

Implementing a Program to Improve Hand Hygiene: The Hospital of Saint Raphael Experience

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The Rationale for Improving Hand Hygiene in Healthcare Settings

- **Healthcare-associated pathogens are most frequently transmitted between patients via the hands of healthcare workers (HCWs)**
- **However, adherence of HCWs to recommended handwashing procedures has remained unacceptably low for decades**
- **To assist healthcare facilities in improving hand hygiene, the HICPAC/SHEA/APIC/IDSA Guideline for Hand Hygiene in Healthcare Settings was published in CDC's MMWR in October 2002**



Hospital Setting

- **The Hospital of Saint Raphael, a 500-bed community-teaching hospital, implemented a multi-modal hand hygiene initiative, based on the successful program developed at the University of Geneva Hospitals in Geneva, Switzerland**
(Pittet, D et al. Lancet 2000; 356: 1307)
- **This program was instituted despite the fact that the hospital has experienced significant financial challenges in recent years**



Essential Elements of a Hand Hygiene Promotional Campaign

- **Essential elements of such a program include:**
 - **support from high-level administrators**
 - **involving HCWs in the planning process**
 - **developing new educational/motivational materials**
 - **monitoring adherence to HH procedures and providing HCWs with feedback on their performance**
 - **making an alcohol-based hand rub readily available**



Securing Administrative Support

- **Sep 2000**
The rationale for developing a hand hygiene (HH) promotional campaign was presented to the hospital's Quality Improvement (QI) Committee
- High-level administrators and clinicians such as the hospital CEO, vice presidents of Nursing and Medical Affairs, and Department Chiefs are members of the QI Committee
- **Comment:** Securing administrative support is key to assure that adequate financial and personnel resources are made available

Pittet D et al. Lancet 2000;356:1307

Larson EL et al. Behav Med 2000;26:14



Securing Administrative Support

- **Discussion points presented to the QI Committee:**
 - high costs of healthcare-associated infections
 - importance of contaminated hands in the spread of healthcare-associated pathogens
 - poor adherence of healthcare workers (HCWs) to recommended handwashing protocols
 - advantages of alcohol-based hand rubs
- **Facilities in USA should cite JCAHO's sentinel event alert, issue 28, released in Jan 2003**
 - the alert recommends that hospitals comply with the new HICPAC/SHEA/APIC/IDSA Guideline for Hand Hygiene in Healthcare Settings.



Securing Administrative Support

- **Comment:** Remind administrators that the costs of improved hand hygiene products and promotion campaigns are tiny compared to the excess costs of healthcare-associated infections
- **See references below for data to share with administrators**
 - Jarvis WR: excess costs of healthcare-associated infections
 - Pittet D: cost-effectiveness of a hand hygiene program
 - Boyce JM: annual costs of hand hygiene products

Jarvis WR Infect Control Hosp Epidemiol 1996;17:552

Pittet, D et al. Lancet 2000; 356: 1307

Boyce JM Emerg Infect Dis 2001;7:231



Securing Administrative Support

- **At the Hospital of Saint Raphael, we requested administrative support for:**
 - **Forming a multidisciplinary HH committee**
 - **Holding a contest to select a slogan for HH initiative**
 - **Installing a new alcohol-based hand gel in all clinical areas**
 - **resources and approval to post HH cartoon reminders hospital-wide**
 - **8 additional hours of time for an existing part-time Infection Control Practitioner to serve as hand hygiene resource person**



Additional Administrative Measures

- **Promoting improved HH was adopted as a hospital-wide quality improvement initiative by the Hospital of Saint Raphael administration & QI committee**
- **The goal of the HH Initiative was to improve HH adherence by 5% or more each year**
- **Target HH adherence rate is 75% to 80%**



Program Planning Activities

- **Oct 2000**
A multidisciplinary HH committee was formed
- Committee met periodically during early months of the planning process
- Membership includes representatives from:
 - **Nursing, Respiratory Therapy, Environmental Services, Public Relations, Infection Control, Quality Improvement**
- **Comment:** In your facility, a different approach to committee membership may be appropriate



Hospital-Wide Contest to Select a Slogan for Hand Hygiene Initiative

- **Sep-Dec 2000**
All hospital employees were encouraged to submit possible slogans to be used with the HH Initiative
- **The employee with the best slogan received a cash prize and her picture was published in hospital newsletter**

Hospital's new hand hygiene initiative kicks off

And the winning campaign slogan is — "Take A Stand, Clean Your Hands." Infection Control has adopted this slogan, submitted by Theresa Ratcliffe of Occupational Health Plus™, to kick off and promote its new hand hygiene program. "We want to thank employees for submitting more than 60 slogans," says Infection Control practitioner Cathy Ligi, the hospital's hand hygiene liaison nurse. "It wasn't easy to choose one from the many great suggestions we received."

It's no secret that hand hygiene is important to everyone's health and wellbeing. But did you know that failing to comply with recommended hand-washing practices puts our patients at risk?

"The overall goal of our hand hygiene initiative is to reduce the occurrence and transmission of antibiotic-resistant organisms among patients, caregivers, other employees and individuals in the hospital community," says John Boyce, M.D., section chief of Infectious Diseases and Infection Control Committee chair. "This initiative is consistent with Saint Raphael's goal of providing high-quality care."

Boyce chairs a national task force on hand hygiene, which includes representatives from the Centers for Disease Control and three professional societies. The task force is developing new guidelines for healthcare facilities as part of a broad initiative to improve hand hygiene practices in U.S. hospitals.

Hospitals that have successfully implemented programs found it takes a long-term commitment to change people's attitudes and behaviors regarding hand hygiene. "Because infections continue to be a problem at HSR and other hospitals,

everyone, especially those who have direct contact with patients, should be more diligent about cleaning their hands more frequently," says Boyce.

A multidisciplinary approach

The hand hygiene initiative is a multi-faceted approach, which involves the use of a new hand gel along with education and motivational components. Infection Control has chosen Purell, a well-tolerated and readily available ethyl alcohol-based gel, as the hand antiseptic recommended for use hospital wide.

Benefits of the new gel are:

- *It's faster and more convenient* (than going to a sink to wash with soap and water.)
- *It's non-irritating* Purell contains moisturizers and skin conditioners, so it's gentler than soap and water.
- *It's convenient.* New dispensers will be installed where caregivers can readily access them.

In-service education will be important to the hand hygiene program's success. Education may include workshops and lec-



Receptionist Theresa Ratcliffe, who works in Outpatient Rehabilitation Services at the Branford office of Occupational Health Plus, accepts a \$100 check from John Boyce, M.D., section chief of Infectious Diseases, as infection control practitioner Cathy Ligi looks on. Ratcliffe submitted the winning entry in Infection Control's "name the campaign" contest.



Selection of an Alcohol-Based Hand Rub

- Several alcohol-based hand rub products were evaluated before selecting one for use in the hospital
- Important product characteristics included:
 - lightly-scented with fragrance that fades after application
 - agreeable consistency
 - not sticky or greasy feeling
 - little or no skin irritation even with frequent use
 - reliable dispensers
- Comment: For further discussion of selecting an alcohol-based hand rub for your facility, see www.handhygiene.org; go to Educational Aids



Observational Surveys of Hand Hygiene Adherence

- **Jan 2001**
A monitoring tool (data collection form) for observational HH adherence surveys was developed by Infection Control practitioners
- **Published criteria for HH adherence were used for all surveys**
- **Inter-rater reliability of observations were validated for Infection Control practitioners**
- **Surveys are conducted every 9-12 mo.**



HAND HYGIENE MONITORING TOOL

Patient Care Unit/Dept.: _____ Day of Week: _____ Date: _____
 Initials of Monitor: _____ Time: _____ AM/PM to _____ AM/PM

Healthcare Worker (HCW) Type:

- | | |
|-----------------------------------|-----------------------------------|
| 1 = Physician | 8 = Physical Medicine Staff |
| 2A = House Officer | 9 = Environmental Services Worker |
| 2B = Medical Student | 10 = Patient Transporter |
| 2C = PA | 11 = Radiology Tech. |
| 3 = Physician Support Staff | 12 = Respiratory Therapist |
| 4 = Nursing/Nursing Support | 13 = Dietitian |
| 5 = Continuing Care/Social Worker | 14 = Traypasser |
| 6 = Pastoral Care | 15 = Other |
| 7 = IV Team | |

Key:

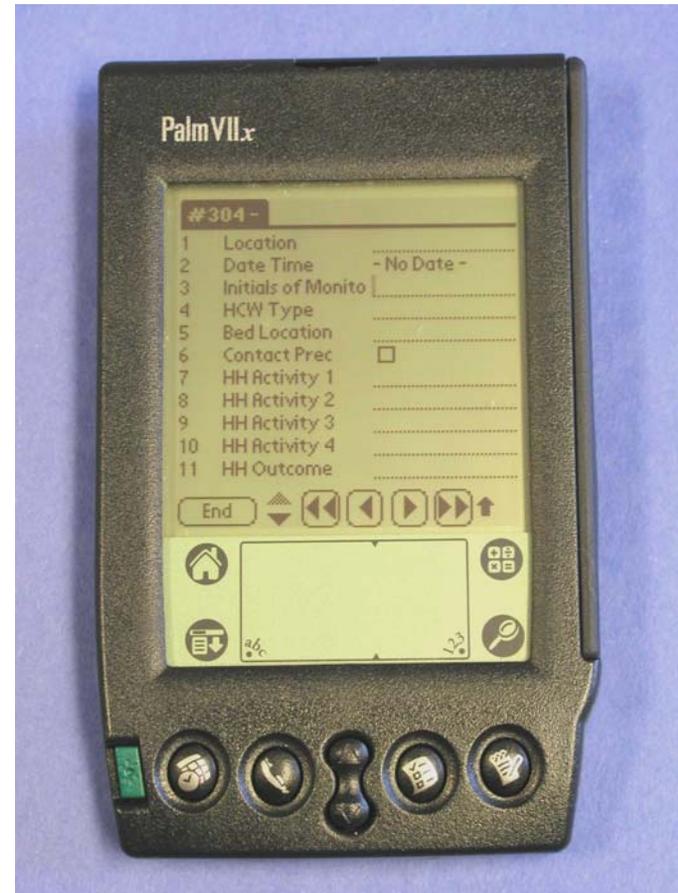
- HW = Hand Wash
 HA = Alcohol Hand Antiseptic
 Y = Yes
 N = No
 N/A = Not Applicable
 D = Bed closest to door
 W = Bed closest to window

	D	W	D	W	D	W	D	W	D	W
BED LOCATION (→)										
CONTACT PRECAUTIONS: Y, N, N/A										
HEALTH CARE WORKER TYPE (→)										
OPPORTUNITY REQUIRING HAND HYGIENE INTERVENTION										
Before Patient Contact										
After Contact With Patient's Skin										
After Contact With Patient's Gown/Linen										
After Contact With Inanimate Objects in Pt. Rm.										
Before IVD Care										
After IVD Care										
Before IVD Insertion										
After IVD Insertion										
Before Wound Contact										
After Wound Contact										
Before Mucous Membrane Contact										
After Mucous Membrane Contact										
Before Body Fluid Contact										
After Body Fluid Contact										
Housekeeping/Environmental Activities										
Gloves Removed & Activity Not Observed										
OUTCOME										
Hand Wash										
Alcohol Hand Antiseptic										
No Action - Missed Opportunity										



Revised Hand Hygiene Monitoring Tool

- For survey 3, variables were entered into a PenDragon® database
www.pendragon-software.co
- Downloaded to Palm devices of Infection Control practitioners
- Palm devices used for entering data during HH observational surveys
- Expedites data collection and analysis



Observational Surveys of Hand Hygiene Adherence

- **Observational HH adherence surveys conducted**
 - Jan - Feb 2001 survey 1 (Baseline survey)
 - Dec 2001 survey 2
 - Dec 2002 survey 3
- **Observations made on all wards and all shifts**
- **Done in 20-minute observation sessions**
- **Data entered into Access database for analysis**



Educational and Motivational Activities

- **Infection Control practitioners conduct periodic hand hygiene educational sessions**
 - **Sessions have include the following topics:**
 - **Patient care activities that lead to hand contamination**
 - **Poor adherence of HCWs to handwashing protocols**
 - **Advantages of alcohol-based hand rubs**
 - **Adherence rates from HH observational surveys at Hospital of Saint Raphael are presented to HCWs**
 - **Sessions occur on nursing units & in clinical departments**
 - **Hospital epidemiologist presents conferences on HH to Medicine and Surgery personnel periodically**
- **Comment: Some facilities use audience-response systems during hand hygiene education sessions**



Additional Educational Programs

- **Spring 2002**

Powerpoint HH training modules were developed at Hospital of Saint Raphael for:

- **Clinical personnel (e.g., nurses, physicians)**
- **Other personnel (e.g., phlebotomists, transport, dietary)**

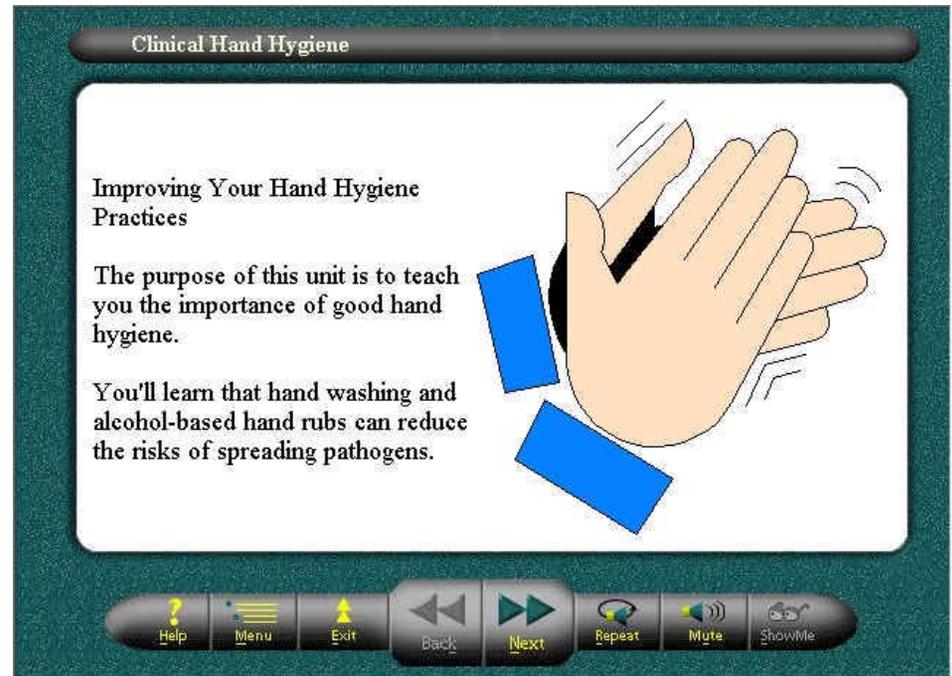
- **Content was reviewed by Nursing Education**

- **An outside contractor ported Powerpoint presentations to hospital's intranet computer-based, interactive training system (Synquest)**



Additional Educational Programs

- **HH training modules are accessible on all hospital computers “ 24/7”**
- **Completing HH module is currently optional**
- **Synquest system provides test and immediate feedback to employee taking the test**
- **Synquest records names of personnel who have completed the test**



Additional Motivational Materials

- Hand hygiene cartoons were obtained by special arrangement from Dr. D. Pittet in Geneva, Switzerland
- Personnel on each nursing unit and clinical dept. were asked to develop a caption for a cartoon
- Administration approved painting special background for poster locations



Additional Motivational Materials

With assistance from the Maintenance/Engineering Department cartoons were installed

- **Poster frames were chosen to facilitate easy change of cartoons**
- **Background design was painted on the wall, or a custom made self-stick plastic design was applied to the wall**
- **Locations chosen:**
 - **high traffic areas i.e. elevator lobbies**
 - **all areas where patient care is provided**
- **Cartoons are posted throughout hospital and changed q 2-3 weeks**

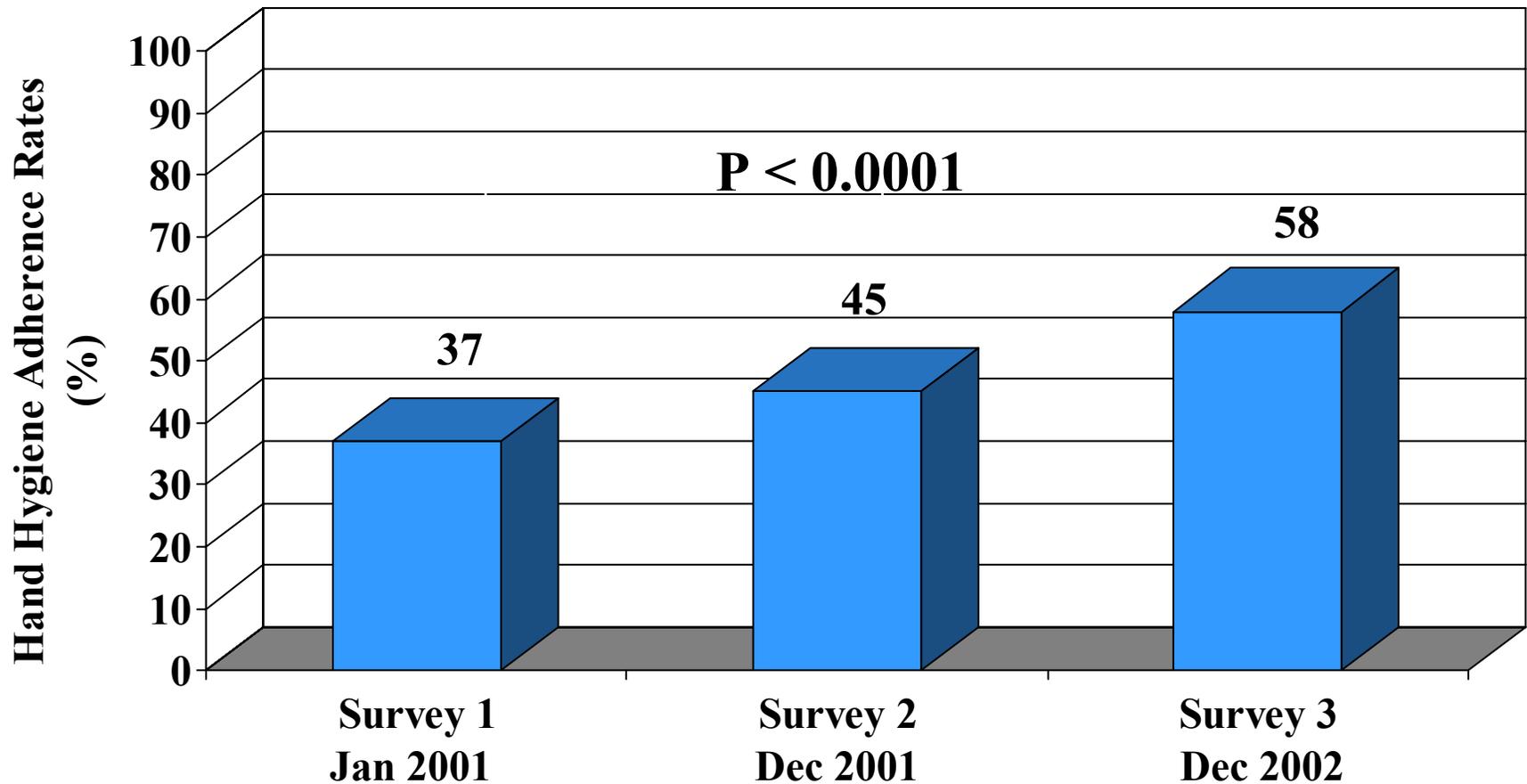


Impact of the Program

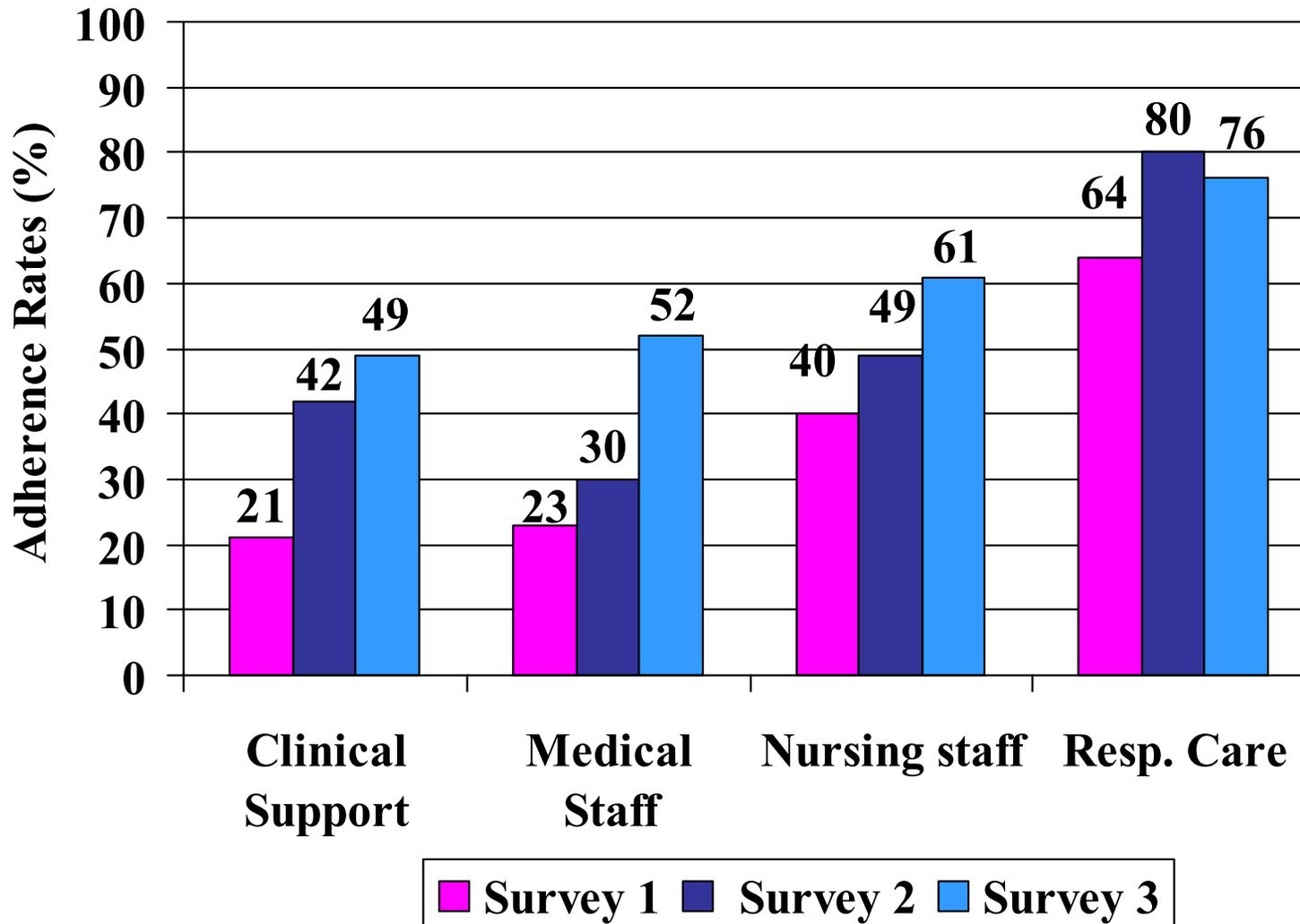
- **Following implementation of the HH Initiative, the following trends have been documented at Hospital of Saint Raphael:**
 - **HH adherence rates have increased significantly**
 - **Adherence rates improved among all HCW job categories and on virtually all nursing units**
 - **The proportion of HH episodes that are performed using the alcohol-based hand gel has increased significantly**
 - **Usage of the alcohol-based hand gel (Liters/1000 Pt-Days) has increased significantly**



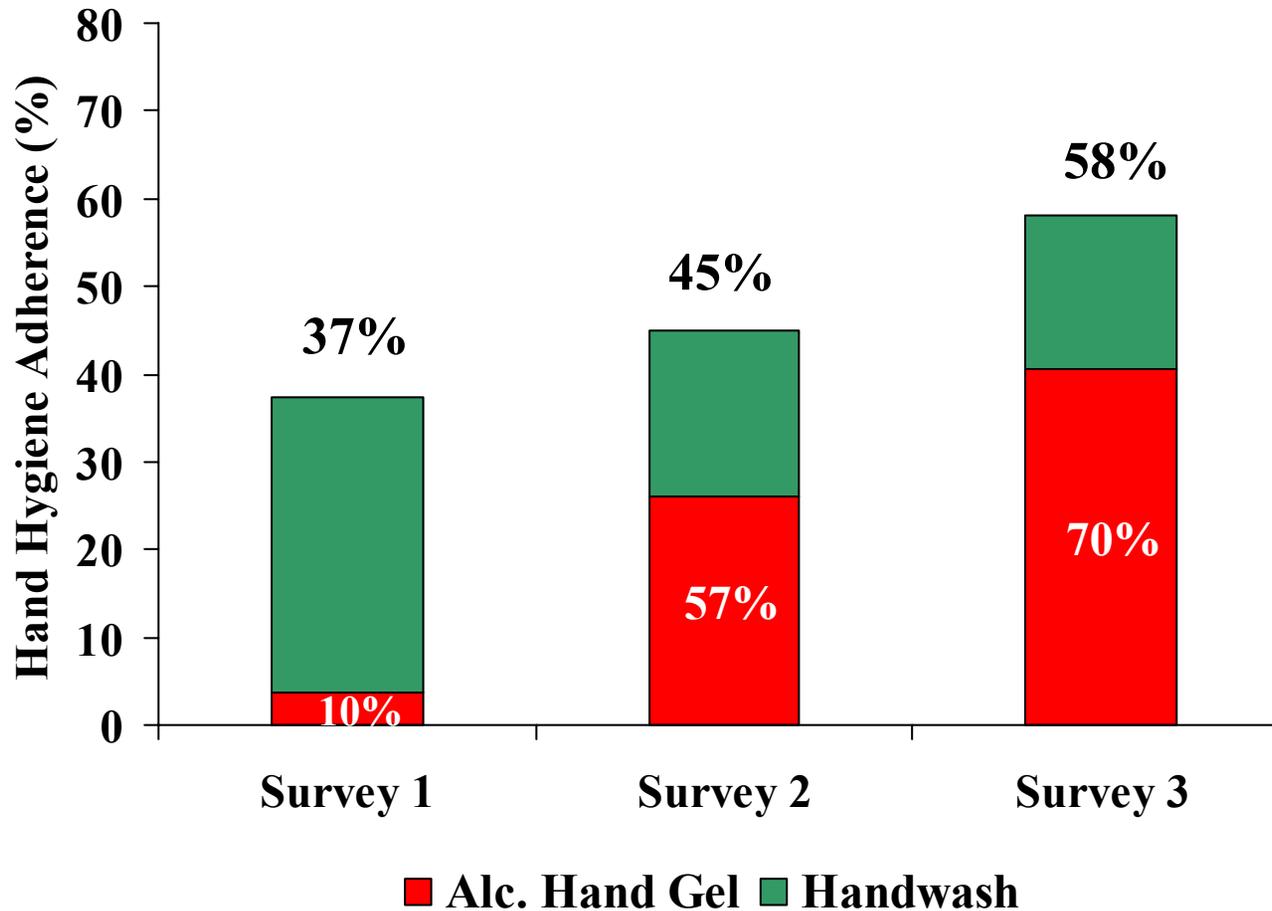
Overall Hand Hygiene Adherence Rates, Surveys 1, 2 AND 3, Hospital of Saint Raphael



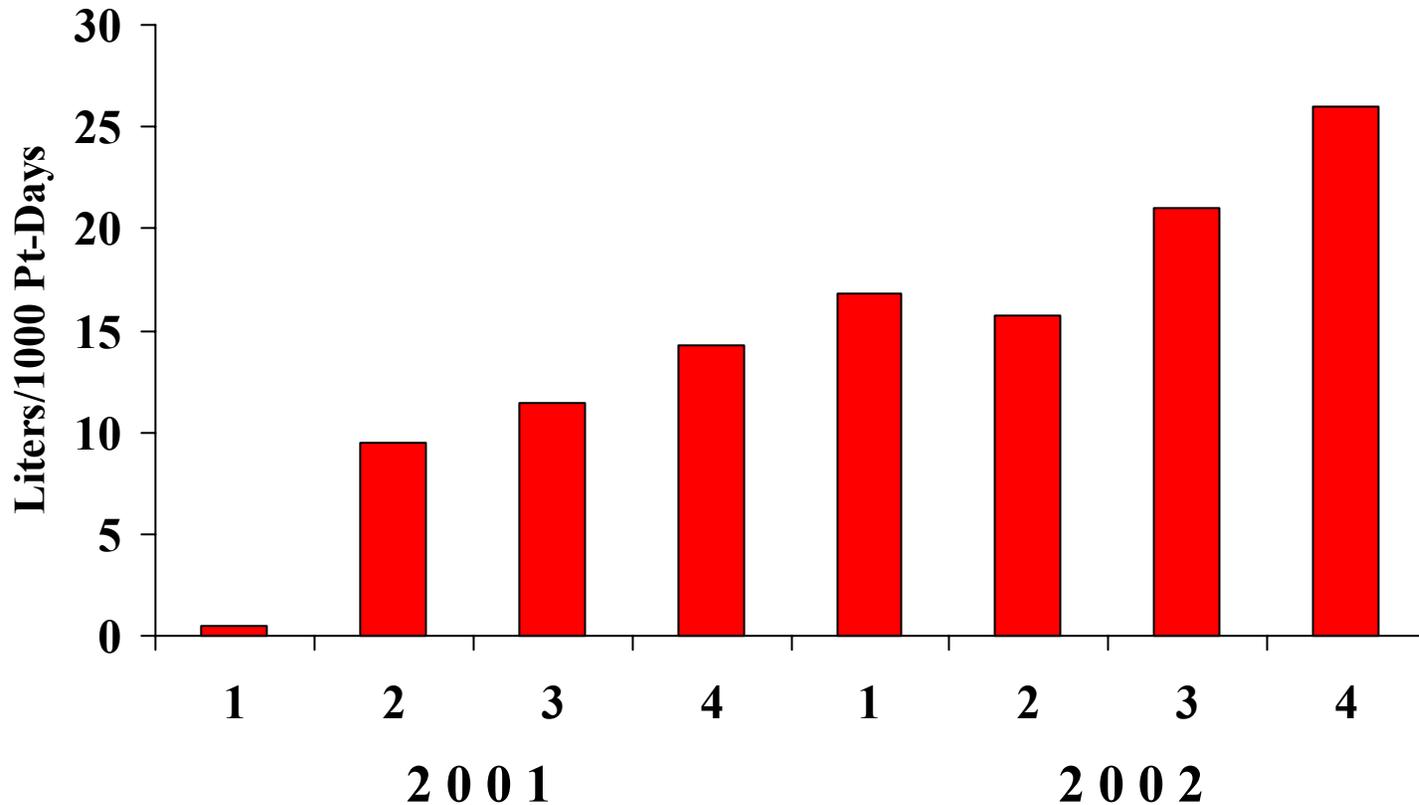
Hand Hygiene Adherence Rates, By HCW Type, Surveys 1, 2 and 3



Hand Hygiene Adherence, Handwashing vs Alcohol Hand Gel, Surveys 1, 2 and 3



Alcohol Hand Gel Usage, (Liters/1000 Pt-Days) at HSR, By Quarter, Feb 2001 - Dec 2002



Using an Alcohol-Based Hand Rub for Surgical Hand Antisepsis

- At Hospital of Saint Raphael, operating room personnel tested an alcohol-based hand rinse product for ease of application, feel, skin tolerance, and dispenser design; the product has recently been installed in operating rooms
- **Comment:** Surgical site infection rates are the same in patients whose surgeons performed surgical hand antisepsis with either traditional antimicrobial scrub or an alcohol-based hand rub (Parienti JJ et al. JAMA 2002;288:722)

Providing surgeons with this information may increase their willingness to adopt an alcohol-based hand rub for surgical hand antisepsis



Using an Alcohol-Based Hand Rub for Surgical Hand Antisepsis

- **Comment:** In the United States, the Food and Drug Administration requires that products intended for surgical hand antisepsis maintain bacterial counts on hands below baseline levels for 6 hrs after application.

Check with manufacturers to determine if products under consideration meet this standard

- Advantages of using an alcohol-based hand rub include less time to apply and less skin irritation



Web Resources

- www.cdc.gov/handhygiene/
 - Centers for Disease Control and Prevention
- www.handhygiene.org
 - Hand Hygiene Resource Center, Hospital of Saint Raphael
- www.hopisafe.ch
 - University of Geneva Hospitals, Geneva, Switzerland
- www.med.upenn.edu/mcguckin/handwashing/
 - University of Pennsylvania

