

# Literature Review of Nosocomial Infections Passed Through Nurses' Personal Items

Corina Hickman

Department of Nursing, Dominican University of California, San Rafael, California

## Abstract

- Nosocomial infections are infections whose development is favored by a hospital environment
- In 2011, CDC stated that there was 721,800 nosocomial infections
- Nosocomial infections can develop due to non-adherence of isolation precautions, contaminated hospital equipment, or dirty room environment

Center for Disease Control

## Problem Statement

- In 2002, nosocomial infections killed approximately 99,000 lives in the United States; which represents about 1.7 million cases of hospital-acquired infections per year in the U.S
- Nurses are in contact most with patients and pose the greatest risk to their patients' health.
- Even if nurses are taking the standard precautions, there is still a risk of transferring pathogens through their scrubs that they take home, their stethoscopes that are not being sanitized between patients, and their cell phones.
- Nosocomial infections can cause mortality, morbidity, and have a high cost for hospitals.
- Insurance companies and patients' are not responsible for costs if a patient acquires a nosocomial infection.
- The purpose of this study is to look at how much nurses' influence/cause nosocomial infections on intensive care units (ICU) and Medical-Surgical floors.

Paul Lecat et al

## Literary Findings

### Scrubs

- Pathogenic bacteria was found on all scrubs
- Majority of the bacteria was found on pockets (pants and shirts), area of the abdomen, and the crotch area
- Literature found that it was not the scrubs that were the problem, but it was with hand hygiene compliance

### Cell Phones

- One article found that the cell phones used in the hospital by nurses carried pathogenic microbes
- The other two studies found that no pathogenic microbes were found on their phones.
- For these studies, their phones were found to have no pathogenic microbes because the phones used were smart phones.
- The smooth surfaces of new smart phones does not allow pathogenic microbes to stick to the phone
- Literature found that the cleanliness of the cell phones was determinate in the cleanliness of the employees' hands.

### Stethoscopes

- There was pathogenic bacterium found on all of the stethoscopes' diaphragms.
- The literature concluded that all stethoscopes worn by nurses and other healthcare providers should be sanitized between each patient.
- Stethoscopes have the potential of being a fomite

## Research Proposal

The research design will be a quantitative survey design and the instruments, created by the author of this study are: demographics include; age, gender, length of time as nurse, length of time at current hospital, educational background, average hours worked per week, 12 or 8 hour shifts, do you work at more than one hospital, and ethnicity.

### Survey

#### Hand washing

How many times do you wash your hands during your shift?  
Do you use hot water while washing your hands?  
Do you wash your hands and forearms for the recommended 1.5 minutes when you initially come on shift?  
Then, do you wash your hands for the 15-30 seconds in between patients' rooms?

#### Cell Phone

How confident are you, on a scale from 1 to 10, that your cell phone is germ free?  
Do you keep your cell phone on you while you are working on the floor?  
Do you bring your cell phone out while you are working?  
If yes, what do you use your cell phone for?  
Approximately, how many minutes a shift is your cell phone out of your pocket?  
Do you wash your hands each time before and after touching your cell phone?

#### Scrubs

Are your scrubs brought from home or supplied by the hospital?  
If home, do you take your scrubs off as soon as you get home?  
What is your routine for your used uniform after your shift when you get home?

Do you know the hospital recommendations and guidelines to decrease the amount of microbes and bacteria on your uniform? If yes, do you follow those guidelines?

#### If no, what is your routine for your uniform or scrubs?

How often do you wear the proper PPE as to not get contaminate your scrubs with any bio-hazardous material?  
What are a few situations where you have not applied the PPE needed for your patient?  
Why did that occur?

#### Stethoscopes

What kind of stethoscope do you use?  
Do you use clean your stethoscope in between each patient when used?  
What kind of cleanser do you use for the cleaning?

#### Compliance and Views with Isolation Precautions

Do you agree with the hospital protocols that your hospital has put in place to protect you and your patients?

##### Contact

How likely are you to use the proper isolation precautions when walking into a patients' room from 0-10?

##### Droplet

How likely are you to use the proper isolation precautions when walking into a patients' room from 0-10?

##### Airborne

How likely are you to use the proper isolation precautions when walking into a patients' room from 0-10?

## Indications for Clinical Practice

The importance of this study is to see if nurses have the time to properly don the correct PPE while working and if nurses are washing their hands as much as they need to. In all of the literature review that was read the two things that nurses need to make a priority while working are; proper hand washing and using alcohol to clean their stethoscopes between patient contact. There are 1.7 million cases a year that are traced back to nosocomial infections; and hospitals need to do more education and put more of an importance on the cleanliness of all employee's hands.

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