Making Hand Hygiene Personal

Innovations in Leadership

Team 3
Define: Why is it important?

• Poor hand hygiene leads to higher rates of infections and readmissions\textsuperscript{1,4,6}
  – Affects patient mortality and staff safety
  – Promotes growth of antibiotic-resistant pathogens\textsuperscript{2,5}
  – Increases cost of care for the institution

• A National Patient Safety Goal
  – “To prevent infection” with antiseptic hand gel before and after any patient encounter
  – Current assessments have a large range of results\textsuperscript{6}
    • From 5% to 89% compliance at national level
    • Average baseline of 38.7%
Define: Scope of the Problem

• Hospital acquired infections are an international problem in the developed world\(^6\)
  – 5-15% of all patients in US and EU, 9-37% in ICUs
  – Economic impact to US economy was $6.5 billion in 2004

• Institutional issue at LUMC
  – We were given an estimate of roughly 30% hand-hygiene compliance rate based on recent audits
  – Varies between departments and units
  – Data collection method has a large impact on results
Measure: How to assess the problem

- Consulted with Dr. Parada before collecting data
- Parameters of measurements
  - Definition of patient contact
    - IC’s definition: Room entry/exit
    - Our definition: Before/after patient contact
- Pre-intervention observations
  - Compliance observations
  - Patient surveys
- Post-intervention observations
  - Compliance observations
  - Nurse/PCT surveys
Pre-intervention Data

Compliance rates in 3NEWS

- Counted before and after patient contact as separate observations
  - Nurses/PCTs:
    - Before contact: $n=95$
    - After contact: $n=122$
  - Physicians
    - Before contact: $n=20$
    - After contact: $n=20$

- Six different days of observation on the unit floor

- Although resulting values are low, glove use was a major confounding factor
Analysis: Why is it a problem?

• **Accessibility?**
  – Known accessibility issues with the sanitizer gel dispensers:
    • Broken
    • Empty
    • Not conveniently located
    • No standardized room design
  – Time restraints

• **Belief?**
  – Education
    • Awareness of institutional requirements
    • Understanding of risks to both patient and healthcare provider
  – Practice
    • Institutional complacency for non-compliance
    • Bedside risk-assessment
    • Proper hand hygiene while using gloves
Analysis

• Patient perception (surveys) of providers’ hand hygiene
  – Almost every patient reported strict hygiene compliance and frequent hand-washing
  – Several noted frequent use of gloves

• Survey of 3NEWS nursing unit
  – Organization and staff meetings
  – Inpatient cardiology and hepatology single and multiple bed rooms
  – Location of dispensers, whether they are empty, etc.
Improve: Our methods and goals

• Project goal: 20% increase in hand hygiene compliance among nurses and PCTs

• Intervventional methods in 3NEWS unit included:
  – Short educational presentation at 7am/7pm staff huddles
  – Distributed personal hand sanitizer gel dispensers to nursing/PCT staff
  – Educational posters placed around the unit
Materials: Personal Gel Dispensers

- 2 oz bottle suspended from a lanyard
  - Can be clipped on scrubs
  - Must be refilled often
  - Strong scent

- Inexpensive, easy to use

- Previous study with similar product claimed a 30% increase in compliance rates

Above: (not) the personal hand sanitizing gel dispenser
Materials: Posters

- If a person is sick, the droplets in a single cough may contain as many as two hundred million individual virus particles.
- Once airborne, viruses in these tiny droplets can survive for hours.
- Even if the droplets hit a surface, the viruses can survive and still spread disease if the droplets become airborne hours or even days later.

Gone totally gluten-free...
Buy locally grown organic groceries...
Juicing every single morning...
Drinking green tea by the gallon...
Mastered the crane pose in yoga class...
Getting 8 hours of sleep a night...

But have you washed your hands?

Poor Bob Costas
His nurse didn’t wash her hands first...

Don’t let poor hand hygiene ruin the Olympics!

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Post-Intervention Results

- Pooled observation data (z-tests)
  - Increase (25%) in compliance rates for both before and after contact ($p<.01$)

- Comparing separate observation days (t-tests)
  - Increase in compliance rate before contact ($p<.01$), unsure of after contact ($p=.09$)
  - Noted decline in days following interventions (28-Feb and 3-Mar)

- No significant changes for physician rates with either statistical test

- Mostly positive feedback for personal dispensers based on nurse/PCT survey
Control: Recommendations for the Future

• Education
  – Myth that wearing gloves = hygiene compliance
    • Confounding variable but not formally measured
  – Need to change beliefs
    • Data showed improved, but still low, compliance despite increased accessibility
    • Disconnect between perception and practice
      – E.g. 28/28 nurses/PCTs rate hand hygiene as “very important” in regards to patient safety
  – Internal marketing
    • Conveying magnitude of problem
    • Understanding that institutional and personal accountability are intertwined
Control: Recommendations for the Future

• Include leadership accountability
  – Implement changes and improvements via unit managers
  – Include hygiene and readmissions in unit performance reviews
  – Unit competitions

• Personal accountability
  – Create awareness of the individual impact of non-compliance
    • Inform staff of their involvement in hospital acquired infections
    • Educate health-care workers on the public health costs
  – Getting patients involved
    • Currently skewed patient perspectives
    • Empowering patients to ask/note healthcare providers regarding hand hygiene
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