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Yaritza Grant

Samantha Haug

Sarah Purcell

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# A Comparative Analysis of Infection Control Processes and Outcomes between the United States and Ireland



Yaritza Grant, Samantha Haug, Sarah Purcell

Heather Ferrillo, PhD(c), APRN, FNP-BC, CNE & Sherylyn Watson PhD, MSN, RN, CNE

Sacred Heart University, College of Nursing, Fairfield, CT

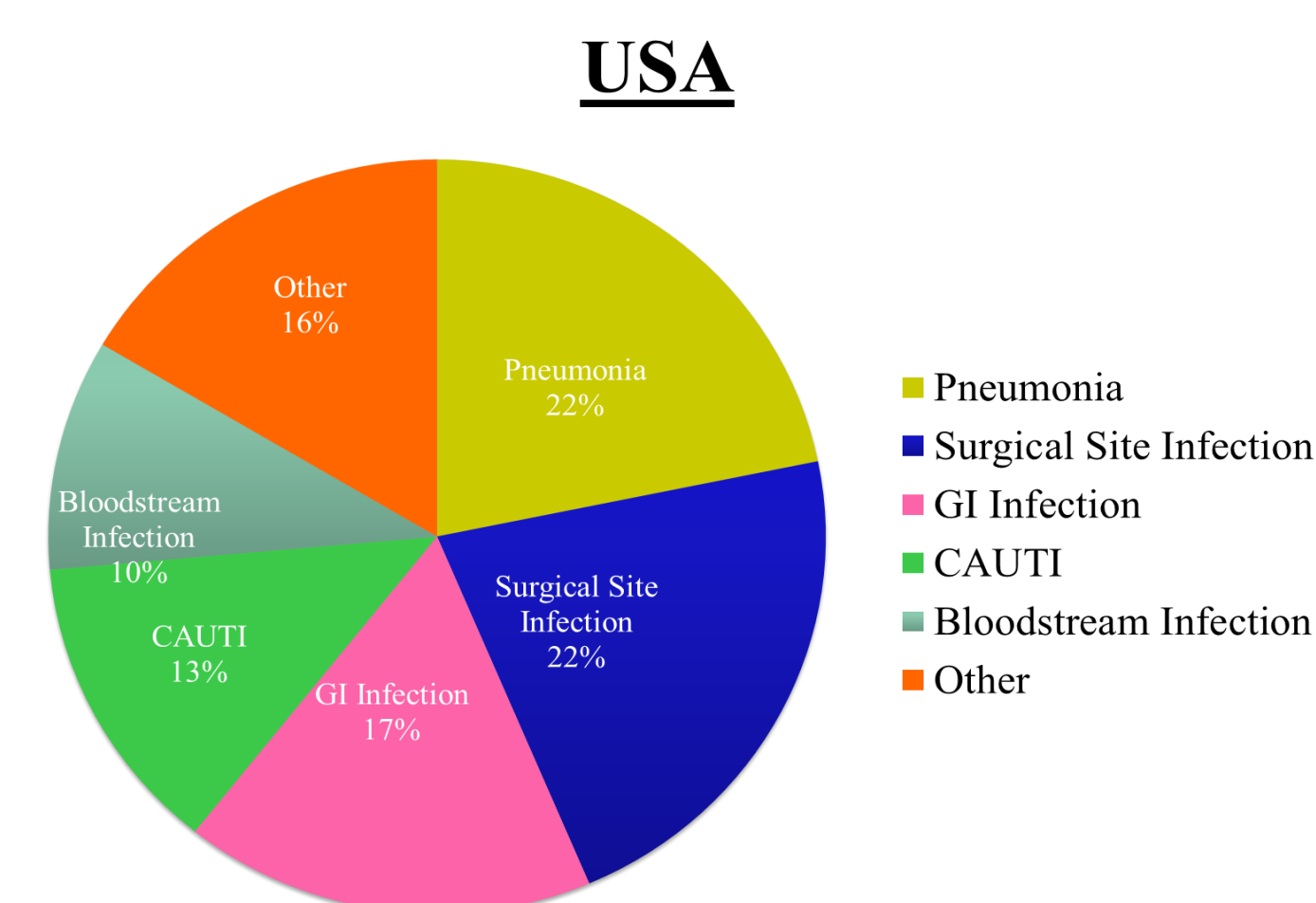
## Purpose

To have a greater understanding of infection control through examining methods in hospitals in Ireland and the United States and how these techniques effect the rates of infection in both countries.

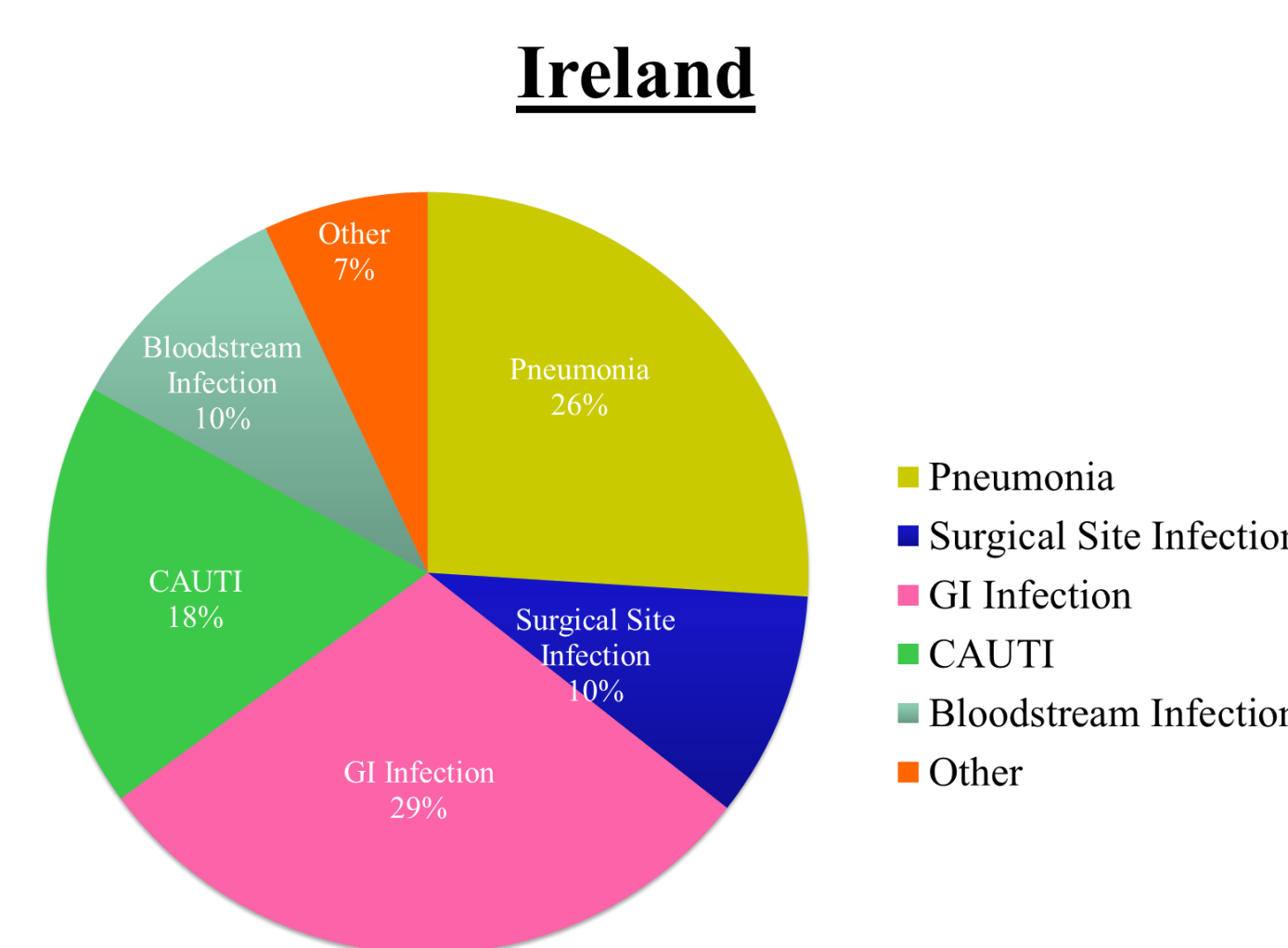
## Background

The College of Nursing at Sacred Heart University provides a study abroad opportunity to senior nursing students to Dingle, Ireland. During this two-week intensive nursing leadership course, students participated in clinical, where they explored healthcare issues and nursing trends from an international perspective. This poster project analyzes the infection control processes in the United States and Ireland.

## Comparison of Infection Control Rates




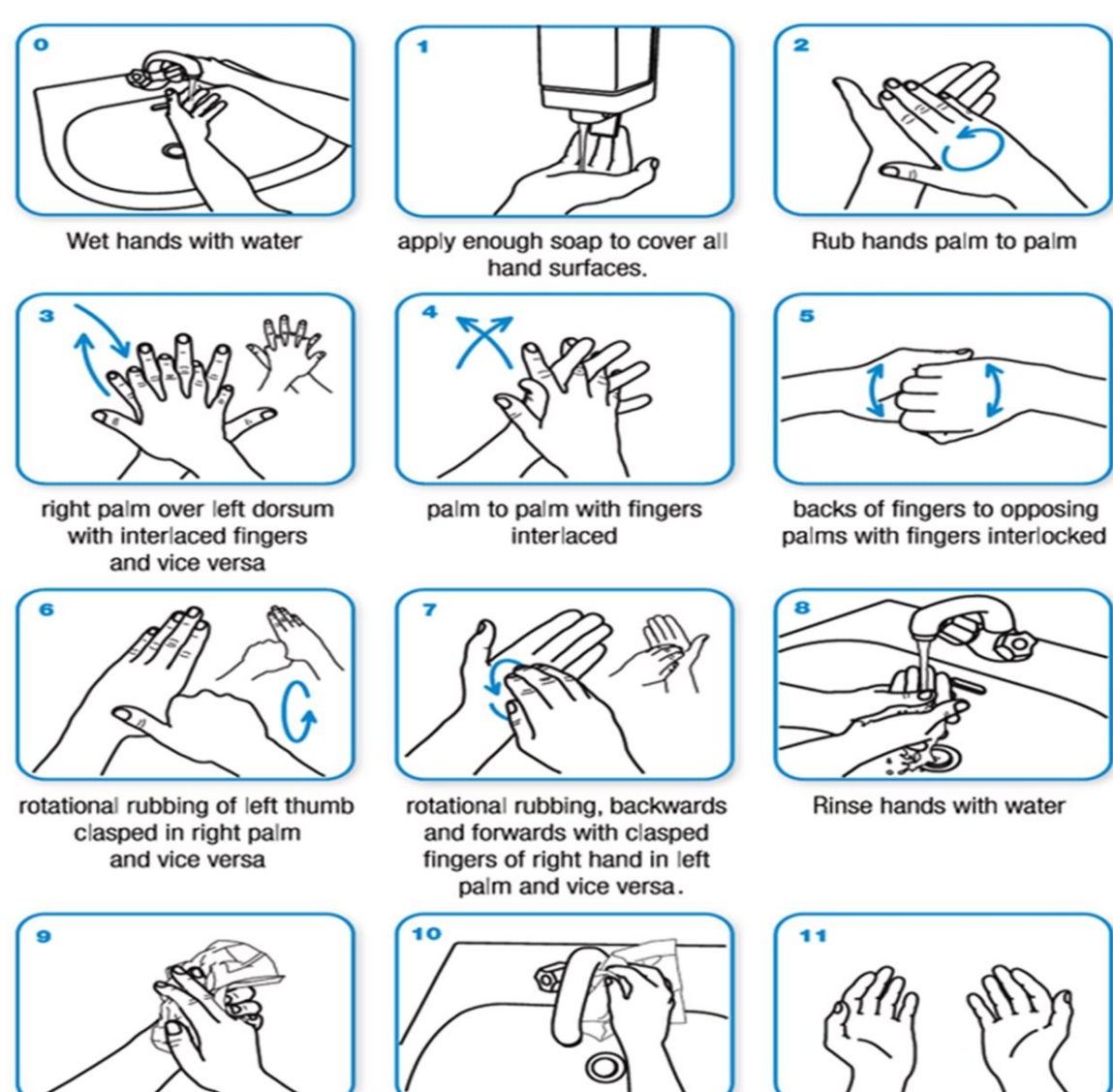
A national survey showed a prevalence rate of HAIs in Ireland is 5.2%, while the US has a 4.5% incidence rate. Therefore, Ireland has a slightly higher rate of HAIs than the US. (Vu, 2014).




## Review of Literature

- Healthcare-associated infections (HAIs) are infections that patients acquire in the healthcare setting while undergoing treatment for another condition.
- HAIs are the most common complication in healthcare worldwide (Vu, 2014).
- The most common types of HAIs in Ireland and US are pneumonia, surgical site infections, urinary tract infections, gastrointestinal infections, and bloodstream infections (Vu, 2014).
- 1 out of every 25 hospitalized patients are affected by an HAI in the U.S. (Magill et al., 2014).
- Proper hand washing is the most effective way to prevent the spread of infections in hospitals, regardless what country you are in (Machalek, 2014).
- The annual medical cost to treat HAIs in Ireland is €1.75 million. The annual medical cost of HAIs in US ranges from \$28.4 to \$45 billion (Vu, 2014).

## Handwashing

United States	Ireland
<ul style="list-style-type: none"><li>CDC → basic routine</li><li>Small window of time → alcohol preparations are necessary</li><li>Watches are normal part of nurse uniform</li></ul> 	<ul style="list-style-type: none"><li>WHO → rigorous routine</li><li>Alcohol preferred method for when hands are not visibly soiled (Lemass, McDonnell, O'Connor, &amp; Rochford, 2013)</li><li>Wrist jewelry and watches not worn, standard use of watch fobs</li></ul> 

## Healthcare Environment

United States	Ireland
<ul style="list-style-type: none"><li>Bleach based wipes → decrease in C. diff and VRE (Han, Sullivan, Leas, Pegues, Kaczmarek, &amp; Umscheid, 2015)</li><li>Highly concentrated vaporized hydrogen peroxide wipes essential to disturbing the spread of C. diff (Zuckerman &amp; Walters, 2014)</li><li>Hydrogen peroxide vapor used to decontaminate surfaces and equipment of MRSA (Jacobs, 2014)</li></ul>	<ul style="list-style-type: none"><li>Use of disposable curtains, maintain in place up to 12 months (Lemass et al., 2013)</li><li>Carpet not recommended in clinical area</li></ul> 

## Isolation Precautions

United States	Ireland
<ul style="list-style-type: none"><li>Standard, contact, airborne and droplet precautions necessary depending on specific illness</li></ul>	<ul style="list-style-type: none"><li>Same precautions observed in hospital</li></ul>

## Routine Screenings/Vaccinations for HCP

United States	Ireland
<ul style="list-style-type: none"><li>TB: (1) initial baseline TB skin/blood test &amp; (2) annual or serial screening (Testing Health Care Workers, 2016).</li><li>Recommended vaccinations: hepatitis B, influenza, measles, mumps, rubella, pertussis, and varicella (Shefer et al., 2011).</li></ul>	<ul style="list-style-type: none"><li>Upon entering the clinical setting, MRSA was necessary for students from U.S.</li><li>Recommended vaccinations: Hepatitis B, Bacillus Calmette—Guerin (BCG), varicella, influenza, measles, mumps, rubella, and pertussis (Lemass et al., 2013)</li></ul>

## Significance to Nursing

- Every year, lives are lost because of the spread of infections in hospitals (Machalek, 2014).
- HAIs are a major issue, regardless the location (Vu, 2014).
- Healthy People 2020 has a goal in the US to prevent, reduce, and ultimately eliminate HAIs (Machalek, 2014).
- Eliminating HAIs will save \$25 billion to \$31.5 billion in medical cost savings (Vu, 2014)
- Behaviors of nurses and interactions with health care systems influence the rate of HAIs (Magill et al., 2014).
- HAIs can be stopped with appropriate infection control measures (Vu, 2014).
- Further nursing education on training and improvement for the prevention of HAIs is critical to improve on nursing practice in the hospital setting in both Ireland and the US (Magill et al., 2014).

## Conclusions

- As observed through clinical experiences, there are strengths and weaknesses to both countries approaches for infection control.
- The most significant conclusion is that regardless of techniques and strategies implemented in each country, infection control is dependent on human compliance.



## Acknowledgement

Special thanks are given to the nurses and student nurses at the Institute of Technology Tralee, located in Tralee, Ireland – for welcoming us and providing us with information related to the Irish health system while studying abroad in County Kerry, Ireland for our Nursing Leadership course in May 2016!

## References available as handouts