NHS
Institute for Innovation and Improvement

Reducing avoidable mortality

Chief Executives lead the way

The Case for Change

The quest to reduce avoidable hospital deaths should be a top priority for every Chief Executive:

- Thousand of patients die unnecessarily in NHS hospitals each year
- Healthcare providers exist to extend the duration, and improve the quality of life of their population
- Interventions to reduce avoidable mortality also impact on patient safety, patient flows, lengths of stay and patient experience
- Both commissioners and patients will make choices between healthcare providers, choosing those that will provide the best opportunities for good health and wellbeing
- A focus on clinical care is an effective way of engaging clinicians in the hospital's service improvement work - this can have a positive impact on efficiency
- Reducing avoidable mortality benefits everyone:
  - patients can have more confidence in their care and clinical outcomes
  - staff at all levels can be assured of the reliability and safety of the care they give
  - there are potential efficiency gains and cost savings

Individual clinicians or clinical teams that have attempted to reduce avoidable mortality without the support of the Chief Executive or Board have struggled. The role of Chief Executives in initiating and leading change and prioritising the reduction of avoidable mortality is key.

'Chief Executives need to know their hospital standardised mortality rates and support approaches to improving them. It's about time the NHS took this agenda more seriously. As accountable officers we should be deeply concerned about the avoidable deaths happening weekly in our own hospital. There should be nothing more important to a CEO than saving lives and demonstrating to their staff they are interested in this'

Stephen Ramsden, Chief Executive, Luton & Dunstable Hospital.

Trusts working on reducing mortality have achieved reductions in Hospital Standardised Mortality Rate (HSMR) of up to 20%, even when their starting HSMR was below average. A reduction of just 10% would mean 10,000 lives saved per year in England alone.

Background

Avoidable mortality can be defined as deaths that should not occur given current medical knowledge and technology[1]. There is a broad range of Hospital Standardised Mortality Rates (HSMR) in NHS Trusts in England.[2] We have shown that changes in care processes can result in reductions in mortality of more than 10%.

Whilst some Trusts have implemented initiatives to reduce avoidable mortality, many have not seen the issue as a priority, despite the increasing strength of ethical and cultural pressures:

- executive and clinician concern
- publication of HSMR data by Dr Foster and The Times
- media attention

and despite available support from agencies such as the Health Foundation, Institute for Healthcare Improvement[3] and the NHS Institute for Innovation and Improvement.

'In devising HSMR I think we have now got as near as we can to a hard measure of the quality of clinical care in a hospital'

Professor Brian Jarman, Director of the Dr Foster Unit, Faculty of Medicine, Imperial College, London.

Common causes of high HSMR	
Inappropriate and/or untimely care	• delays in the process of care, e.g. delays to theatre • ineffective systems to identify and rescue the deteriorating patient • delays in transferring patients to high dependency unit
Inappropriate setting of care	• problems accessing critical care • medical outliers on surgical wards • inappropriate admissions from nursing homes e.g. patients admitted to hospital for end of life care
Poor medicines management	• antibiotic doses missed • errors in establishing the medication history of patients on admission leading to omission of pre-admission drugs • complications from high risk medications. For example poor control of opiates and Warfarin
Hospital acquired infections	• surgical site infections • central line associated bacteraemia • ventilator associated pneumonia
Non-clinical issues	• inaccurate coding

Key messages for Chief Executives

1. Engage with the issue:

Understand what is happening in your organisation. Talk to your Medical Director and senior staff. Review available data on your trust's overall mortality rates, and broken down by speciality and HRG. Identify gaps in information and request interventions to surface relevant data and develop reporting systems.

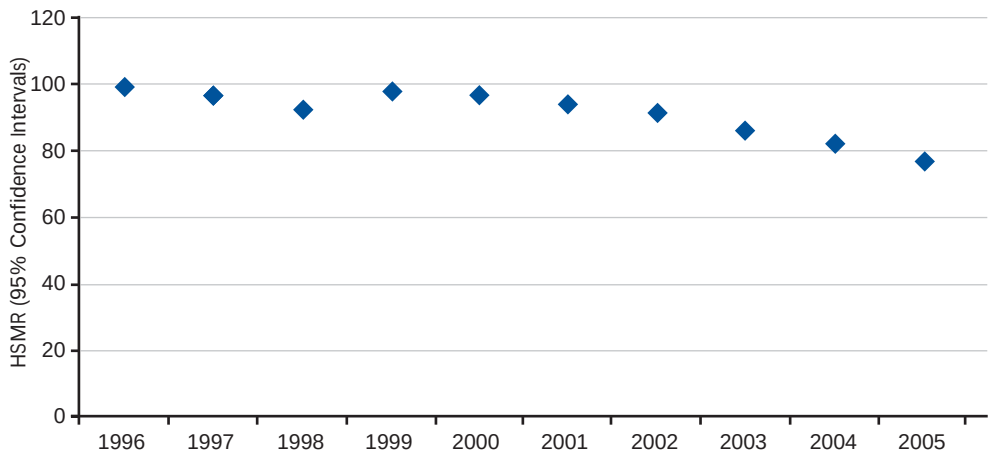
Encourage and support a senior doctor in carrying out a case notes audit, using a trigger tool to make the best use of his/her time, yet with a high likelihood of picking up adverse events. This will have maximum impact if the doctor has a passion for the subject. If your trust is similar to others, an adverse event rate of 10% is to be expected, but only a tiny proportion of these will be picked up by incident reporting.

Can you be assured that the hospital is providing basic care in the right way, all the time, for every patient? Has this ever been systematically assessed? If not, why not? What and where are the issues in your trust?

Find out about the work already being undertaken to reduce avoidable deaths in the UK:

- see www.institute.nhs.uk/safer_care/safer_care/safer_care.html and follow the link to reducing avoidable deaths in hospital
- find out about the 5 million lives campaign in the United States, a successful campaign to improve patient care and reduce avoidable deaths based on 12 key interventions. See www.ihi.org/IHI/Programs/Campaign/
- see www.drfoster.co.uk/hospitalreport/ to identify your trust's HSMR.

Bradford annual HSMRs



Bradford Teaching Hospitals Trust has used a systematic approach to avoid unnecessary deaths.

2. Quantify the case for change:

Tackling avoidable mortality means getting basic care right all the time, for every patient. This improves the standard of care for all patients and will reduce complications, speed recovery, and enable faster discharge.

Pose the following questions to your staff:

- Where are unnecessary delays occurring? Why? What impact is this having?
- Are patients receiving care in the right setting?
- Are medicines management processes in place and fully implemented? What are the reasons for medication errors that have occurred?
- How are healthcare associated infections prevented? Have prevention mechanisms been fully implemented? Have systematic approaches been taken to preventing ventilator associated pneumonia, central line associated bacteraemia, and surgical site sepsis?
- How do you compare to neighbouring providers? What are their HSMRs? How might this comparison impact on local choice?
- How might initiatives to reduce avoidable mortality have a positive impact on overall safety, patient experience, length of stay, infection rates, place of death?
- How might initiatives to reduce avoidable mortality impact on expenditure levels? For example improved clinical care is associated with reduced lengths of stay and reduced cost.

3. Provide visible leadership and establish avoidable mortality as a trust-wide issue:

- Quantify the case for change for your trust, and identify the potential benefits, in terms of patient experience, reputation, income, and expenditure
- Think about ways to engage your staff in working to reduce avoidable mortality
- Implement regular senior 'safety walk-rounds'. Encourage staff to highlight safety concerns
- Use your understanding to communicate a clear vision of what you want to achieve and specify explicit aims
- Prioritise a reduction in mortality and increased safety as a core organisational or community-wide strategy, not a bolt-on or peripheral project
- Encourage experimentation and innovation. Allow for 'noble failure' as a key element of learning
- Work with the Medical Director and clinical leaders to harness clinical engagement.

Examples of mechanisms in place to drive change include:

- a patient safety steering group led by the Chief Executive to oversee a programme relating to avoidable mortality
- a matrix structure with operational clinical teams supported by clinical governance groups and service improvement experts
- a 'quality dashboard' to monitor a few key quality and safety indicators which is used at a corporate and clinical directorate level
- organisational structures that make explicit links and align goals between service improvement and clinical governance
- implement training in advanced life support (such as ALERT) for ward staff and junior doctors.

4. Plan for implementation

- Work with staff to identify how you are going to tackle the issue
- Understand which interventions offer the greatest opportunities for change. This will depend on the local context

A number of trusts have employed a common core group of interventions, including:

- standardised systems for auditing clinical observations and the introduction of early warning scoring systems to improve clinical observations;
- use of critical care outreach teams to provide clinical support for ward based patients
- widespread use of care bundles to standardise the care of patients
- senior daily ward rounds to identify those who can progress to discharge and those who need extra clinical input – sometimes called 'quick & sick' rounds

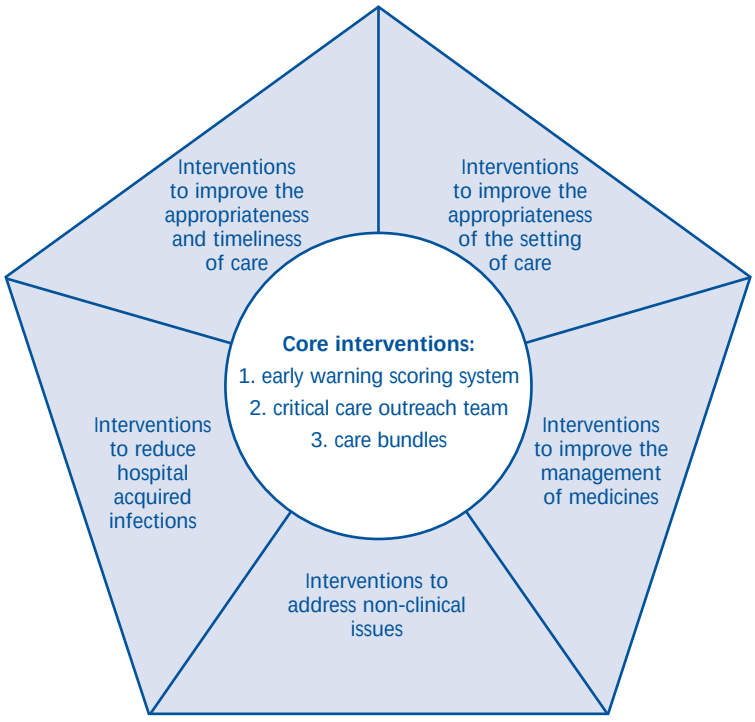
If these interventions are in place ask for evidence of their implementation, reliability, effectiveness and impact. There is usually room for improvement.

Maintain and communicate real time monitoring, using statistical process control charts for key indicators such as crude weekly deaths, interval from previous unwanted event (e.g. for ventilator associated pneumonia) frequency of critical care outreach calls and crash calls, reliability of recording patient observations at ward level.

Visible leadership by the Chief Executive is a critical success factor. Maintain a long-term vision whilst progressing short-term outcomes by developing a regular measurement plan – 'plot the dots'. Design for spread and sustainability from the start[4].

Trusts working on this issue find that progress is supported by ring-fenced resources, particularly the time of information staff, service improvement staff and medical leaders.

Common themes in interventions to reduce mortality



5. Finally, expect and accept challenges - show determination!

McGlynn[5], in a systematic review of care in 6,000 patients, showed only 55% of them received the care that clinical evidence showed they should have. 13% had care that was harmful.

NCEPOD report in 2005[6] showed that deficiencies in care contributed to 11% of deaths in ITU. 50% patients admitted to ITU had already been unstable for more than 12 hours.

There will be deficiencies of care occurring in your hospital on a regular basis, but only a tiny fraction will be reported through critical incident reporting.[7] The biggest challenge will be to persuade others that this is a real issue at local level. The case notes audit, when done well, can be a powerful lever to gain local acceptance of the need for change.

More deaths can be avoided by designing the systems of care delivery to be reliable than through reducing harmful incidents but both approaches are clearly important.

Make reliability and safety a key priority for your executive team and work with your medical and nursing directors to create a culture of reliability and safety across the organisation.

'A key function of hospitals is to save lives, so it's surprising how little attention is paid to hospital mortality. Our work in Bradford shows that a hospital mortality reduction programme can make a big impact by significantly reducing mortality rates. Health professionals are passionate about efforts to save lives. Senior managers want reassurance about clinical governance standards. Patients want to know that their hospital is safe. It's a natural top priority.'[8]

John Wright, Clinical Director, Bradford

The NHS Institute for Innovation and Improvement commissioned Matrix Research and Consultancy to conduct a preliminary review of interventions to reduce avoidable mortality in 12 English NHS Trusts. The Trusts were chosen because of their participation in programmes associated with reducing the prevalence of avoidable mortality. The review focused on: the drivers for change within these Trusts; the interventions employed; the barriers and critical success factors associated with implementation; and the impact that these interventions have had on Trusts. The information and ideas presented in this briefing paper are drawn from this review.[9]

1 French, K, and Jones, K, (2006) 'Impact of definition on the study of avoidable mortality: geographical trends in British deaths 1981-1998 using Charlton and Holland's definitions' in *Social science and medicine* 62(6):1443-56.
2 Jarman, B, et al, 'Explaining differences in English hospital death rates using routinely collected data' in *BMJ*, 318:1515-1520, 1999
3 www.ihi.org
4 www.institute.nhs.uk/building_capability/new_methods%2c_tools_and_approaches_.../introducing_sustainability.html
5 McGlynn, et al: The quality of health care delivered to adults in the United States. *NEJM* 2003; 348: 2635-2645 (June 26, 2003)
6 www.ncepod.org.uk/2005report/
7 Baba-Akbari Sari A, Sheldon TA, Cracknel A, Turnbull A. Sensitivity of routine system for reporting patient safety incidents in an NHS hospital - retrospective patient case note review. *BMJ* 2007;334:79-81
8 Wright J, Dugdale B, Hammond I, et al. Learning from death: a hospital mortality reduction programme. *J R Soc Med* 2006;99:04-20.1–6
9 www.institute.nhs.uk/safer_care/safer_care/reducing_avoidable_deaths_in_hospital.html