

Wash basins, door handles and relocated security buttons are key to cutting hospital infections, finds new research

Door handles, security buttons and wash hand basins can have a major impact on the level of hospital associated infections, according to new research.

The work has been conducted by HaCIRIC*, the world's largest research programme into healthcare infrastructure. The *Health Service Journal* this week reports findings from the research <http://www.haciric.org/news/redesigning-hospital-environments-can-help-tackle-infection>

The findings follow the recent tragic cases of three babies whose deaths have reportedly been linked to *Pseudomonas* bacteria found on sink taps in the neonatal unit at the Royal Jubilee Maternity Hospital in Belfast.

The HaCIRIC research finds that:

- Handgrip handles on hospital doors typically become more densely contaminated with microbes than 'push' doors with a flat metal plate.
- Many hospitals are required for security reasons to have entry pass controlled doors which get touched by all staff, cleaners and visitors. Contamination of such buttons can act as a source for microbial spread. The NHS could consider designing alternatives: foot pedals, for example, are used in some countries to open doors.
- Some surfaces such as rims of sinks can be missed by regular cleaning - microbiological swabbing has demonstrated that these are sometimes heavily contaminated. Researchers have observed these contaminated surfaces being touched, or used to support other objects such as papers, notes, files and medical equipment, often because there may be nowhere else to put them. Such contamination may then be carried off around the hospital.
- Many more wash hand basins have been installed in recent years. That's good if they are used, but the research shows that this depends on whether sinks can actually be seen. If visibility is obscured, either because of the design of the ward or because of curtains pulled around a patient's bed, hand washing declines.

HaCIRIC commissioned and funded the research which was conducted by Nigel Klein, Professor and Consultant in Paediatric Infectious Diseases and Immunology at Great Ormond Street Children's Hospital, London and by Dr Vanya Gant, Divisional Clinical Director for Infection, University College London Hospitals NHS Foundation Trust. This is part of a much bigger programme of research in this area.

Professor Colin Gray, HaCIRIC programme director, said: 'These findings are contributing to an increasingly sophisticated and evidence-based approach to understanding the environmental aspects of cross contamination and infection in hospitals, which we hope will save many lives and reduce the costs to the NHS.'

Notes to Editors

*The Health and Care Infrastructure Research and Innovation Centre (HaCIRIC) delivers world class research to support better healthcare through better infrastructure. Its work tackles the key challenges that face today's health and care systems. The Centre is a collaboration between existing research centres at the University of Reading, Imperial College London and the Universities of Salford and Loughborough.

HaCIRIC is supported by funding from the Engineering and Physical Sciences Research Council (EPSRC). It is the world's largest research programme in healthcare infrastructure.

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