

Infection control - Concerning infections

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Ireland has a higher rate of healthcare-associated infections than the US, writes **Quynhvi Vu**

Healthcare-associated infections (HAIs) are infections that people acquire in the healthcare setting while undergoing treatment for another condition.¹ These settings include hospitals, outpatient settings and long-term care facilities. According to the World Health Organization, HAIs are the most common complications in healthcare delivery worldwide.²

In addition, millions of patients are affected by HAI annually, leading to mortality and financial losses for health organisations. This paper will compare and contrast HAIs in Ireland and the US. In comparing this issue between the two countries, the following questions will be addressed:

- Which country has a higher rate of HAIs?
- What are the most common HAIs for each country?
- What factors contribute to HAIs?
- What preventative measures are taken in the healthcare settings?
- What are the financial impacts for health organisations as a result of HAIs?

Rate of HAIs

HAIs are prevalent in healthcare settings in both the US and Ireland. In the US the prevention, reduction, and elimination of HAIs is one of the goals for Healthy People 2020.³ This Healthy People 2020 goal indicates that HAI is a major public health concern that needs to be addressed. As of 2002, the US has an estimated 4.5% incidence rate for HAIs.²

These infections result in nearly 90,000 deaths per year.⁴ A national survey showed that the prevalence rate of HAIs in Ireland is 5.2%.⁵ This indicates that an estimated one-in-20 patients has a HAI. Analysing the data above, Ireland has a slightly higher rate of HAIs than the US.^{2,4,5} Despite the differences in HAI prevalence rates, it is clear that this issue affects both countries.

Most common infections

The most common types of infections seen in healthcare settings are similar in both countries. In the US, a majority of HAIs include: pneumonia, surgical site infections (SSI), urinary tract infections (UTIs), and bloodstream infection.¹ In Ireland, the common types of infection are: pneumonia, SSI, UTIs, bloodstream infections, and gastrointestinal infections.⁵ In both countries, the prolonged use of catheters contributed to UTIs; and central venous catheters put patients at risk for bloodstream infections.

When patients acquire infections they are given antibiotics for treatment. Although antibiotics are effective in the treatment of infections, their use puts patients at risk for developing antibiotic resistance such as methicillin-resistant *Staphylococcus aureus* (MRSA).⁶ Antimicrobial resistance can cause severe problems such as the HAIs listed above.

Contributing factors and prevention

Both Ireland and the US share the same contributing factors for HAIs. Risk factors include: surgical procedures, excessive or improper use of antibiotics, contaminated healthcare setting, and use of indwelling medical devices.¹ It should also be noted that the behaviours of healthcare providers in the healthcare setting influences the rate of HAIs.

HAIs affect millions of people annually, but it is easily preventable. In Ireland, the Health Protection Surveillance Centre states that healthcare workers can take the following preventive measures: compliance with hand hygiene, understand the significance and impact of antimicrobial resistance and HAI, and implement plans to prevent infections associated with medical devices.⁵ Healthcare facilities in the US are also advised of similar preventative measures. Research has shown that proper education and training of healthcare workers results in increased compliance with and adoption of practices to prevent these infections.⁷

Educational and training programmes included careful use of antibiotics and proper hand hygiene.

Financial implications

Not only are HAIs a significant cause of morbidity and mortality, they are also a financial burden for healthcare facilities in both the US and Ireland. In the US, the overall annual medical costs of HAI to hospitals ranges from \$28.4 to \$45 billion.⁸ **The cost to treat SSI and catheter-associated urinary tract infection (CAUTI) for each patient averages around \$10,400 and \$760, respectively.** If proper infection control interventions are taken, US health care facilities can save anywhere from \$5.7 to 31.5 billion, annually.⁸

In Ireland, the **annual medical cost to treat HAIs in each hospital is €1.75 million.**⁹ **By taking preventive measures, each hospital would save €530,000 each year.** Looking at the staggering financial costs HAIs have on healthcare facilities in both countries, developing and implementing prevention interventions would benefit healthcare organisations by saving them millions to billions each year.

HAIs are important issues that affect both Ireland and the US in the healthcare setting. Based on the given data, Ireland has a slightly higher prevalence rate of HAIs than the US: 5.2% versus 4.5% respectively. The major types of HAI affecting patients are the same for both countries. In addition, Ireland and the US share the same contributing factors for HAIs. Recommended preventive measures

for HAIs include staff education, clean environment, and hand hygiene. HAIs are a huge financial burden for both countries; each year hospitals lose anywhere from millions to billions of euro each year. HAIs are preventable and initiating interventions would benefit healthcare organisations and their clients.

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References available on request from nursing@medmedia.ie (Quote Vu, Q: WIN 2014; 22(6) : 50)