Health and Social Services Committee

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Date: Wednesday 5 October 2005
Venue: Committee Rooms 3&4, National Assembly for Wales
Title: Hospital Acquired Infections

Purpose

1.1 This paper provides current information on the policy of the Welsh Assembly Government over hospital acquired infections (HAIs).

Summary/Recommendations

2.1 HAIs are a significant problem for the NHS. They prolong patients' stays and can cause permanent disability and death in some cases. Prevention of HAIs is the responsibility of all those involved in providing health services – not only those directly involved in infection control.

2.2 The Welsh Assembly Government has worked closely with trusts in the development of a national strategy for reducing HAIs. This strategy was founded on the many examples of good practice that existed in Wales and is designed to ensure that a degree of consistency exists across Wales. Trusts' infection control programmes are required to meet national requirements but they also need to respond to local needs and priorities. Trust chief executives and their boards must ensure that infection control is an integral part of the management of all hospital activities and that it is resourced appropriately.

Background

3.1 A healthcare associated infection (HCAI) is any infection relating to a healthcare intervention and is further described as follows:

- a hospital acquired infection (HAI) is one that is neither present nor incubating when a patient enters hospital but develops after the first 48 hours of a hospital stay; and

- a community acquired infection (CAI) is one that a patient has when going into hospital or develops within the first 48 hours of admission.

3.2 The provision of healthcare services is now wide ranging and complex with many interventional procedures being undertaken through day surgeries or at outpatient clinics. The rapid admission and

discharge process involved means that the strict definitions of a HAI and CAI are not meaningful.

3.3 Most HCAIs will result from organisms that the patient themselves carry harmlessly. However, experts agree that a proportion of HCAIs are preventable and this has been estimated to be between 15-30%. The rates of infection vary according to the procedure, the site affected and the patient's current health condition. To this end, publication of an overall infection rate for a trust or an individual hospital is of little value to the individual patient undergoing a particular procedure.

3.4 The National Audit Office acknowledged, in its Report 2000, that the best available estimates suggested that were at least 300,000 HAIs in England and about 5,000 deaths. These figures suggest that in Wales, there would be about 15,000 HAIs with about 250 deaths. It is difficult, even now, to quantify with certainty the numbers involved but it is generally accepted that some 9% of patients undergoing hospital treatment will develop an HCAI.

Consideration

4.1 The Health & Social Services Committee's review of HAIs needs to understand the myths and realities that exist in order to offer a considered view because there are many misunderstandings. This paper attempts to address these and explain where Welsh policy currently resides.

4.2 An HCAI is diagnosed using clinical judgement and not solely through a laboratory test. The classic signs of infection are redness, heat, swelling and pain of the affected part.

4.3 Methicillin resistant Staphylococcus aureus (MRSA) is not an infection but is a bacteria capable of causing infection. In this respect, it is no more likely to cause infection than its antibiotic sensitive cousin, the methicillin sensitive Staphylococcus aureus (MSSA) – yet it is often the one that is given most media attention.

4.4 Our approach is therefore to support the reduction of all infections rather than any specific infecting organism. In September 2004, we launched the 'Healthcare Associated Infection: A Strategy for Hospitals in Wales' that had been developed in partnership with the Welsh Healthcare Association Sub-group, Local Health Boards, NHS organisations, the Welsh Risk Pool and Community Health Councils (CHCs). The strategy set several strategic objectives, including:

- all staff to understand the impact of infection and infection control practices to enable them to discharge their personal responsibilities to patients, other staff, visitors and themselves;
- patients to be treated in physical environments that minimise the risk of infection;

- infection control programmes to be supported by adequately resourced specialist infection control staff with a sufficient skill mix to meet the trusts; infection control plan;
- trusts to adopt comprehensive surveillance programmes;
- reduction in infection rates to form part of the trust's local strategy; and

- trusts to develop systems to effectively record, analyse and share infection data.

and this can be viewed at: http://www.cmo.wales.gov.uk/content/work/communicable-disease/healthcare-associated-infections-strategy-e.pdf

4.5 We recommended a package of tools to support clinical teams in identifying problem areas and targeting remedial action. It included requirements for specialist support, highlighted the need for safe physical environments, confirmed the need for training for all in infection control and outlined the value of information and communication systems in underpinning the processes involved.

4.6 All trusts were required to develop action plans in response to their identified local issues. A review of plans showed that they varied considerably across Wales and trusts would benefit from a standardised approach that accorded with clinical governance requirements. The guidance was issued to trusts through Welsh Health Circular 2005(54) issued July 2005. This can be viewed at:

http://www.cmo.wales.gov.uk/content/communications/welsh-health-circulars/54-05-strategy-feedback-guidance-e.pdf

4.7 The key issue with HCAIs is for management to see this as an important part of their core services. Often this is difficult because of competing demands. Waiting list targets, for example, increase hospital throughput and bed utilisation. Segregated areas (for example in planned orthopaedics) can be compromised and infection rates increased.

Are HCAIs increasing?

5.1 There is no evidence to suggest that this is the case. There is, however, a wealth of evidence that rates of a particular organism vary between countries and hospitals. Often the press has focused on a specific organism and has highlighted differences in rates between the UK and other European countries without understanding that a straight comparison can often now be made for many reasons.

5.2 In the 1990s, the headlines drew attention to the ‘Flesh Eating Killer Bug’, more correctly known as the Group A streptococcus and a severe form of infection: necrotising fascitits. The media attention may have moved elsewhere but the organism still causes cases year on year.

5.3 MRSA has the spotlight now but it is interesting to reflect on recent attention shifting towards either a new "super-strain" of Clostridium difficile - see:

http://news.bbc.co.uk/1/hi/health/4612779.stm

or the common gut organism E coli, producing an enzyme (Extended Spectrum Beta-Lactamase (ESBL)) that makes it resistant to many of the commonly used antibiotics - see

http://news.bbc.co.uk/1/hi/health/4230592.stm

5.4 The following table compares the rates of infection for specific types of surgery in two periods, reported in the scientific press. The most noticeable change is that the number of infections relating to cholecystectomies (removal of the gall-bladder).

5.5 This could have signalled an improvement in infection control procedures but this is not what happened. The reduction came about because of a change to surgery via a laparoscope that reduced the length of hospital stay greatly and the risk of colonisation by resistant bacteria. Instead of a massive wound that was the norm in the 1960s, laparoscopic surgery on the gall bladder requires three small incisions.

	1960		1997-9	
	no. ops	& infect	no. ops	% infect
Cholecystectomy	247	12	47	2
Gastrectomy	240	3	183	4
Large bowel	373	6	289	6
Orthopaedics	208	1	13362	1

(Source 1960: Lancet, 1997-9: NINNS study)

5.6 However, absence of evidence is not evidence of absence. Alongside the other UK countries we are commissioning the Hospital Infection Society to undertake a HAI prevalence study. This will aim to assess every patient in Welsh hospitals during a particular week in May 2006 and to make comparisons between this data and that from two surveys conducted in 1983 and 1995. The most recent survey in 1995 indicated that some 9% of patients developed an HAI (i.e. 48 hours or more after admission) although the data included specialist hospitals that inevitably have a higher infection rate. Two recent pilots in Welsh district general hospitals have suggested the figure could be lower figure. We hope that the 2006 survey will provide a more robust indication of current rates of infection.

What is Wales doing about HCAIs?

6.1 Wales has the leading UK role on many aspects of HCAI prevention and control. Some of the earliest surveillance schemes were developed in the early 1990s in Wales. More recent developments, such as the ability to collect data on bacteraemias (blood stream infections) consistently, has meant that we are now working more closely on a UK approach.

The Infection Reduction Programme

6.2 Surveillance is only of value if it produces information that can be useful as a monitoring tool of performance or output. We have therefore placed great emphasis on a Wales wide Infection Reduction Programme whereby each trust is required to identify local infection issues of concern and, using a nationally recognised surveillance method, develop interventions to reduce them.

6.3 The programme was reviewed earlier in the year by the National Public Health Service (NPHS) and this provided an opportunity to consider whether a change on direction was needed. The review found that progress varied - not unexpectedly given that it is a new programme, and we have invited trusts to consider the key issues for the next reporting period.

The Surveillance Programmes

6.4 Surveillance is a tool that can be used to measure change or offer a monitor to reassure that a process is in control. A series of mandatory programmes have been introduced over the past four years to ensure a consistency of approach across Wales. It also enable trusts or teams to assess their performance over time and, where appropriate, to compare their performance with others.

6.5 Surveillance should be seen as part of the development of clinical governance. No attempt is made to assess all HCAIs, many being the result of natural process and infection with the body's own micro-flora. The targeted programmes aim to assess specific intervention types and these will continue to be developed as the methodology is adopted.

6.6 Bacteraemias were chosen as the laboratory test that can most appropriately be used as a marker of infection. As explained above, infection can only be diagnosed clinically but a laboratory result can help a clinician by identifying infecting organisms and guiding antibiotic prescribing. However, serious infections can lead to bacteraemia or septicaemia and this can be picked up by sampling the blood in a blood culture. Thus, about 90% of positive blood cultures will represent serious infection. The remaining 10% are usually recognised as false positive results, occurring when a normal skin bacteria gain access to the culture bottle during sampling.

6.7 The bacteraemia reporting scheme is the one that is used to provide comparative data on MRSA infections in England. Publishing in Wales however has always included all positive blood cultures, all Staph aureus isolates and the MRSA data. From this, we have demonstrated that some 4% of serious infections are due to MRSA, a further 4% to MSSA and the remainder due to other organisms, of which, 10% are likely to be false positives. Thus, some 82% of serious infections are due to organisms other than Staph aureus.

6.8 Nevertheless, as a result of continued speculation about MRSA in Wales and the previous policy of anonymous publishing of hospital data, as compared to England, the minister announced a consultation exercise to consider alternative ways of publishing data to clearly demonstrate. While the consultation

has finished, the papers are still available on the NPHS website at:

http://www.wales.nhs.uk/sites/page.cfm?OrgID=379&PID=8267

6.9 In addition, the Community Health Councils in Wales, in partnership with the Welsh Institute for Health & Social Care, were commissioned to undertake focus groups to assess the needs of the public in this important area. Their report has now been published on the CMO website at:

http://www.cmo.wales.gov.uk/content/work/communicable-disease/give-us-useful-information-w.pdf

6.10 From the CHC report, it is clear that many patients want information to help them understand the problem of HCAIs. The majority require information in a simple format. The CHCs will be working with the Welsh Healthcare Associated Infection Subgroup to produce a suitable general information leaflet. In addition, a significant minority did require access to local information that would help them understand the risks posed to them of infection when entering hospital.

6.11 The proposal therefore is to adopt the sort or approach to publishing, outlined in the consultation. This will make information available on a trust by trust basis. While it will be possible to make comparisons between hospitals, this is not the over-riding aim. The data should support the patient, in dialogue with their clinicians to assess their individual risks at a specific point in time.

What then will be published and how can the data be used?

7.1 There are a number of surveillance schemes in operation in Wales. These will be developed further to give useful information to help clinicians advise their patients of individual risk, while also assisting them in their clinical governance responsibilities.

The Bacteraemia Reporting Scheme

7.2 At present, the scheme collects 4 data items:

- number of blood cultures taken;
- number positive;
- number of Staph aureus; and
- number of MRSA

and will be developed to allow each trust to present the ‘top ten’ organisms that make up the positive results (and also where MRSA appears if not in the top ten)

How will this help clinicians and patients?

7.3 Each trust in Wales is required to have Infection Reduction Targets aimed at locally identified problems. Many trusts use this scheme as a way of assessing their programme. Some will be using the MRSA data, where this is a problem, others however have used the total positive result to assist.

7.4 The enhanced scheme will allow trusts to monitor developing trends with a variety of bacteria and respond to any changes that are posing new threats.

The Surgical Site Infection Surveillance Scheme

7.5 This originally was adopted in orthopaedics but is shortly to be extended to caesarean section infections from this year, following successful pilots in a number of trusts. Vascular surgery will be the next discipline to follow. These schemes use clinical definitions and do not rely on laboratory data. As such therefore, they measure true infection.

How will this scheme help clinicians and patients?

7.6 This allows an individual surgeon to assess his performance with a specific operation with others in his trust, across Wales and, where a comparable scheme exists in other UK countries, nationally. This forms part of the clinical governance needs of clinicians. While clinicians vary, this scheme will allow an early warning of a developing problem. This scheme looks at the whole system and should not be seen as a way of judging individual performance. Changes to a procedure, use of new drugs or techniques, changes in bed management, air flow problems in theatre etc. etc. could all contribute to a change in infection rates. This scheme has been chosen by some trusts as the monitoring tool for their local infection reduction programme.

The Clostridium difficile diarrhoea reporting scheme

7.7 This scheme was introduced this year in view of the increasing problem of antibiotic associated diarrhoea, the commonest manifestation of overgrowth of this organism in the gastro-intestinal tract.

How will this scheme help clinicians and patients?

7.8 This organism is one of the common causes of ward closure (along with norovirus infection). The recent development of a more pathogenic strain has caused alarm and the scheme is being amended to include typing addressed at identifying the extent of this newer strain.

7.9 A couple of trusts have nominated this scheme as the tool to assess their infection reduction programme where locally they have had a particular problem with this organism.

How does the recent Standing Order 31 debate fit with the Welsh arrangements?

8.1 The proposals in the debate were about the development of a patient advocacy role at trust board

level. There are currently roles defined for executive board members in relation to infection control and cleaning that ensure a direct line of accountability to the chief executive. In response to this debate, the Minister for Health & Social Services will review the call for a non-executive director to act in this patient advocacy role.

8.2 Looking back to the important part played by CHCs, the aim will be to strengthen their audit role and give a focus as board level.

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