanding organizational performance (ACHE, 2017). **WEAKNESS** - Weaknesses are organizational factors that will increase healthcare costs or reduce healthcare quality (ACHE, 2017). **OPPORTUNITIES** - Traditional SWOT analysis views opportunities as significant new business initiatives available to a healthcare organization (ACHE, 2017). **THREATS** - Threats are factors that could negatively affect organizational performance. Examples include political or economic instability; increasing demand by patients and physicians for expensive medical technology that is not cost-effective; increasing state and federal budget deficits; a growing uninsured population; and increasing pressure to reduce healthcare costs. (ACHE, 2017).

The PDSA cycle is shorthand for testing a change by developing a plan to test the change (Plan), carrying out the test (Do), observing and learning from the consequences

(Study), and determining what modifications should be made to the test (Act) (Institute for Healthcare Improvement). (See Appendix B for PDSA cycle diagram).

After reviewing various learning theories and teaching principles. Described below is the specific theory and the principles which apply to the CNL project. The McClusky's theory of margins learning theory fits with the adult learners in the ED. The teaching principles involved in this project are also outlined and described below.

McClusky's theory of margins states that adulthood is a time of growth, change, and integration, seeking the balance between load and power. Nurses and physicians deal with the external load such as family, work, and commitment to the community. They also deal with internal loads such as aspirations, desires and future expectations. Power is something nurses and physicians must balance, external examples of power are family support, social abilities, and economic abilities. The internal issues of power consist of acquired or accumulated skills and experiences creating a person's resilience, coping skills and personality. In the opinion of a CNL, most emergency department nurses and physicians control the balance of their Load and their Power, being better equipped to meet unforeseen emergencies and are better positioned to take risks (Chao, 2009).

The teaching principles involved for this type of theory is learning and investigating information about the adult learner. So that we can apply the theory appropriately to the individual learner. When these learners are balanced according to the chosen theory we can request the learner either demonstrate what has been taught to them or request that they verbalize the understanding of the teaching.

Education sessions with staff entailed the following: After a 30-minute UV “germ” lotion teaching session, ED staff will demonstrate a proper hand hygiene procedure, ED staff will then verbalize importance of proper hand hygiene procedures. After watching a presentation on department compliance rates, the staff will verbalize the current compliance rate is 52%. In addition, ED staff will verbalize department goals of achieving 85% in 90 days.

Different styles of teaching would have to be applied to the audience since there are different age groups and people are in different stages of life. I believe there would also be different theories to be applied. Not everyone would fit into the one theory I agree with, they would have individualized cases to make sure the learning process is achieved.

A description of interventions for the Improving Hand Hygiene Compliance Project is described below. The process begins with making hand hygiene more visual to auditors from the Quality Department. The process ends with achieving a goal of over 90% compliance according to Quality auditing of the Emergency Department hand hygiene compliance, then maintaining the compliance by reminding staff of the importance of making hand hygiene visual at shift huddles and with mandatory online education.

Placement of hand sanitizers and hand washing stations is vital to the compliance with the hand hygiene protocol and compliance improvement plan. According to the article, “A systematic approach to the location of hand sanitizer dispensers in hospitals” in the Health Care Management Science Journal, studies recognized that multiple factors

are important to boost compliance. Most interventions were “multi-modal” or "multi-faceted," i.e., a combination of strategies to address several factors, such as the use of a new cleaning agent, staff education, organizational culture improvement and patient involvement, concurrently (Cure, Enk, & Tiang, 2014, p. 246).

Defining Objectives –Everyone wants to know how to measure outcomes of a program. But, before we can look at the outcomes we must first analyze our goals and objectives. This helps ensure that when setting up our reporting, the committee will really be asking the right questions. As a CNL, clearly define to the audience that the mission to achieve better hand hygiene compliance was the main goal and that for the hand hygiene improvement rollout, the Infection Prevention team will be measuring its success Center for Nonprofit Management [CNM], 2016).

Data Collection – Once you know what questions you are trying to answer, then you can focus on what data you will need to answer them. Making sure you have the right system set up for collecting this data and making sure that any case workers or other staff members who will be inputting data understand the larger picture is also an important step in this process (CNM, 2016).

Data Analysis – After you know what data you need; you must figure out what to do with it. This is where you attempt to take the information you collect in step two and apply it to the objectives you set in step one (CNM, 2016).

Data Evaluation –Focused outcomes need to be evaluated regularly, generally on a quarterly or monthly basis to make sure they are still serving the needs of both the organization and any funders on the program or project (CNM, 2016).

As a CNL the information was presented enthusiastically and dramatically, by having some of the committee member show off the “germs” left on their hands after washing and showing the items after they had touched them with the “germs” on their hands.

Problem solving activities, assessment questionnaire and return demonstration methods were utilized for evaluation of the presented material. By having the committee members get up in front of the team and teach us what they considered, to be their good hand washing technique. Once we shined the UV light on their hands and seen left over “germs”, we then asked the audience to problem solve by throwing out ideas on how the demonstrated technique could have been improved or changed for effectiveness.

To the audience, an explanation was offered describing the difference between evaluating the teaching and evaluating the outcome for this project.

A teaching evaluation looks at the actual development and implementation of a program. It establishes whether you have hit quantifiable targets and implemented strategies as planned. It’s typically done at the end of the project and it looks at the program from start to finish, assessing cause-and-effect relationships between the program components and outcomes. This type of evaluation can be very useful in

determining whether a program should be continued, expanded upon, refined or eliminated.

Outcome evaluation measures the change that has occurred because of a program. For example, your process evaluation might confirm that 200 people have completed your skills-training program. An outcome evaluation would tell you how many of those demonstrated increased confidence, changed behaviors, found jobs because of the new skills, etc. (Social Solutions, 2016).

When evaluating the outcome, we had a recent report submitted to our committee from the Quality Department. We had achieved 68% from our recent 55% quality audit. Prior to a 30-day audit, our department was the lowest, 12th in the hospital and it was reported that the ED had risen to 6th out of the 12. Great improvement in such a short time frame.

Monitoring is a major tool for hand hygiene compliance, it is of crucial importance to: assess baseline compliance by health-care workers (HCWs), provide feedback to health-care workers about defective practices as well as improvement, evaluate the impact of promotion interventions, and a team investigation of outbreaks (see Appendix C and D for audit tools utilized).

Data Source/Literature Review

This project PICO question is: *Does hand washing among health care workers reduce hospital acquired infection?*

Patient/Problem - Hospital acquired infection, Intervention – Handwashing,
Comparison – No handwashing, Outcome – Reduced infection.

Main topics and alternate terms from the PICO question that were used for my search:
Hand Hygiene, Spread of infection, Better patient outcomes, Shorter length of stay.

List of my inclusion criteria –gender, age, year of publication, language: From 2010,
English, Peer reviewed. Irrelevant terms that I want to make sure to exclude in my
search: How to hand wash, what is handwashing. Resources and search engines used:
EBM Reviews, Medline, AIDSLINE, CINAHL, PubMed, Cochrane, EBSCO, FUSION.

The ED has become overcrowded with increased waiting times. Strategies to decrease waiting times include time-based key performance indicators and introduction of a waiting room nurse role. The aim of the triage nurses' role is to expedite care by assessing and managing patients in the waiting room. There is limited literature examining this role (Innes, Jackson, Plummer, & Elliott, 2017). Thus, communication for the ED is a challenge when incorporating new protocols or systems that are being rolled out for implementation.

As a CNL, systems analysis and risk anticipation are utilized to achieve health promotion through education. Barriers to effective patient communication in the ED are well recognized; time, resources and staff and consumer expectations. This project aimed to improve the quality of health education provided in the ED by increasing nurses' confidence as educators. If emergency nurses feel more confident with their educating practices and structured formats, patients will benefit from better quality patient education provided in the ED (Coombs, Porter & Beauchamp, 2016).

ED work includes dealing with situations of conflict and aggression. The diversity and unpredictability of these situations and the lack of pre-established procedures to guide workers in dealing with these phenomena, affect and weaken their physical and mental health. The work process is marked by overload, individualization of responsibilities, time pressures and deadlines for making decision, little space for exchange and sharing, lack of support or guidance. The strong pressure to provide care quickly causes conflict and aggression among users and the different professional teams. These situations arise from problems in work organization and users more than the ED service capacity (Lancman, Mângia, & Muramoto, 2013). Based on this observation, it may be perceived by staff that less life-threatening procedures like handwashing and hygiene are less important, which is not the case.

Timeline

The Hand hygiene compliance project began August 2016 and concluded July 2017 (See Appendix A for Gantt Chart). The barriers I seen in my practice area were seasoned healthcare workers with developed habits. Breaking or adjusting an old habit can be a difficult task. When an individual has been completing a job function a certain way repetitiously for years, instructing them to change is not a simple step. It would have to be a work in progress and small achievements would need to be acknowledged and rewarded to encourage the individual to have the motivation to continue in the direction for positive change. The learners I would be working with in my practice area are physicians, technicians and the nurses, whom have multiple long learned habits.

The attempted techniques to overcome those barriers are mostly revolved around researching the adult learners and planning how to approach their current life stages. I would take into consideration what stage in life most of the group was in. Encouraging participation on ideas from the adult learners on what they feel the best way for them to learn is. Seek motivational factors to incorporate into the teachings. For example, if most of the adult learners were concerned with self-improvement, mention how this would benefit or improve their lives and how that improvement can affect the safety of their loved ones. Something that would catch their attention and draw them in to want to learn more about the teachings. These barriers delayed certain components in the timeline to a certain extent (See Appendix E for HH Questionnaire and Answer sheet utilized).

Expected Results

Proposed Solutions and Interventions for this project will help identify and specify how a combination of both the placement of hand sanitizers and the compliance of hand hygiene with the staff nurses in the microsystem, can improve hand hygiene in the healthcare setting. Improving the transmission of healthcare associated infections (HAI) also decreases the cost of healthcare. Targeted interventions are planned over a 12-week period to increase strategic placement of hand sanitizers and hand washing stations which are vital to the compliance with the hand hygiene protocol and compliance improvement plan. A combination of strategies to address several factors, such as the use of a new cleaning agent, staff education, organizational culture improvement and patient involvement, concurrently (Cure, Enk, & Tiang, 2014, p. 246). This practice

improvement team project will build on prior successes to exceed recent increases of 93% compliance compared to baseline observed of 52% compliance.

Solving the hand hygiene problem increases the quality of care for patient's due to hospital-acquired infections which contribute to patient and population outcomes. The constant contact between healthcare providers and patients increase risk for possible pathogen transmission from a nurse to a patient or a patient to a patient. It is a health-care workers' responsibility and duty to anticipate risks and keep patient's safe by demonstrating efficient and frequent hand washing compliance. Nurses can take ownership of this lifesaving measure in the healthcare environment. This project will set a positive example regarding proper hand hygiene and how practicing continuous quality improvement can create a safe culture and sustain outcomes. In summary, the CNL works to promote and enforce a strong commitment to patient safety and health promotion through education, systems analysis, data collection and risk anticipation.

Nursing Relevance

The Clinical Nurse Leader (CNL) works to promote and sustain a strong commitment to building a culture of patient safety and health promotion through education, systems analysis and risk anticipation. A culture of safety includes the attitudes and behaviors that are related to patient safety and that are expected and appropriate to promote patient safety (Agency for Healthcare Research and Quality, 2017). It is important that nursing leaders adequately assess the safety culture in their

workplace and clearly articulate a framework to guide personnel as they work to increase safety within their work settings.

The CNL is a relatively new nursing role, developed to enhance the efficiency with which care is delivered and to coordinate and laterally integrate care through collaboration at the microsystem with the entire health care team (American Association of Colleges of Nursing [AACN], 2007). Since its introduction in 2003, more than 200 reports have been published describing CNL theory, conceptual framework, education, and implementation. The role has been implemented in many health care organizations, with numerous reports of enhanced collaborative practice and improved patient outcomes (Bender, 2014).

Transformational leadership is a leadership model is one many CNLs aspire to achieve. Many CNL goals are to recognize a followers' potential and assist them in going beyond their everyday duties and to strive to achieve their fullest potential. Assisting followers along the way, improving their self-esteem and directing their goals in the same positive path as the rest of the leadership team. Transformational leaders display the skills required to develop successful relationships with followers, in an environment where both leaders and followers aim to meet the organizational goals necessary to fulfil the team's vision (Giltinane, 2013).

As a Clinician, a CNL can be full partners with physicians and other health care professionals, in redesigning health care within my microsystem. CNLs continue to practice to their full extent of their education and training and achieve higher levels of education and training through University education systems that promotes seamless academic progression (National Academy of Sciences, 2010).

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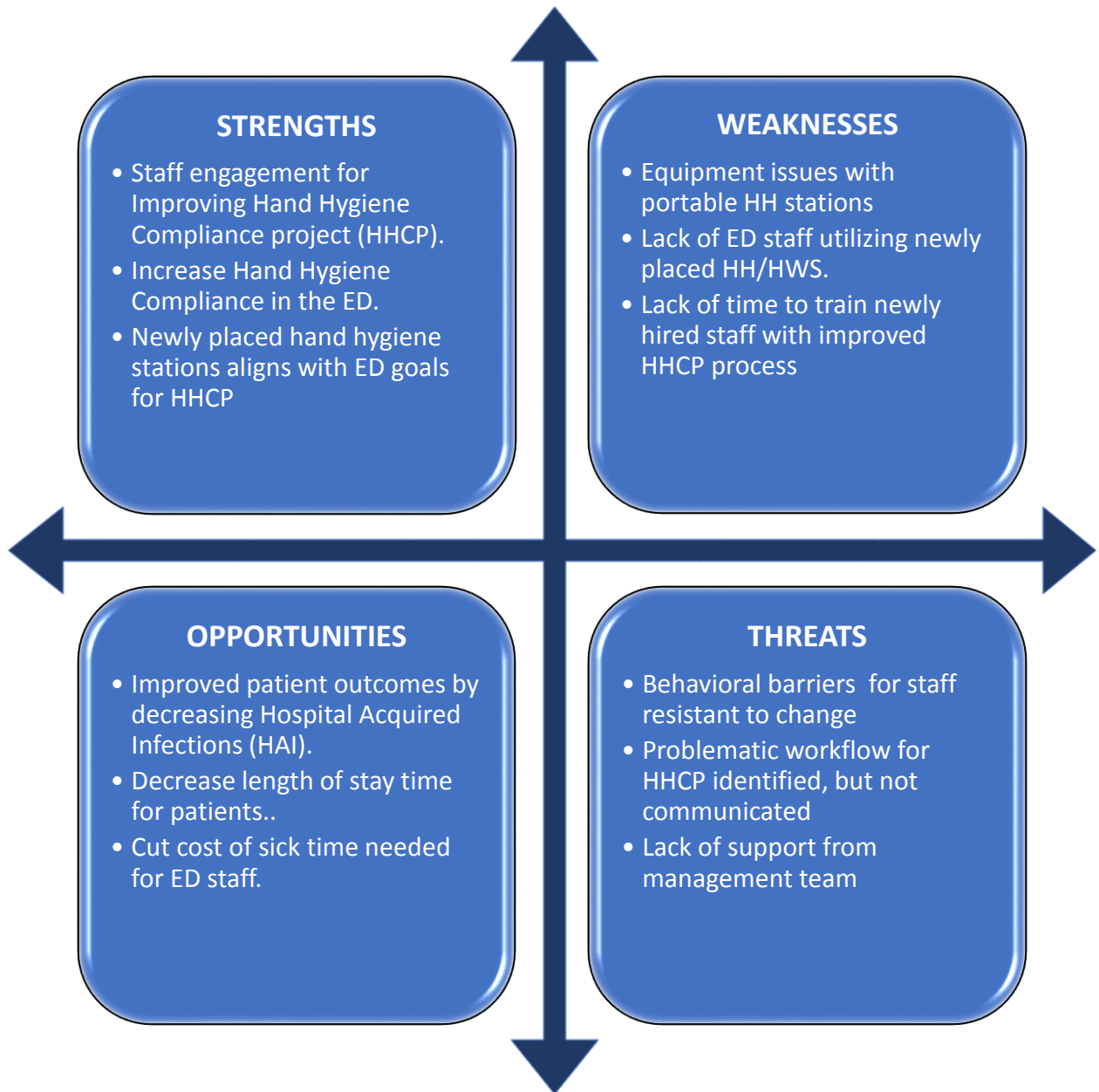
Appendix A

GANTT CHART

<i>Timeline</i>	Aug 2016	Sept 2016	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	July 2017
STAFFING:												
Organization and assignment of Hand hygiene compliance process training (scheduling 3 shifts x 4 separate days)	xxx											
Training of current Emergency Department staff to understand the protocol and new flow for Hand Hygiene compliance process.		xxx										
Training for new nurses, Physicians and auxiliary staff for the Hand hygiene compliance process.		xxx										
PROGRAM DEVELOPMENT:												
Preparation of the newly implemented hand wash station process and hand hygiene training for staff.			xxx	xxx								
Preparation of new hand wash stations and newly designed auditing sheets.				xxx								
Incorporate Hand hygiene compliance auditing process per criteria established					xxx	xxx						
EVALUATION:												
❖ Collection of data					xxx	xxx	xxx	xxx	xxx			
❖ Analysis and assessment of data										xxx	xxx	
❖ Reports and Updates for Hand hygiene compliance.												xxx

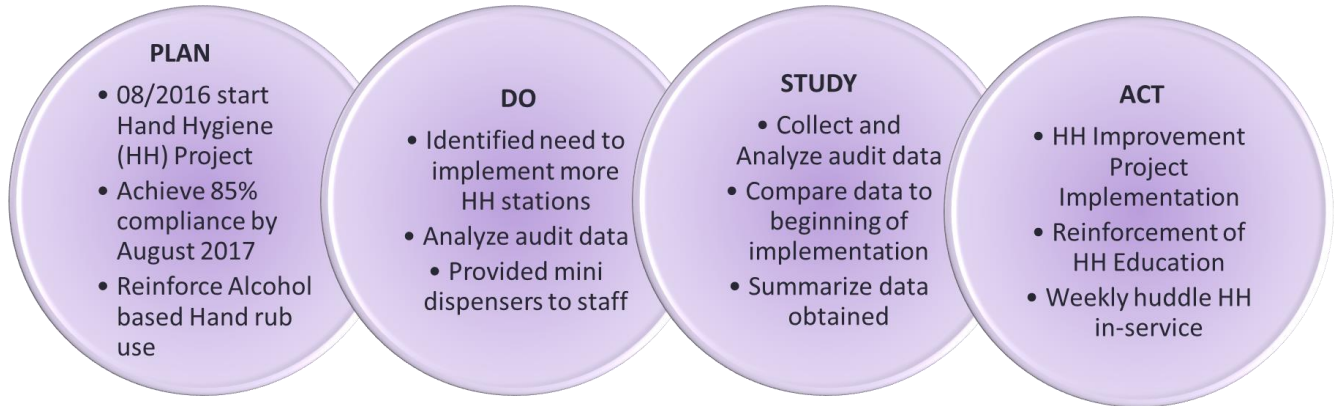
Appendix B

SWOT ANALYSIS



Appendix B

PDSA CYCLE



Appendix C

Hand Hygiene Moments & Vital Behaviors Quality Department Audit Form

ED HandHygiene Moments & Vital Behaviors Audit Form

Auditor Name:
 Fremont San Leandro

- Conduct 10 HH observations per week.
- Must observe 2 ED MD's, 4 RN's and 4 support staff every week.
- Write the date, circle the shift and write the name and title of the person you're observing.
- Complete at least one observation for each "Moment" & Vital Behavior on the audit form.

DATE	SHIFT D=day E=evening N=night			Staff Observed: (Name & Title) 1. RN 2. LVN 3. MD 4. UA 5. Reception 6. EDT 7. Ortho Tech 8. Lab, RT, Rad 9. Other	Moment #1		Moment #2		Moment #3		Moment #4		Moment #5		Vital Behavior #1		Vital Behavior #2			
					Staff foamed or washed (15 sec) w/soap BEFORE ENTERING pt's room or approaching hall gurney.		Staff foamed or washed (15 sec) w/soap when EXITING pt's room or leaving hall gurney.		Staff foamed or washed (15 sec) w/soap after touching pt's immediate surroundings or equipment.		Staff foamed or washed (15 sec) w/soap after body fluid exposure.		Staff foamed or washed (15 sec) w/soap before aseptic task or after glove removal.		Staff called out a missed HH opportunity.		Staff member called out said "Thank You" and foamed or washed w/ soap for 15 sec afterwards.			
	D	E	N	MD	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N		
	D	E	N	MD	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N		
	D	E	N	RN	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N		
	D	E	N	RN	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N		
	D	E	N	RN	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N		
	D	E	N	RN	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N		
	D	E	N		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N		
	D	E	N		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N		
	D	E	N		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N		
	D	E	N		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N		
TOTALS																				

Completed HH Audit forms are due every Friday by 4:00 p.m. Thanks! 1/30/2016



Appendix D

Dept. Audit tool -Adapted from The Hand Hygiene Moments & Vital Behaviors Audit Form

REGIONAL STANDARDIZED HAND HYGIENE OBSERVATION TOOL

Date & Time of Observation: _____

Unit: _____

Observed by: _____

Shift: _____

Instruction: Perform 5 observations of 5 different individuals per month per shift (days, evenings, nights).

	Who did you observe: RN, MD, PCT, EVS, Lab, Radiology, other										
		YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
HAND HYGIENE MOMENTS	Compliant?										
	Before touching patient (including room ENTRY)										
	Before performing a clean/aseptic procedure										
	After body fluid exposure risk										
	After touching patient (including room EXIT)										
	After touching patient's surroundings (equipment, WoWs etc)										
	GLOVES: Clean hands BEFORE donning gloves										
GLOVES: Clean hands AFTER doffing gloves											
ADEQUATE & APPROPRIATE	Soap & Water Indicated C Diff. visibly soiled or body fluids										
	Thorough (entire hand) front, back, between fingers, finger tips, thumbs										
	Duration: Gel Rub Hands until gel dry										
	Duration: Soap & Water 15 Seconds										

Comment:	

Appendix E
HH Questionnaire

Hand Hygiene Knowledge Assessment Questionnaire

1. In which of the following situations should hand hygiene be performed?

- A. Before having direct contact with a patient
- B. Before inserting an invasive device (e.g., intravascular catheter, foley catheter)
- C. When moving from a contaminated body site to a clean body site during an episode of patient care
- D. After having direct contact with a patient or with items in the immediate vicinity of the patient
- E. After removing gloves

** Circle the number for the best answer:*

- | | |
|---------------|---------------------|
| 1. B and E | 3. B, D and E |
| 2. A, B and D | 4. All of the above |

2. If hands are not visibly soiled or visibly contaminated with blood or other proteinaceous material, which of the following regimens is the most effective for reducing the number of pathogenic bacteria on the hands of personnel?

** Circle the letter corresponding to the single best answer:*

- A. Washing hands with plain soap and water
- B. Washing hands with an antimicrobial soap and water
- C. Applying 1.5 ml to 3 ml of alcohol-based hand rub to the hands and rubbing hands together until they feel dry

3. How are antibiotic-resistant pathogens most frequently spread from one patient to another in health care settings?

** Circle the letter corresponding to the single best answer:*

- A. Airborne spread resulting from patients coughing or sneezing
- B. Patients coming in contact with contaminated equipment
- C. From one patient to another via the contaminated hands of clinical staff
- D. Poor environmental maintenance

Appendix E

HH Questionnaire

4. Which of the following infections can be potentially transmitted from patients to clinical staff if appropriate glove use and hand hygiene are not performed?

**Circle the letter corresponding to the single best answer:*

- A. Herpes simplex virus infection
- B. Colonization or infection with methicillin-resistant *Staphylococcus aureus*
- C. Respiratory syncytial virus infection
- D. Hepatitis B virus infection
- E. All of the above

5. *Clostridium difficile* (the cause of antibiotic-associated diarrhea) is readily killed by alcohol-based hand hygiene products

True

False

6. Which of the following pathogens readily survive in the environment of the patient for days to weeks?

- A. *E. coli*
- B. *Klebsiella spp.*
- C. *****Clostridium difficile*** (the cause of antibiotic-associated diarrhea)
- D. ****Methicillin-resistant *Staphylococcus aureus*** (MRSA)
- E. ****Vancomycin-resistant enterococcus (VRE)**

**Circle the number for the best answer:*

- 1. A and D
- 2. A and B
- 3. C, D, E
- 4. All of the above

7. Which of the following statements about alcohol-based hand hygiene products is accurate?

**Circle the letter corresponding to the single best answer:*

- A. They dry the skin more than repeated handwashing with soap and water
- B. They cause more allergy and skin intolerance than chlorhexidine gluconate products
- C. They cause stinging of the hands in some providers due to pre-existing skin irritation
- D. They are effective even when the hands are visibly soiled
- E. They kill bacteria less rapidly than chlorhexidine gluconate and other antiseptic containing soaps

Appendix E

HH Questionnaire Answer Key

HH Questionnaire Answer Key

- 1) 4. All of the above

- 2) C. Applying 1.5 ml to 3 ml of alcohol-based hand rub to the hands and rubbing hands together until they are dry

- 3) C. From one patient to another via the contaminated hands of CLINICAL STAFF

- 4) E. All of the above

- 5) False – Only vigorously washing hands kills C-diff

- 6) 4. All of the above

- 7) C. They cause stinging of the hands in some providers due to pre-existing skin irritation

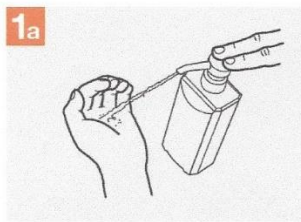
Appendix F

How to Handrub/Staff Information

How to Handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

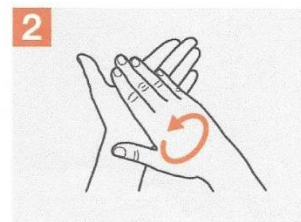
🕒 Duration of the entire procedure: 20-30 seconds



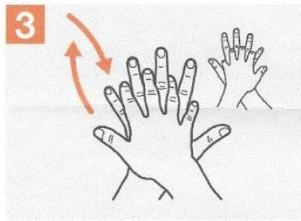
1a Apply a palmful of the product in a cupped hand, covering all surfaces;



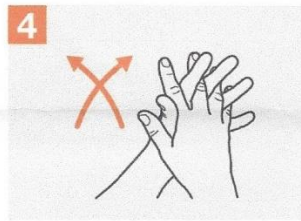
1b Apply a palmful of the product in a cupped hand, covering all surfaces;



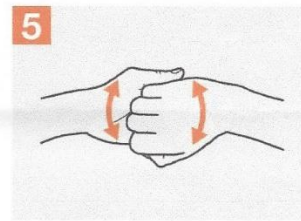
2 Rub hands palm to palm;



3 Right palm over left dorsum with interlaced fingers and vice versa;



4 Palm to palm with fingers interlaced;



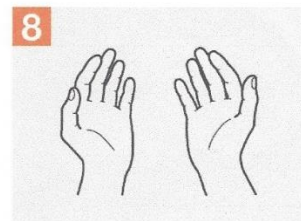
5 Backs of fingers to opposing palms with fingers interlocked;



6 Rotational rubbing of left thumb clasped in right palm and vice versa;



7 Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



8 Once dry, your hands are safe.



World Health Organization

Patient Safety

A World Alliance for Safer Health Care

SAVE LIVES

Clean Your Hands

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this document. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use. WHO acknowledges the Hôpital Universitaire de Genève (HUG), in particular the members of the Infection Control Programme, for their active participation in developing this material.

May 2009

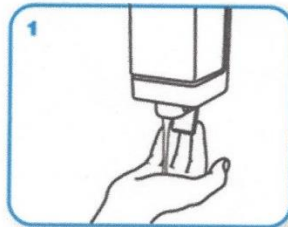
Appendix F

How to Hand Wash Properly/Staff Information

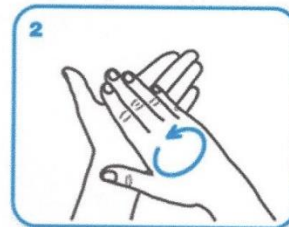
HOW TO HAND WASH PROPERLY



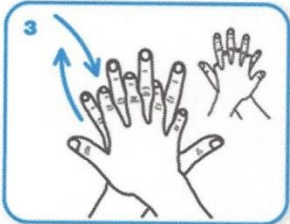
Wet hands with water



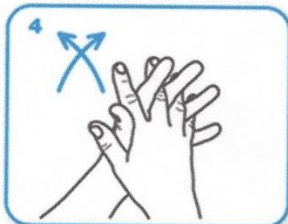
apply enough soap to cover all hand surfaces.



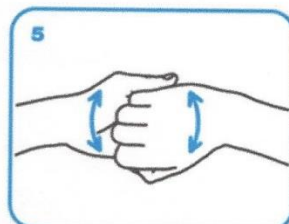
Rub hands palm to palm



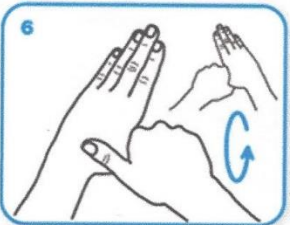
right palm over left dorsum with interlaced fingers and vice versa



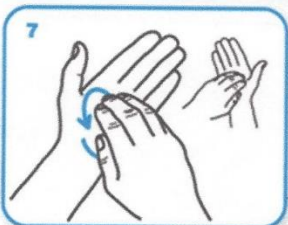
palm to palm with fingers interlaced



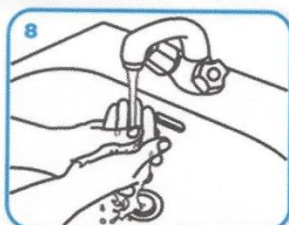
backs of fingers to opposing palms with fingers interlocked



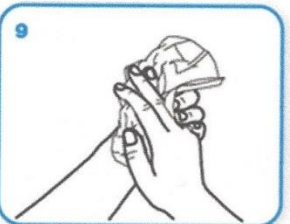
rotational rubbing of left thumb clasped in right palm and vice versa



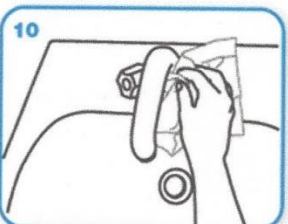
rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa.



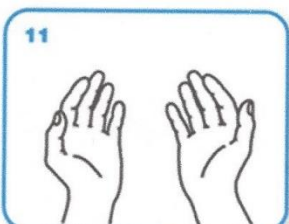
Rinse hands with water



dry thoroughly with a single use towel



use towel to turn off faucet



...and your hands are safe.

Appendix F

Patient's Handout/Staff Information

Hand Hygiene is the #1 way to prevent the spread of infections

Why? You can take action by practicing hand hygiene regularly and by asking those around you to practice it as well.

When? You and your loved ones should clean your hands very often, especially after touching objects or surfaces in the hospital room, before eating, and after using the restroom. Your healthcare provider should practice hand hygiene every time they enter your room.

How? It only takes 15 seconds of using either soap and water or an alcohol-based hand rub to kill the germs that cause infections.

Which? Use soap and water when your hands look dirty; otherwise, you can use an alcohol-based hand rub.

Who? You, your loved ones, and your healthcare providers should practice hand hygiene.

For more information, please visit www.cdc.gov/handhygiene or call 1-800-CDC-INFO


CDC acknowledges the following partners in the development of the Hand Hygiene Saves Lives video: the Association for Professionals in Infection Control and Epidemiology and Safe Care Campaign. This brochure was developed with support from the CDC Foundation and Kimberly-Clark Corporation.



Hand Hygiene Saves Lives

A Patient's Guide

hand hygiene

- Washing hands with soap and water.
- Cleansing hands using an alcohol-based hand rub.
- Preventing the spread of germs and infections.



Why?

To prevent hospital infections.

- In the United States, hospital patients get nearly 2 million infections each year. That's about 1 infection per 20 patients!
- Infections you get in the hospital can be life-threatening and hard to treat.
- All patients are at risk for hospital infections.
- You can take action by asking both your healthcare providers and visitors to wash their hands.

Remember: Hand hygiene saves lives.

To make a difference in your own health.

- Hand hygiene is one of the most important ways to prevent the spread of infections, including the common cold, flu, and even hard-to-treat infections, such as methicillin-resistant *Staphylococcus aureus*, or MRSA.

When?

You should practice hand hygiene:

- Before preparing or eating food.
- Before touching your eyes, nose, or mouth.
- Before and after changing wound dressings or bandages.
- After using the restroom.
- After blowing your nose, coughing, or sneezing.
- After touching hospital surfaces such as bed rails, bedside tables, doorknobs, remote controls, or the phone.

Healthcare providers should practice hand hygiene:

- Every time they enter your room.*
- Before putting on gloves. Wearing gloves alone is not enough to prevent the spread of infection.
- After removing gloves.

Remember: Ask your doctors and nurses to clean their hands before they examine you.

* If you already have an infection, your healthcare providers may take special measures (isolation precautions) to prevent the spread of your infection to others. They might enter your room wearing protective equipment (e.g., gloves, gown, mask). You do not need to ask them to clean their hands because they should have done so before they put on gloves.

How?

With soap and water:

1. Wet your hands with warm water. Use liquid soap if possible. Apply a nickel- or quarter-sized amount of soap to your hands.
2. Rub your hands together until soap forms a lather and then rub all over the top of your hands, in between your fingers and the area around and under the fingernails.
3. Continue rubbing your hands for 15 seconds. Need a timer? Imagine singing the "Happy Birthday" song twice.
4. Rinse your hands well under running water.
5. Dry your hands using a paper towel if possible. Then use your paper towel to turn off the faucet and to open the door if needed.

Remember: It only takes 15 seconds to protect yourself and others.

With an alcohol-based hand rub:

1. Follow directions on the bottle for how much of the product to use.
2. Rub hands together and then rub product all over the top of your hands, in between your fingers and the area around and under the fingernails.
3. Continue rubbing until your hands are dry. If enough rub was used to kill germs, it should take at least 15 seconds of rubbing before your hands feel dry. You should not rinse your hands with water or dry them with a towel.

Which?

Use soap and water:

- When your hands look dirty.
- After you use the bathroom.
- Before you eat or prepare food.

Use an alcohol-based hand rub:

- When your hands do not look dirty.
- If soap and water are not available.

Alcohol based hand rubs

- Products that kill germs on the hands.
- Should contain 60% to 95% ethanol or isopropanol (types of alcohol).
- Are fast-acting and convenient.

Who?

You can make a difference in your own health:

- Healthcare providers know they should practice hand hygiene, but they sometimes forget. Most welcome your friendly reminder.
- Ask healthcare providers to practice hand hygiene in a polite way — tell them that you know how easy it is for people to get infections in the hospital and that you don't want it to happen to you.

Remember: Take control of your health, practice hand hygiene.