

Health care-associated infections in primary and community care

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Carol Pellowe and colleagues discuss the national guidelines for preventing health care-associated infections in primary and community care that have been developed by the National Institute for Clinical Excellence. These describe standard principles for preventing infections and provide specific recommendations on the use of long-term urinary catheters, central venous catheters and enteral feeding systems

KEY WORDS

Health care-associated infections
Infection prevention
Guidelines
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The National Institute for Clinical Excellence recently published guidelines for preventing health care-associated infections (HAIs) in primary and community care (NICE, 2003). These were commissioned by the Department of Health and NICE to complement previously published guidelines for preventing HAIs in hospitals (Pratt et al, 2001). The new guidelines aim to facilitate a seamless approach to using the best evidence for infection prevention practices as patients transfer between primary and secondary health care services. This article discusses the need for the guidelines and describes the methods used to develop them.

Scale of the problem About nine per cent of patients admitted to NHS hospitals in England acquire an HAI, resulting in 100,000 infections and 5,000 deaths annually (Department of Health, 2001; Taylor et al, 2000). These infections cost the NHS about £1bn a year, but 15–30 per cent of them are preventable (Taylor et al, 2000).

The extent of the risk of HAIs for patients in primary and community care is currently unquantifiable. However, the rapid transfer of patients from hospital to the community, and the rising number of procedures performed in primary and community care, increase the risk of potentially vulnerable patients acquiring HAIs.

These may exacerbate their existing condition, delay recovery and adversely affect their quality of life. Effectively implementing the core components of clinical governance, including risk management and clinical effectiveness, can reduce the risk of preventable HAIs (Pratt et al, 2002).

Clinical governance Clinical governance is the framework through which NHS organisations are accountable for continuously improving the quality of their services and safeguarding standards of care. Its key components are a series of quality attributes that are generated from an organisational culture working towards continuous quality enhancement.

Clinical effectiveness is fundamental to clinical governance and requires that care is based on the best available evidence. National evidence-based guidelines are one way of providing this evidence in an easily accessible form. Evidence-based infection prevention guidelines were developed for acute health care services (Pratt et al, 2001). It was therefore important that community and primary care services were provided with equivalent guidelines so that infection prevention practices could be informed by current best evidence and patients could be assured of quality infection prevention care, regardless of setting.

Developing NICE guidelines NICE was established 'to provide patients, health professionals and the public with authoritative, robust and reliable guidance on current best practice' (www.nice.org.uk). Because the Richard Wells Research Centre at Thames Valley University had developed the DoH guidelines for preventing HAIs in hospitals, it was commissioned to extend this work to develop the new NICE guidelines for preventing HAIs in primary and community care. The centre was supported by a multiprofessional guideline development group and the NICE National Collaborating Centre for Nursing and Supportive Care.

NICE has established precise methods for developing guidelines. Central to these processes are rigorously conducted systematic reviews that provide evidence for critical appraisal. The institute also ensures the active participation of all stakeholders (patients and carers, health care professionals, NHS trusts and companies) in the development processes.

Scoping the guidelines The first step in developing NICE guidelines is a scoping exercise, which defines what the guidelines will cover. This was accomplished through a survey and a series of focus groups (Pellowe et al, 2002). This resulted in extensive advice to develop guidelines that described standard principles for preventing HAIs (hand hygiene, personal protective equipment and sharps) and infection prevention methods for three key medical devices: long-term urinary catheters, enteral feeding systems and central venous catheters (CVCs). On p60 of this NT supplement, Nicola Pratelli considers further implications for practice of standard principles for preventing HAIs.

A guideline development group was established, which included:

- Primary and community care practitioners;
- Clinical specialists in infection prevention;
- Clinical specialists in the care of patients with the above medical devices;
- Researchers;
- A health economist;
- A patient representative.

Relevant stakeholders were invited to register their interest with NICE and submit any evidence they wished the group to consider.

The process of a systematic review is outlined in Box 1. The search questions defined the limits of the search, and for each stage of the review there was an agreed protocol. With the advice of a senior medical librarian, separate systematic searches were developed and conducted for each guideline subject. Specific databases required by the NICE protocols were searched, and an additional internet search was made for other national

and international guidelines in these areas.

Where guidelines were identified they were subject to a critical appraisal using the *Appraisal Of Guidelines Research and Evaluation (AGREE) Instrument* (The AGREE Collaboration, 2001). In total, 69,174 citations were reviewed and 170 papers were subjected to independent critical appraisal. Evidence tables were produced for each search question and, based on these and any relevant health costs, the recommendations were drafted.

Evidence was graded using the system devised by Eccles and Mason (2001) and is reproduced in Box 2.

The nature of the evidence on infection prevention means that the opportunity for grade I evidence is limited and much of it is descriptive. But it is important to note that this is the best available evidence and areas where more research is required have been highlighted.

The draft guidelines were subjected to two external consultations and registered stakeholders were invited to comment. Many organisations responded, which influenced the final guidelines.

Guidelines dissemination The guidelines have been published in three formats. The full version, including a discussion of all the evidence considered, will appear shortly as special supplements in the *Journal of Hospital Infection* and the *British Journal of Infection Control*. The full version with supplemental evidence is also available on the Richard Wells Research Centre website, where individual sections can be downloaded (Pellowe, 2003). NICE has published the key recommendations for health care professionals and a special version for the public, both of which are available on the NICE website.

Training for care Patients in the community often need to manage much of their own care, or rely on unqualified helpers such as family members, neighbours or volunteers. As a result, each guideline section includes recommendations on the education of patients, carers and health care professionals. These should be included in discharge planning processes so patients are safely cared for on return home.

Changing evidence Evidence on preventing HAIs continues to evolve and is reviewed every two years. For example, the evidence for the DoH guidelines for preventing HAIs in hospitals (Pratt et al, 2001) is being reviewed and updated. Also, the recommendations for the NICE guidelines may lead to adjustments to the DoH recommendations. Almost all of the standard precautions described in the DoH guidelines are similar to those in the new community and primary care guidelines.

However, since 2001 much evidence has emerged to

BOX 1. THE SYSTEMATIC REVIEW PROCESS

- Stage 1** Defining the search questions
- Stage 2** The search for evidence
- Stage 3** Sift 1 – abstract review
- Stage 4** Article retrieval and sift 2
- Stage 5** Critical appraisal
- Stage 6** Evidence tables and reports

BOX 2. EVIDENCE GRADES

- Ia** Evidence from meta-analysis of randomised controlled trials
- Ib** Evidence from at least one randomised controlled trial
- Ila** Evidence from at least one controlled trial without randomisation
- Ilb** Evidence from at least one other type of quasi-experimental study
- III** Evidence from non-experimental descriptive studies, such as comparative, correlation and case-control studies
- IV** Evidence from expert committees' reports or opinions

support the use of alcohol hand rubs where hands are not visibly soiled or grossly contaminated. There is also new evidence on the need to individually assess patients who use long-term urinary catheters for any encrustation and blockage.

In caring for patients with CVCs, the evidence no longer supports the use of heparin flushes for preventing catheter-related bloodstream infections (although they may be required for maintaining catheter patency in some types of central venous catheters). The routine use of a sterile 0.9 per cent sodium chloride solution is now recommended for the flushing and locking of CVCs.

As the evidence has changed, the use of an alcoholic solution of chlorhexidine gluconate for decontaminating the injection port or catheter hub is recommended before and after they have been used to access the system.

All this new evidence has been reflected in the current guidelines and their impact on the DoH's 2001 guidelines will be reported in journals this autumn. As previously stated, guideline recommendations are based on the best available evidence, not the best evidence possible.

Research The development team also identified areas where new evidence is needed, especially in caring for patients who use medical devices. Given the diversity of care settings, and the variations in practice and supplies, there is a need to pursue new evidence to improve understanding of how to prevent HAIs. ■

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USEFUL WEBSITES

Preventing HAIs in hospitals: www.doh.gov.uk/HAI

Preventing HAIs in primary and community care – key recommendations and information for the public: www.nice.org.uk/cat.asp?c=71774

The complete guidelines are at: www.richardwellsresearch.com