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

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Purpose
To have a greater understanding of infection control through examining methods in hospitals in Ireland and the United States and how these techniques affect 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. They 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 HAIs and is dependent on human compliance.

Handwashing

<table>
<thead>
<tr>
<th>United States</th>
<th>Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td>• CDC basic routine</td>
<td>• WHO rigorous routine</td>
</tr>
<tr>
<td>• Small window of time to alcohol preparations are necessary</td>
<td>• Alcohol preferred method for when hands are not visibly soiled (Lemass, McDonnell O’Connor, &amp; Rochford, 2013)</td>
</tr>
<tr>
<td>• Watches are normal part of nurse uniform</td>
<td>• Wrist jewelry and watches not worn, standard use of watch fobs</td>
</tr>
</tbody>
</table>

Healthcare Environment

<table>
<thead>
<tr>
<th>United States</th>
<th>Ireland</th>
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</thead>
<tbody>
<tr>
<td>• Bleach based wipes to decrease C. diff and VRE (Han, Sullivan, Leas, Pegues, Kaczmarek, &amp; Umscheid, 2015)</td>
<td>• Use of disposable curtains, maintain in place up to 12 months (Lemass et al., 2013)</td>
</tr>
<tr>
<td>• Highly concentrated vaporized hydrogen peroxide wipes essential to disturbing the spread of C. diff (Zuckerman &amp; Walters, 2014)</td>
<td>• Carpet not recommended in clinical area</td>
</tr>
<tr>
<td>• Hydrogen peroxide vapor used to decontaminate surfaces and equipment of MRSA (Jacobs, 2014)</td>
<td></td>
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</tbody>
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Isolation Precautions

<table>
<thead>
<tr>
<th>United States</th>
<th>Ireland</th>
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<tbody>
<tr>
<td>• Standard, contact, airborne and droplet precautions necessary depending on specific illness</td>
<td>• Same precautions observed in hospital</td>
</tr>
</tbody>
</table>

Routine Screenings/Vaccinations for HCP

<table>
<thead>
<tr>
<th>United States</th>
<th>Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td>• TB: (1) initial baseline TB skin/blood test &amp; (2) annual or serial screening (Testing Health Care Workers, 2016)</td>
<td>• Upon entering the clinical setting, MRSA was necessary for students from US.</td>
</tr>
<tr>
<td>• Recommended vaccinations: Hepatitis B, influenza, measles, mumps, rubella, pertussis, and varicella (Shefer et al., 2011)</td>
<td>• Recommended vaccinations: Hepatitis B, Bacillus Calmette—Guérin (BCG), varicella, influenza, measles, mumps, rubella, and pertussis (Lemass et al., 2013)</td>
</tr>
</tbody>
</table>

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 (Vu, 2014).
• HAIs can be stopped with appropriate infection control measures (Vu, 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