Healthcare acquired infection reduction requires high level direction

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The battle against healthcare-acquired infections continues with a need for high level leadership and support, the Infection Control Nurses Association Conference, held recently in Brighton, was told. Nicholas Marshall reports.

Dr. Van Tam

G. Hodgson

S. Emslie

MRSA reduction targets represented an enormous challenge, and significant further progress was needed in meeting them, Janice Sigsworth, Deputy Chief Nursing Officer, Department of Health, told delegates.

She said that consideration was being given at high level to moving the NHS away from a target-setting orientation to a position allowing the creation of a self-improving service in which quality was the highlighted aspect.

The current health sector culture accepted infection as a norm and it was necessary to examine how this culture could be changed. The goal should be to achieve a level of no avoidable healthcare-acquired infections. Such infections added to patients' length of stay in hospital, decreased overall healthcare efficiency, reduced flexibility in an organisation, and affected a hospital's reputation.

Progress in achieving targets in infection prevention and control demanded a high level lead, good clinical engagement, and appropriate performance management systems, Janice Sigsworth stated. Ownership of infection control should be taken at directorate/specialty level, and infection control teams should "enable" advances. Effective and co-ordinated bed management systems should be in place, along with good antibiotic management and practices.

In a discussion period following Janice Sigsworth's address, the adverse implications, from an infection control perspective, of 100% bed occupancy and fewer side rooms on wards, were mentioned. The need to respond to numerous demands simultaneously meant meeting targets could not be always achieved, it was stated.

Reduction strategies

Gillian Hodgson, Nurse Consultant, Infection Control, Leeds Teaching Hospitals NHS Trust, examined MRSA reduction strategies in practice. Clearly, infection control practitioners needed to take a leading role in the fight against super-performing pathogens such as MRSA.

She acknowledged that, widely, meeting targets for MRSA reduction were causing growing concern. Positive aspects were that the setting of targets had moved the requirement for action to reduce healthcare-acquired infections higher up Trusts' agendas, and that the focus on combating MRSA meant more activity would be directed to fighting infections generally. It was essential that systems were in place to deliver sustainable reductions.

Gillian Hodgson contended that Trust board level "ownership" of infection prevention and control was essential. Adopting a performance management approach to infection prevention and reduction was advisable as a board would understand the direction being taken. Directors would embrace infection control objectives, and the involvement of clinical management teams should be sought.

Useful had been an exercise in which directors were invited to attend a hospital area of their choice and champion the use of good hand hygiene practice. For some, the non-adoption of good hand hygiene practice by medical staff had come as a shock.

To be effective, infection prevention and control campaigns needed to be inclusive of all personnel in the healthcare environment to be effective. Important was the establishing of cross-site implementation of standard cleaning methods and a single colour coding system to denote cleaning requirements.

Attention had to be given to specific areas such as needle safety and prevention of infection related to catheter use.

Infection control strategy needed comprehensive direction and adoption. For example, it was essential to obtain clinical adherence to Trust policy on viral gastroenteritis specifically with regard to work absence by affected staff and to working patterns in affected areas.

ICNA President, Dame Jill Macleod Clark, Head of School – Nursing and Midwifery, Medicine, Health and Life Sciences, University of Southampton, told the conference that the setting of infection rate reduction targets was futile if healthcare organisation culture did not change. Progress in achieving reductions would not be made until healthcare workers generally ceased "relying on someone else to fix it". Infection prevention and control professionals needed to work strategically, adopting the role of change agent. A public education agenda needed to be considered.

Pamela Lewis, Infection Control Practitioner, Veterans Affairs Medical Centre, Boise, Idaho, US, addressed the conference on the introduction of a computer system designed to direct clinicians away from antibiotic treatments which could increase MRSA risks.

A significant reduction in nosocomial transmission of MRSA had been achieved, and further study was hoped for.

Pamela Lewis was asked if clinicians had viewed the system introduced as restricting their prescribing, and she replied that the information provided by the system was generally welcomed for its guidance content.

After the introduction of the system, fluoroquinolone use decreased by some 34% and levofloxacin use decreased by about 50%. The reduction in fluoroquinolone use was offset by increased use of cephalosporin, piperacillin-taxobactam, and trimethoprim-sulfamethoxaxole. The rate of MRSA nosocomial infection decreased from 1.37 to 0.63 episodes per 1,000 patient days after the system introduction.

During a norovirus outbreak, hand hygiene levels had been driven up by increasing soap and water, instead of an alcohol-based product, for hand cleaning, and the importance of environmental disinfection methods noted.

Acinetobacter baumannii

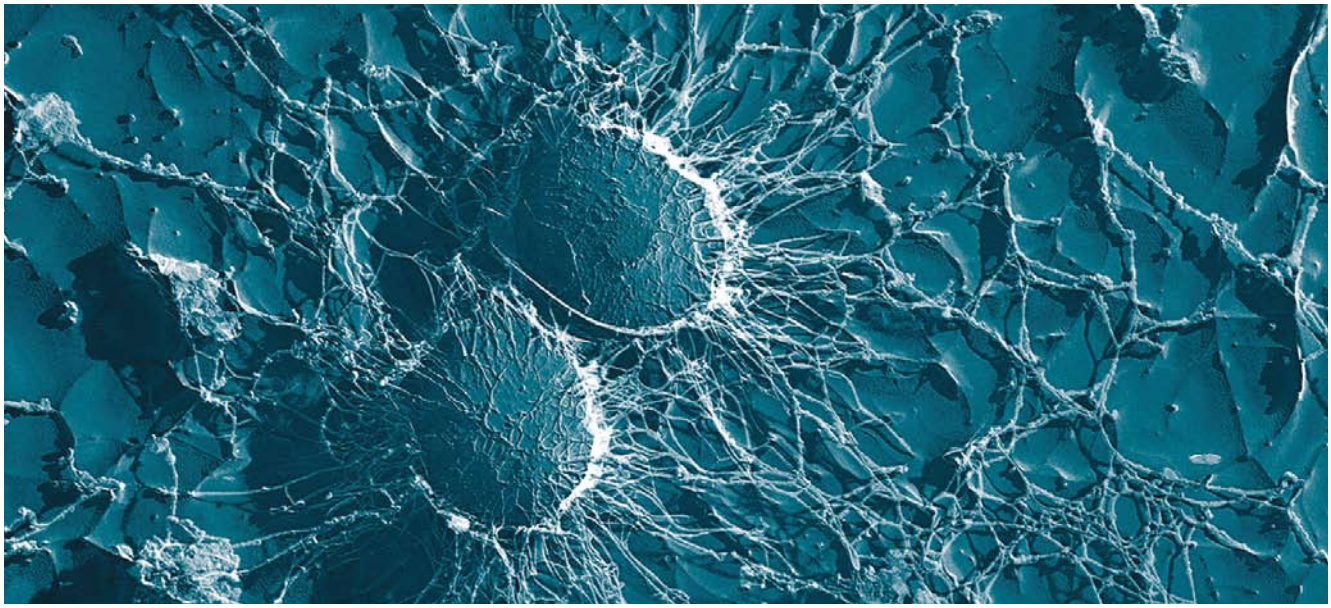
Dr Tyrone Pitt, Microbiologist, Centre for Infections, Health Protection Agency, drew attention to a dramatic increase, in the last five years, in the number of infections caused by *Acinetobacter baumannii* with multiple resistance to antimicrobials. Risk factors for acquiring *A. baumannii* included a stay in an intensive treatment unit with colonised patients, severe trauma, defective immunity, the presence of intravenous lines, and previous antibiotic administration.

In hospitals with colonised/infected patients, *A. baumannii* could be recovered from patient-associated items such as bed linen, mattresses, pillows, fans, cupboard surfaces, plastic tubing, pressure monitors, sinks, respirometers, cleaning cloths and face masks. The organisms could persist in the particular hospital environment for a long time after patients had been discharged.

Most affected hospitals have experienced protracted outbreaks in critically ill patients in intensive therapy units and in patients with severe burns.

Noted is that the great majority of clinical isolates of *A. baumannii* in the UK belong to a relatively small number of strains, or to groups of closely related strains – termed clones. Two of these – South East Clone and Oxa-23 Clone 1 – have affected over 40 hospitals and continue to spread. In addition, one Trust had identified a problematic new strain.

It had to be determined if epidemic clones were widespread in the environment or were acquired through direct or indirect transfer from affected patients. It was clear that strains with alarming levels of antimicrobial resistance will pose a significant challenge to infection prevention and control personnel. It was essential to have in place a clearer



Hospital disease, Staphylococcus aureus

designation of responsibilities for cleaning, and appropriate cleaning strategies. An aim should be to eradicate or reduce environment contamination by deep cleaning.

EBSL – producing bacteria

Graeme Jones, Consultant in Medical Microbiology and Director of the South East Regional Microbiology Laboratory, Health Protection Agency, Southampton University Hospitals NHS Trust, focused particularly on extended-spectrum beta-lactamase-producing organisms. These are presenting special challenges to clinical microbiologists, clinicians, and infection prevention and control professionals.

Indeed, ESBL-producing bacteria posed an increasing problem. Treatment options were limited and expensive, and clinicians needed to be regularly updated on developments in the fast-moving field of antibiotics.

Elderly patients with co-morbidities were especially vulnerable – the longer these patients remained without effective treatment, the greater the risk of mortality. Detection was an issue, and there was a need to review and update laboratory methodology and the use of antibiotics.

Attitudes

Kathy Arias, President of the Association for Professionals in Infection Control and Epidemiology in the US, drew attention to how healthcare workers' attitudes to influenza immunisation had to be changed. She said healthcare personnel often did not accept that they could spread disease and that they required vaccination against influenza.

To "bridge the immunity gap" health organisations needed to run campaigns to educate personnel about the importance of influenza immunisation. Vaccination programs had to be convenient and it was necessary to keep track of who had been immunised. The safety of immunisation had to be stressed, availability of vaccine had to be ensured, and cost barriers had to be avoided. In Australia, a mobile vaccination station able to tour a hospital had achieved successful staff immunisation rates.

On a wider front, there were wrongly held beliefs that had to be dispelled – these included ideas that healthcare acquired infections were inevitable, that hand hygiene could not be improved, and that MRSA could not be controlled.

Staff specialising in infection control and prevention should see prevention as their main role and be proactive in advancing it. They should challenge the status quo, aiming to eliminate HAIs including the nosocomial transmission of MRSA, and integrating effective hand hygiene practice into the healthcare culture.

In a discussion period following Kathy Arias' address, it was pointed out that influenza vaccine was not always available and that influence should be used to ensure that supplies were in place when required. In the area of hand hygiene, glove use should not undermine good practice – gloves might not feel "dirty".

Pandemic implications

Dr Jonathan Van-Tam, Consultant Epidemiologist, Pandemic Influenza Office, Health Protection Agency, outlined the prerequisites for a flu pandemic, the difficulties faced in controlling disease spread, and the implications for health organisations.

The NHS was not used to dealing with segregation of patients on a large scale, and it was important to study how hospitals could be reconfigured so that patients with flu, and those not having the infection, could be separated. Furthermore, appraisals had to be conducted to ascertain what levels of supplies needed to be stocked and available to meet demands that would arise during a pandemic.

Dr Van-Tam considered that personnel departments should, in a pandemic, be ready to view sick leave as a positive occurrence – by being absent, infected staff would not spread infection in the workplace.

He said that, in the event of a pandemic, there would be understandable demand for school closures. The impact of a virus on children would be taken into account, but so, too, would the effects on working parents if their children were at home – some of the parents' roles would be providing essential services. Dr Van-Tam wondered after what period closed schools would re-open. Would it be necessary "to wait a year?" There was no easy strategy, and there would be the prospect that when schools re-opened more cases of infection would arise.

Prof Robert Pratt, Director of the Richard Wells Research Centre, Thames Valley University, presented a stark look at what confronting 21st Century plagues could mean. He examined the factors that might assist pandemics to gain hold – international travel, diseases overcoming barriers between species, the sheer size of mega-cities, global warming and sexual promiscuity.

Optimism that infectious diseases were "conquered" was now fading, Prof Pratt said. He outlined a number of concerns including a form of TB that was extremely resistant to drug treatment. Noted was how a particular kind of multi-drug resistant HIV infection had been identified in the US.

Governance

Russell Thompson, Governance Manager, North Cumbria Primary Care Trusts, examined governance issues relating to infection prevention and control, and outlined the Department of Health's Standards for Better Health which were supportive of the delivery of high quality healthcare by empowering individuals. He considered that the standards did empower individuals to achieve changes.

Russell Thompson drew attention to the need to audit what was done in infection prevention and control activities. It was necessary to ascertain what systems were in place and what risk assessments were required. Furthermore, checks were required to ensure that systems were effective and that performance was satisfactory – was there a year-on-year reduction in MRSA rates?

Infection prevention and control was not a "tick box" exercise but, rather, a continuous, live activity, Russell Thompson said.

Stuart Emslie, Visiting Fellow, Loughborough University, addressed the conference on "Putting an end to distress – improving healthcare through better governance."

When things went wrong, there was a tendency to find ineffective governance in place, he said. If good Trust boards were established, the difference was noticeable. Governance entailed honesty, openness, and comparing activities to what was being achieved elsewhere.

Stuart Emslie drew attention to how the Independent Commission on Good Governance in the Public Services believed that "Good governance leads to good management, good performance, good stewardship of public money, good public engagement and, ultimately, good outcomes."

Poor governance could lead to organisational distress, he said, adding that stories about ineffective governance abounded in both the corporate and public sectors. The NHS had experienced its "fair share" of governance failures. One of the most recent well-publicised failures related to Stoke Mandeville Hospital, Buckinghamshire Hospitals NHS Trust – a Healthcare Commission report in July 2006 into two outbreaks of *Clostridium difficile* concluded that the structure for governance and the management of risk failed.

There was a danger that governance and risk management could be too complex to be effective. When inquiry reports were made, it was systems not individual that were found to be blameworthy. Required were leadership, training and responsibility to be taken for the effectiveness of the governance structure. Boards were the linchpins in ensuring effectiveness. Furthermore, the route to excellence in governance involved the studying of what made good practice in this area, enhancement of the quality of information delivered to the Trust board, and improvement in the process for recruiting board members.

Stuart Emslie pointed to how there were many tools and systems available to identify risk. It was important to consider what extra measures might be introduced to control risks. When there was focus on system development, individuals could see benefits which in turn led to further advances.

The importance of ensuring that independent members of Trust boards had a thorough understanding of infection prevention and control, was underlined in Stuart Emslie's session.

ICNA name to change

- ICNA members have voted to change the name of their association to the Infection Prevention Society.
- The new name may be introduced in 2007 and full membership of the organisation made available to all healthcare professionals involved in infection prevention and control rather than only to specialist nurses.
- Judy Potter has succeeded Jean Lawrence as ICNA chairperson.
- The theme of the ICNA conference in Brighton was "Bridging the gap", reflecting the need to bring best practice to the fore in many areas.