

The epidemiology of health-care associated infection

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Healthcare-associated infections (HAI) are a major worldwide public health problem. At any one time, around one in 10 patients in hospital have an HAI, which can cause morbidity and prolonged hospital stay, with costs of around £183 million per annum in acute hospitals in Scotland. In some cases there is associated mortality (Reilly et al, 2007).

Changing demographics of the patient population, in terms of increasing age, comorbidities and patterns of health care in the UK over the last decade, have resulted in emerging risks and new epidemiology. Efforts therefore need to be targeted at where there is the most potential for prevention.

The latest prevalence survey of HAI in Scotland has identified new areas of concern, which, if improvements are to be made, will require input from those involved in wound care. The most common types of HAI in acute hospital inpatients were: urinary tract infections (17.9%) (of all HAI), surgical site infections (15.9%) and gastrointestinal infections (15.4%). In non-acute hospitals one in ten inpatients in the two specialties (combined), medicine (11.4%) and care of the elderly (7.8%) were found to have a HAI and one in twenty inpatients in the psychiatry specialty (5.0%) was found to have a HAI. Urinary tract infections

were frequent (28.1% of all HAI), but as frequent in non-acute hospitals were skin and soft tissue infection (26.8% of all HAI) (Reilly et al, 2007).

In acute care one of the main areas of concern is surgical site infection. Prevention and management of these

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infections should be high on the agenda for those involved in wound care and staff in surgical units. The impact of HAI at an individual patient level can be diminished by statistics such as one in 10. The consequences for the individual patient with a surgical site infection, for example, can involve pain, suffering and scarring. Further, the socioeconomic impact of a longer stay in hospital can be substantial for the individual and their family.

The continuing problems with gastrointestinal infections such as *Clostridium difficile* and urinary tract infections indicate the critical importance of maintaining skin integrity and identifying vulnerable patients at risk. There are also infection risks associated with the high volume of invasive devices

in use, such as vascular and urinary catheters. The key issue in infection prevention here is early removal of these devices.

In non-acute hospitals the epidemiology of HAI is different. Although urinary tract infections remain common, an emerging issue is that of skin and soft tissue infections. Many of these are as a result of pressure ulcer infections. This is a significant clinical indicator in health care and should be the focus of our attention. The prevention of pressure ulcers in the first place is the key to preventing these HAI.

There is now a need for the UK to focus on this emerging HAI epidemiology. The new Scottish Government HAI task force delivery plan for 2008–2011 is underpinned with the results of the national HAI prevalence survey with clear links to the work of tissue viability nurses, as well as infection control teams.

Work on care bundles also has a focus, and those involved in the field should be engaged with this in order to maximise the potential for success in reducing HAI and improving standards of care. Interdisciplinary working and ensuring infection prevention and control is the responsibility of all healthcare staff and is crucial to ensuring a reduction in HAI. **WUK**

Reilly J, Stewart S, Allardice G, Noone A, Robertson C, Walker A, Coubrough S. NHS Scotland National HAI Prevalence Survey. Final Report 2007, Health Protection Scotland [Report]