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Is the NHS getting safer?

by John Illingworth

This is one of a series of overviews looking at key areas of quality: safety, waiting times, mental health, person-centred care and international comparisons. See: www.health.org.uk/qualityoverview

8–12%

Research from the UK suggests that around 8-12% of admissions will involve an adverse event, resulting in harm to the patient.

This overview considers how the NHS has performed over the current parliament in relation to patient safety. We look at data relating to reported incidents and harm, episodes of care free of certain types of harm, and patient and staff perceptions of safety.*

Key points

- **Harm caused by health care affects every health system in the world; the NHS is no exception.** Research from the UK suggests that around 8-12% of admissions to hospitals will involve an adverse event, resulting in harm to the patient. Between half and one third of these adverse events are thought to be preventable. Similar figures are reported in international studies.
- **The NHS has made great progress in tackling some specific causes of harm in hospitals.** The number of people developing infections such as MRSA as a result of their care has remained low during this parliament. The proportion of patients receiving care that is free of four common adverse events, including pressure ulcers, has increased from 91% in July 2012 to 94% in February 2015.
- **Staff reporting of hospital safety incidents continues to improve.** There has been a sustained increase in the reporting of incidents during this parliament, while the percentage of staff saying they have witnessed an incident has remained roughly the same. This suggests that the proportion of hospital incidents going unreported has declined.
- **Some warning signs are emerging among the NHS workforce.** During this parliament, the percentage of staff who say there is a blame culture in their organisation has risen, as has the percentage of staff who have reported feeling unwell because of work-related stress. Around 40% of patients feel there aren't always enough nurses on duty to care for them.
- **We don't know how safe health care services are outside of hospital.** There is little published evidence from which to draw conclusions about levels of harm in primary and community care. Less than 1% of all reported incidents are in primary care, despite 90% of all patient contact taking place there, suggesting significant underreporting of harm in this care setting.

* Please note: This briefing does not provide an exhaustive review of all of the available information on patient safety in the English NHS. It has focused on using measures that are readily available at a national level and for which data are available over the course of this parliament.

Safety in context

If we think of quality as representing the results health care systems are designed to produce, safety encompasses the many ways in which systems can fail.¹ It is through this lens that most national data on patient safety is collected, by counting the number of times patient harm can be attributed to health care. These are called ‘lagging indicators.’ Other safety-critical industries have moved to complement this type of information with ‘leading indicators’ that seek to measure the precursors to harm, not just the harm itself.¹

This overview explores patient safety in the English NHS using the key measures that are available at a national level. The majority of these measures are lagging indicators, such as the number of health care associated infections. Leading indicators, such as the perceptions of staff and patients about potential safety concerns, are sparse, but have been included wherever possible.

Table 1: Common patient safety terms

Patient safety	The avoidance of harm caused by health care.
Adverse event	An event or omission that arises during care causing harm to a patient.
Harm	A negative effect of health care, regardless of whether it is evident to the patient. There are various types of harm, which can have physical and psychological effects: <ul style="list-style-type: none">• Delayed or inadequate diagnosis (for example, misdiagnosis of cancer).• Failure to provide appropriate treatment (for example, not providing rapid thrombolytic treatment for stroke).• Side effects of treatment (for example, complications after surgery).• Over-treatment (for example, drug overdose).• General harm (for example, dehydration).• Psychological harm (for example, depression following surgical complication).¹
Hazard	A condition or event that can lead to harm.
Risk	An assessment of both the likelihood of a hazard occurring and the severity of the consequences.
Lagging indicators	Measures of safety-related outcomes after an event has occurred.
Leading indicators	Measures of conditions that can help predict whether a harmful event will occur.
Safety or quality?	Most definitions of quality include safety as a core component. As more problems associated with health care have come to be seen as unacceptable, they have been increasingly described as safety issues rather than quality issues. For instance, health care associated infection used to be seen as an unfortunate consequence of health care, but is now regarded as both unacceptable and preventable. ¹

Snapshots of harm and safety

Research from the UK suggests that around 8-12% of admissions to hospitals will involve an adverse event, resulting in harm to the patient.² Between half and one third of these adverse events are thought to be preventable.³ Similar figures are reported in international studies.⁴

There is little published evidence from which to draw conclusions about levels of harm in settings outside of hospital. Some studies have suggested that around one in 25 hospital admissions are due to a medication problem, indicating a potential problem in primary care. Rates of harm of around 15% have been suggested in community care, although prevalence varies between studies.⁴

Studies of common processes in the NHS, such as equipment availability or drug prescribing, have shown that problems are encountered roughly one time in every six. The 2010 Health Foundation report, *How safe are clinical systems?*, discovered equipment problems in 19% of procedures and prescribing errors in 16% of medication orders. Around one in five of these failures carried a potential risk of harm to the patient.⁵

In its *State of care* report for 2013/14, the Care Quality Commission (CQC) reported that ‘too many providers have not got to grips with the basics of safety’. As of August 2014, four out of five acute hospitals were rated as ‘inadequate’ or ‘requires improvement’ for safety by the CQC.* Variation was also found within organisations. For instance, one hospital trust was rated ‘inadequate’ for safety in maternity and family planning, but ‘good’ for safety in children and young people.⁶

Analysis of lagging indicators of safety

There are many types of potential harm in health care and here we focus on some common problems for patients – such as infections, pressure ulcers and falls – in addition to the overall level of reported harm and ‘never events’, the most serious type of harm.

Incident reporting

NHS trusts report patient safety incidents confidentially to the National Reporting and Learning System (NRLS). In 2013/14, just over 1.5 million incidents were reported in England. The number of reported incidents has increased steadily over the course of this parliament (figure 1, page 4),⁷ while the percentage of staff who say they have witnessed errors, near misses or incidents has stayed roughly the same (27.6% in 2014).⁸ This suggests that the proportion of hospital incidents going unreported has declined.

Of all patient safety incidents that are reported, 74% occur in hospitals, while less than 1% occur in primary care.⁷ Given that around 90% of all NHS patient contacts take place in primary care,⁹ this figure suggests that there is significant under-reporting of harm in this care setting.[†]

Incidents reported to the NRLS are categorised by their degree of harm – no harm, low, moderate, severe or death. Figure 2 (page 4) shows the breakdown of reported harms by their severity for 2013/14, with two-thirds of reported incidents resulting in ‘no harm’ to the patient. The proportions have stayed broadly the same since the data were first made available in 2005/06.

‘Never events’ are a defined list of serious, largely preventable patient safety incidents. They include wrong site surgery, instruments being retained post-operation and wrong route administration of chemotherapy. In 2013/14, 338 never events were reported, compared to 326 in 2011/12. Since April 2014, these data have been published on a monthly basis, as part of a range of measures introduced by the Secretary of State for Health to increase the transparency of safety information in the NHS.

* It is important to acknowledge that ‘higher risk’ organisations were prioritised for inspection by the CQC; therefore the sample of organisations was not representative.

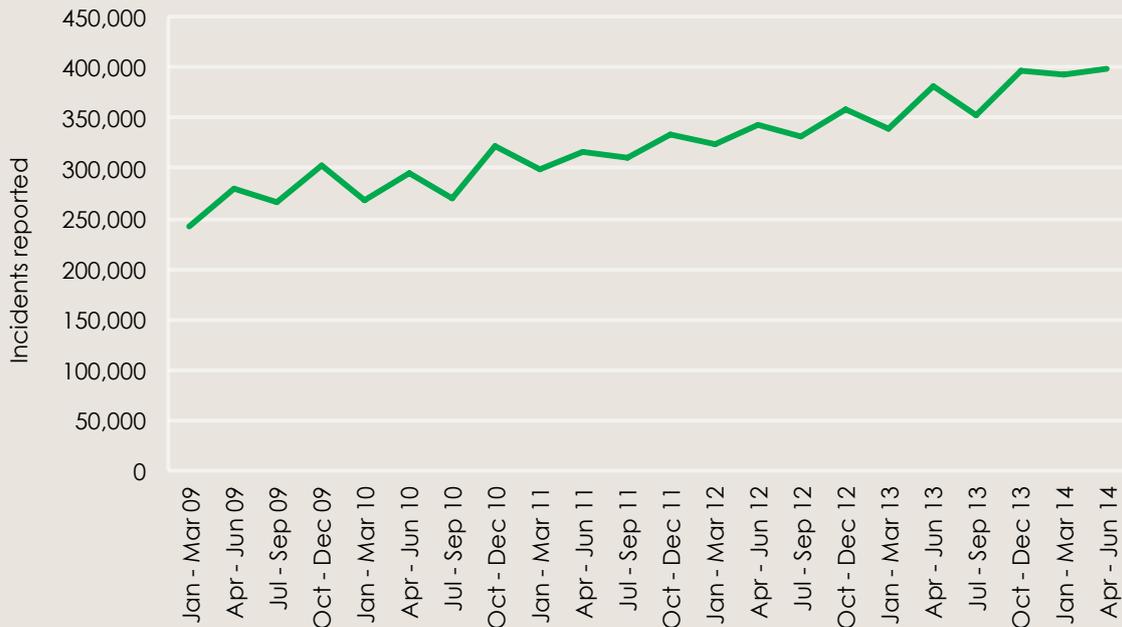
† This was acknowledged as one of the reasons for the development of a new general practice patient safety reporting form, launched in February 2015. More information is available at: www.england.nhs.uk/2015/02/26/gp-patient-safety-reporting

1.5m

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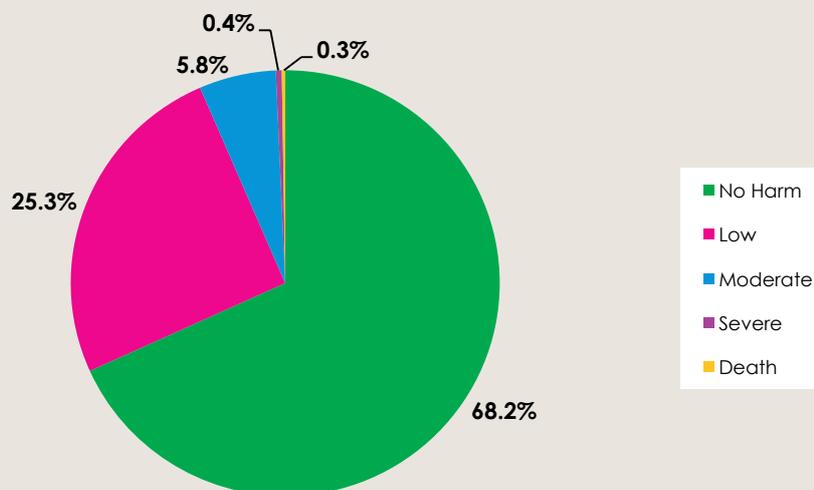
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Figure 1: Number of incidents reported to the NRLS in England per quarter



Source: Organisational Patient Safety Incident Reports, NRLS

Figure 2: Breakdown of incidents reported to the NRLS by degree of harm in 2013/14

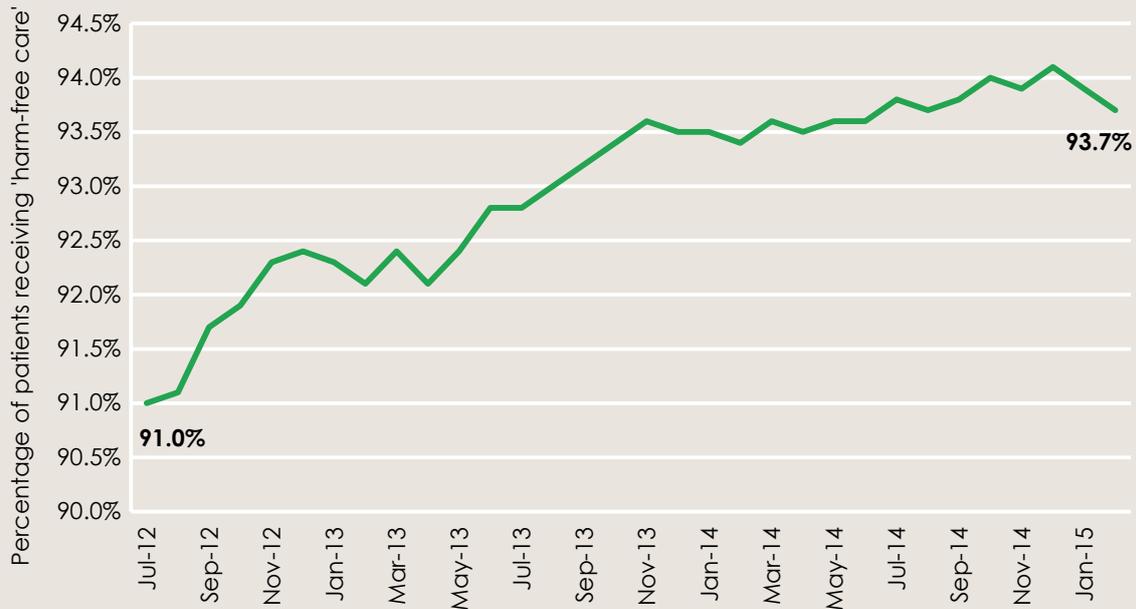


Source: Organisational Patient Safety Incident Reports, NRLS

NHS Safety Thermometer

The NHS Safety Thermometer is a survey to measure how often patients experience certain types of harm – pressure ulcers, falls, urine infections (in patients with a catheter) and venous thromboembolism (a blood clot within the vein).¹⁰ More than five million patients have been surveyed since the Safety Thermometer began in June 2012. The percentage of patients surveyed receiving care free of these harms has increased from 91.0% in July 2012 to 93.7% in February 2015 (figure 3, page 5).

Figure 3: Percentage of patients receiving 'harm-free care'



Source: Safety Thermometer, Health and Social Care Information Centre

In some trusts, one in 100 patients was reported as experiencing harm, while in others it was one in six

Figure 3 provides the national average percentage of patients receiving care free of these harms, but hides the variation between organisations. In some trusts, one in 100 patients was reported as experiencing harm, while in others it was one in six.

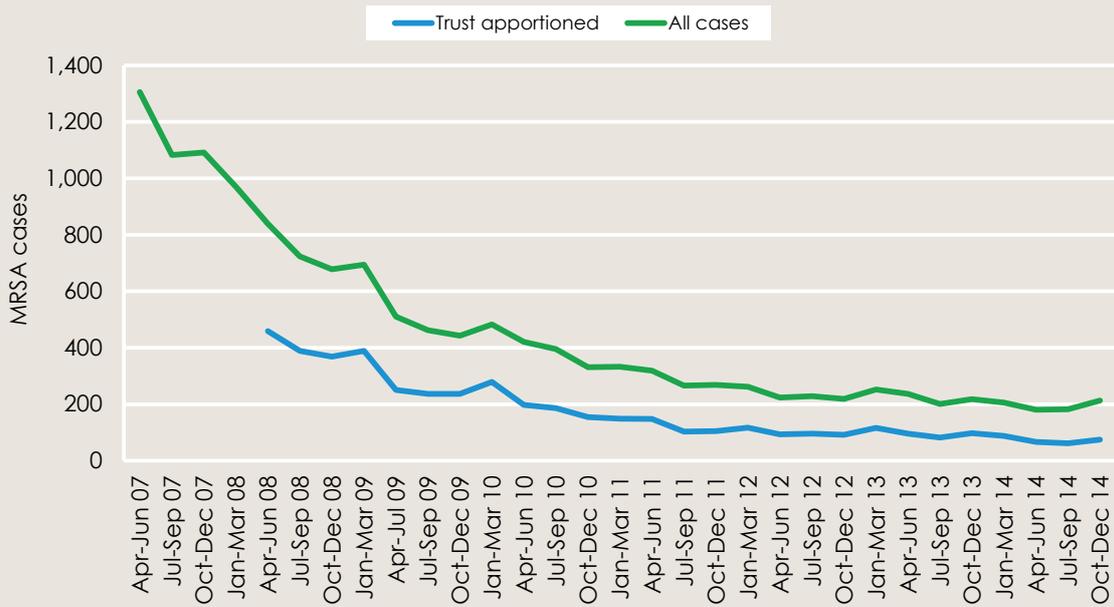
Health care associated infections

NHS organisations are required to report certain health care associated infections to Public Health England. Cases of MRSA and *Clostridium difficile* infections decreased significantly during the last parliament, following the concerted effort of staff and the impetus provided by a national campaign to reduce them. Rates have remained low over the course of this parliament, despite the wider pressures that have been placed on the NHS. However, it should be noted that other health care associated bloodstream infections, namely Methicillin-sensitive *Staphylococcus aureus* (MSSA) and *Escherichia coli*, have not declined during this period.¹¹

MRSA

MRSA is a common bacterium that can cause life-threatening infections if it penetrates the skin. The previous government's target to reduce the number of hospital associated MRSA infections by 50% was achieved in 2008. The number of hospital and community associated cases has remained low over the course of this parliament (see figure 4, page 6).

Figure 4: Number of all MRSA cases and trust apportioned cases, by quarter

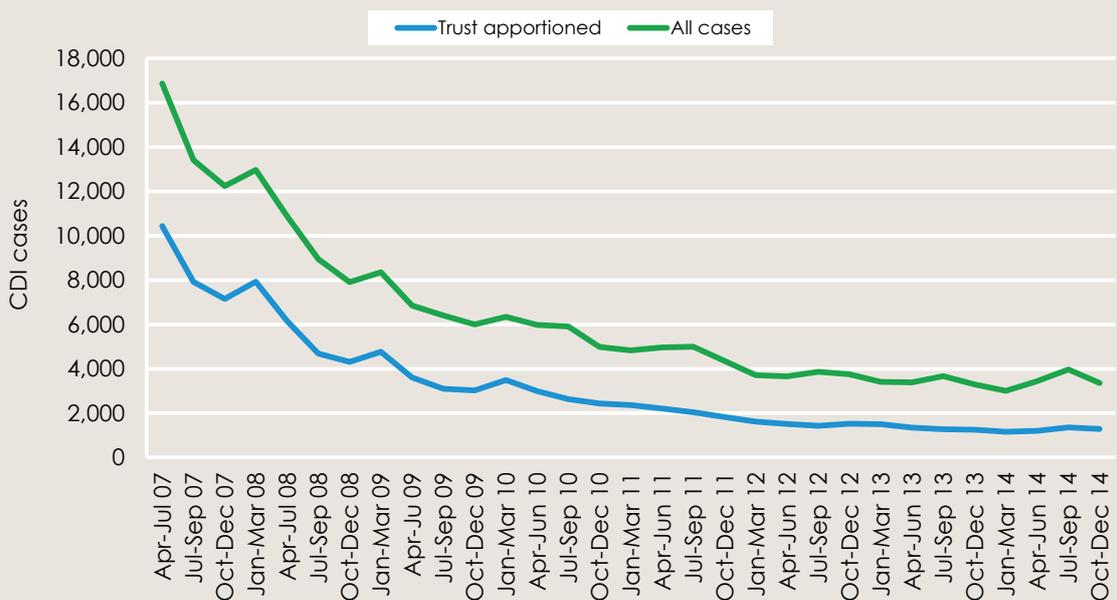


Note: 'Trust apportioned' means those cases where it is likely that the infection was acquired while in the care of the NHS organisation. Trust apportioned data were collected from April-June 2008.
Source: Public Health England

Clostridium difficile infection

Clostridium difficile infection (CDI) is a type of bacterium infection that can affect the digestive system. It most commonly affects older people who have been treated with antibiotics. The previous government's target to reduce the number of CDI infections by 30% was achieved in 2010. The number of hospital and community associated cases has remained low over the course of this parliament (see figure 5).

Figure 5: Number of all Clostridium difficile infection cases and trust apportioned cases, by quarter



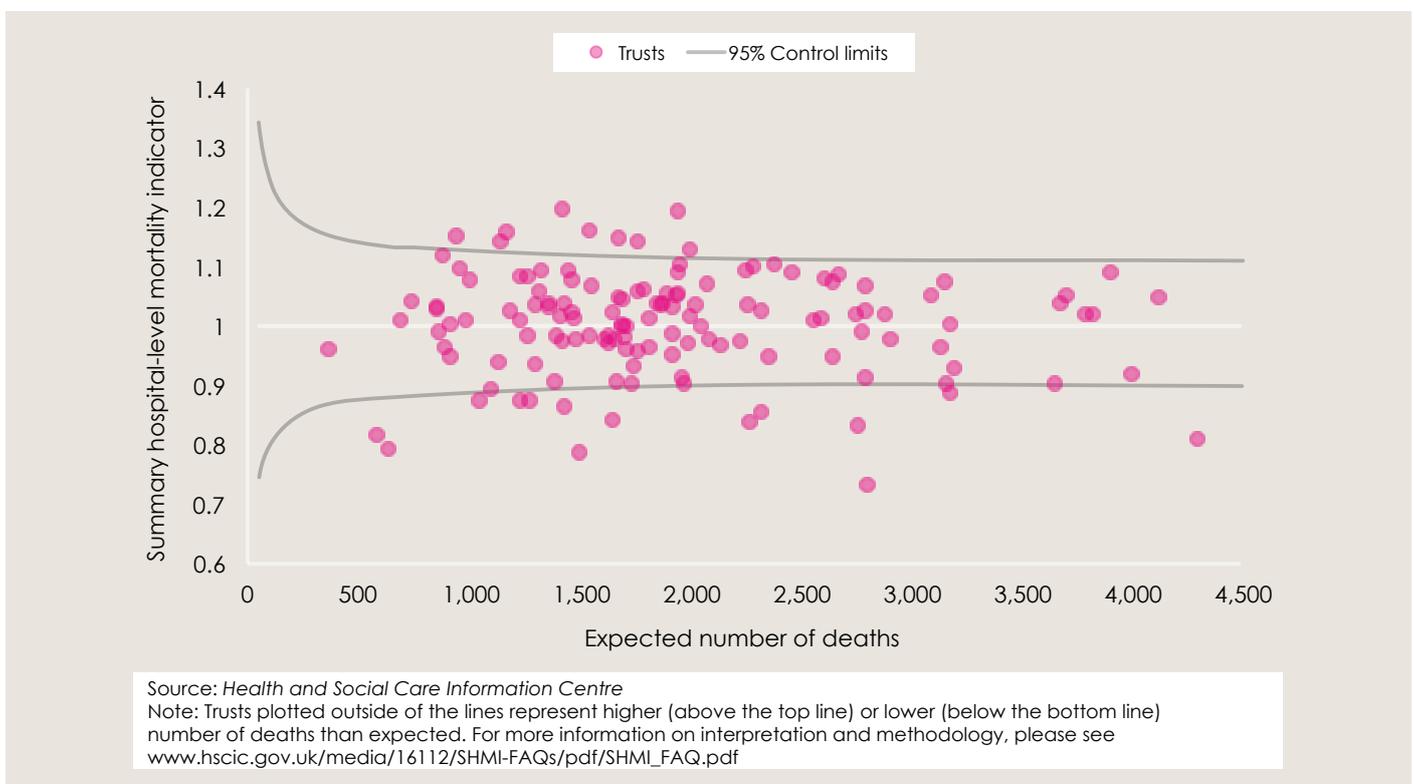
Note: 'Trust apportioned' means those cases where it is likely that the infection was acquired while in the care of the NHS organisation. Trust apportioned data were collected from April-June 2008.
Source: Public Health England

Mortality ratios

The hospital standardised mortality ratio (HSMR) seeks to compare the number of deaths in a hospital with the number of deaths you would have expected based on the national average. The summary hospital-level mortality indicator (SHMI) was introduced in 2010, and compares the number of deaths in a hospital and up to 30 days after discharge with the number of deaths you would have expected based on the national average.

Figure 6 illustrates the apparent wide variation between organisations for the most recent data year (2013/14). It was this degree of variation, prompted by the failings of care at Mid Staffordshire NHS Foundation Trust, which led to NHS England Medical Director Sir Bruce Keogh's review into 14 organisations with unusually and consistently high mortality rates in 2013.¹²

Figure 6: Summary hospital-level mortality indicator (SHMI) funnel plot, July 2013 – June 2014



The use and interpretation of mortality ratios has been the subject of a great deal of debate. Those in favour of their use argue that they are a 'smoke signal' – an indicator of where there might be poor care in the NHS. Those against their use fear that conclusions can be drawn about a hospital – including estimates of the number of 'avoidable deaths'* – before there has been adequate analysis of what the data mean.

As with other measures of safety, and as recommended by the Berwick Review, mortality ratios are best used in combination with a range of measures to determine whether further inquiry is warranted, rather than something upon which definitive conclusions can be drawn.¹³

* It was announced in February 2015 that an annual review of 2,000 medical records will take place to identify and reduce the number of 'avoidable deaths' in hospitals in England.

Analysis of leading indicators of safety

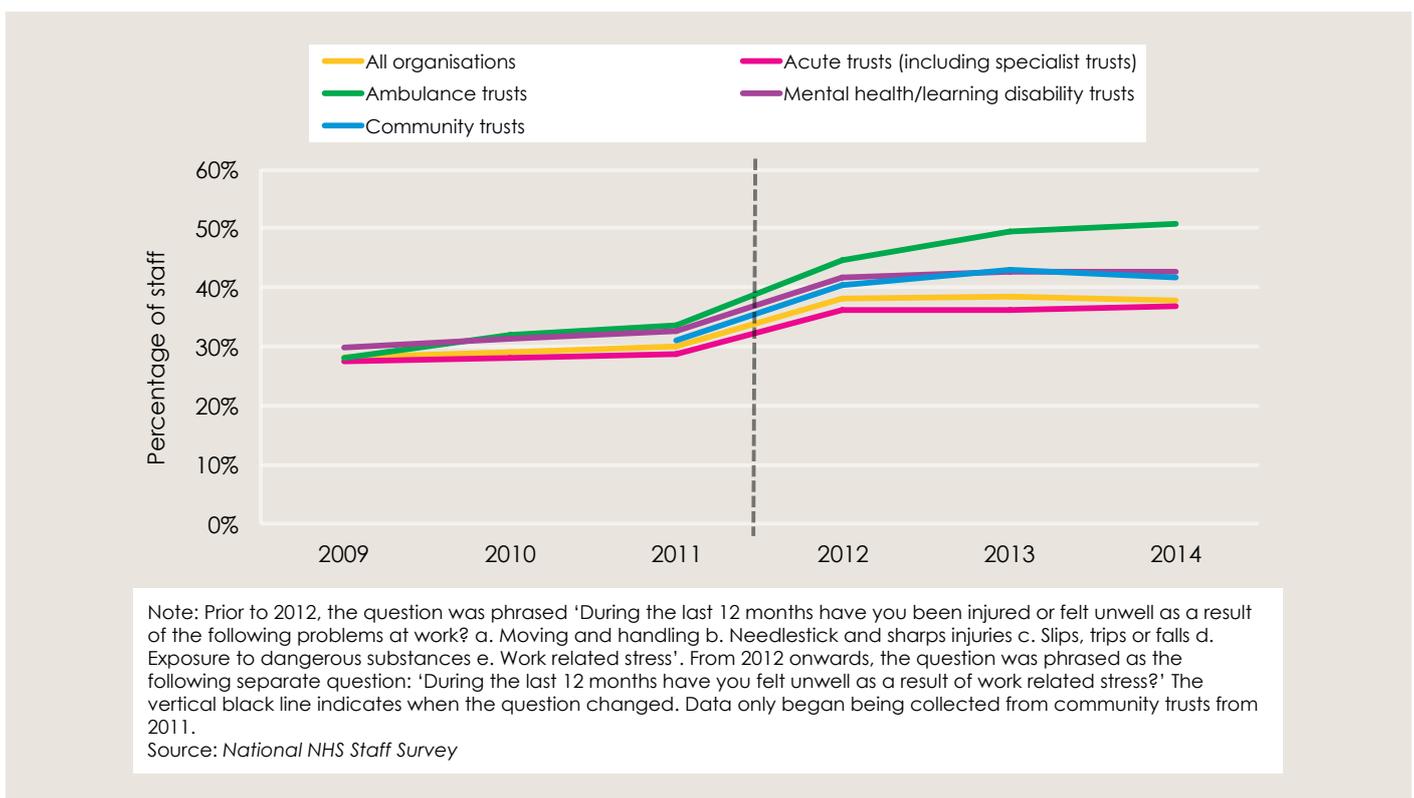
Indicators such as the number of NHS staff reporting that they have been ill due to work-related stress and staff perceptions of a blame culture are particularly important as these are conditions which can make harm both more likely to occur and less likely to be reported.

Staff perceptions of safety

The NHS Staff Survey has been conducted annually since 2003 and gauges perceptions of staff across a range of subjects for each NHS organisation in England. More than 250,000 NHS staff responded to the survey in 2014.

Stress in the workplace is a recognised factor that can contribute to errors. As shown in figure 7, the percentage of staff saying they have felt unwell as a result of work-related stress has risen for all organisations over the course of this parliament, from 29% in 2010 to nearly 38% in 2014. The Labour Force Survey of working adults in the UK also found that staff performing health and social work activities reported substantially higher rates of work-related stress than the average across all industries.¹⁴

Figure 7: Percentage of staff who felt unwell as a result of work-related stress in the previous 12 months



There has been a steady rise in the number of staff who felt that their organisation takes action to ensure the same incident doesn't happen again, rising from 55% in 2010 to 63% in 2014 (see figure 8, page 9). At the same time, the number of staff who felt their organisation blames or punishes people who are involved in incidents has risen, from 10% in 2010 to 13% in 2014 (see figure 9, page 9). This may suggest that a system that is becoming more responsive to dealing with incidents may have come at the expense of an open reporting culture in some parts of the NHS. What is striking across these indicators is the extent to which the ambulance sector shows the strongest warning signals, and has done for many years.

Figure 8: Percentage of staff who feel that when errors, near misses or incidents are reported, their organisation takes action to ensure they do not happen again

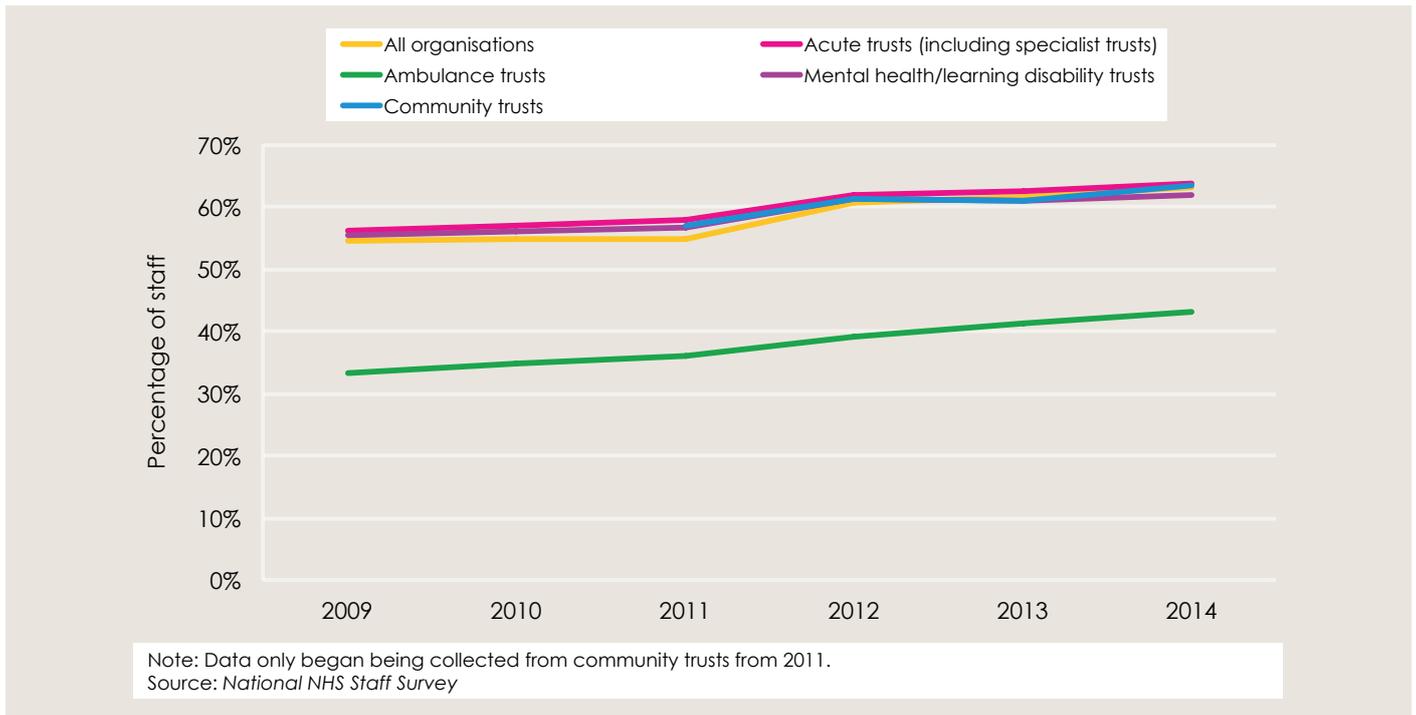
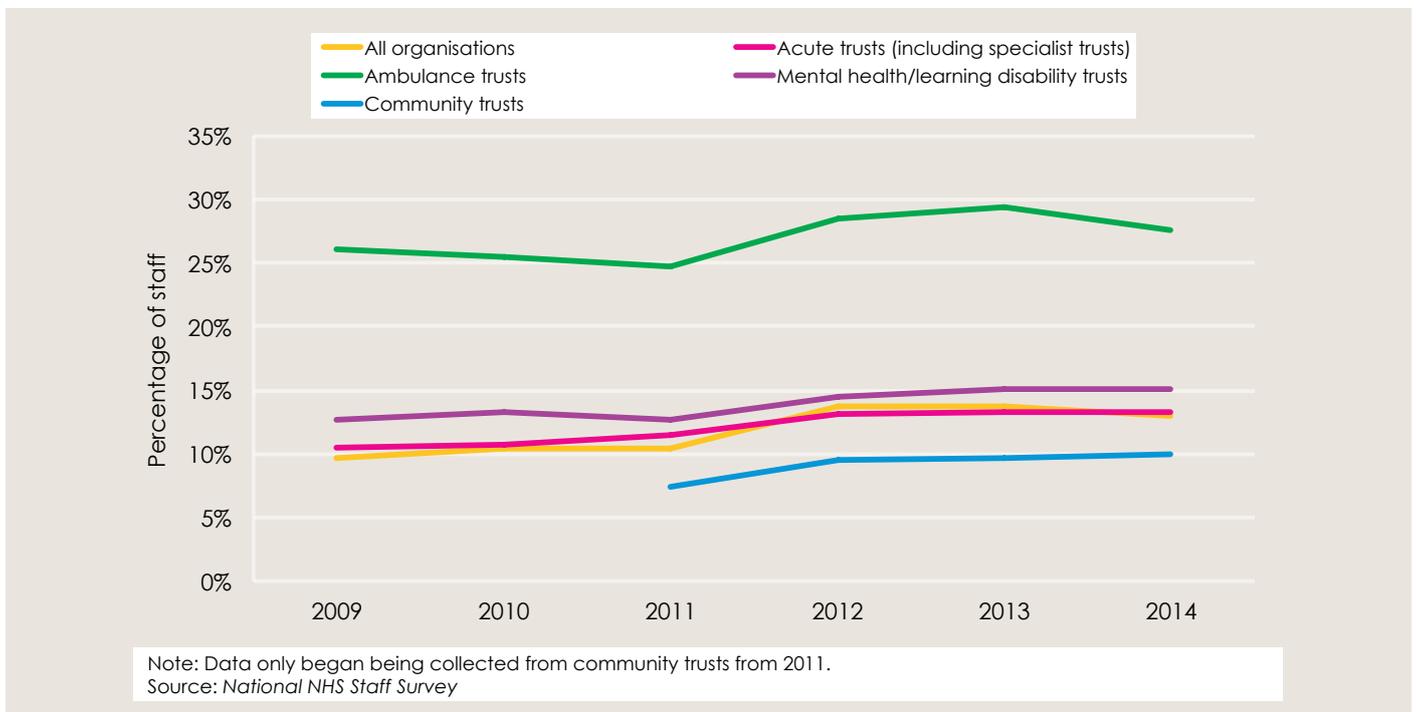


Figure 9: Percentage of staff who feel their organisation blames or punishes people who are involved in errors, near misses or incidents

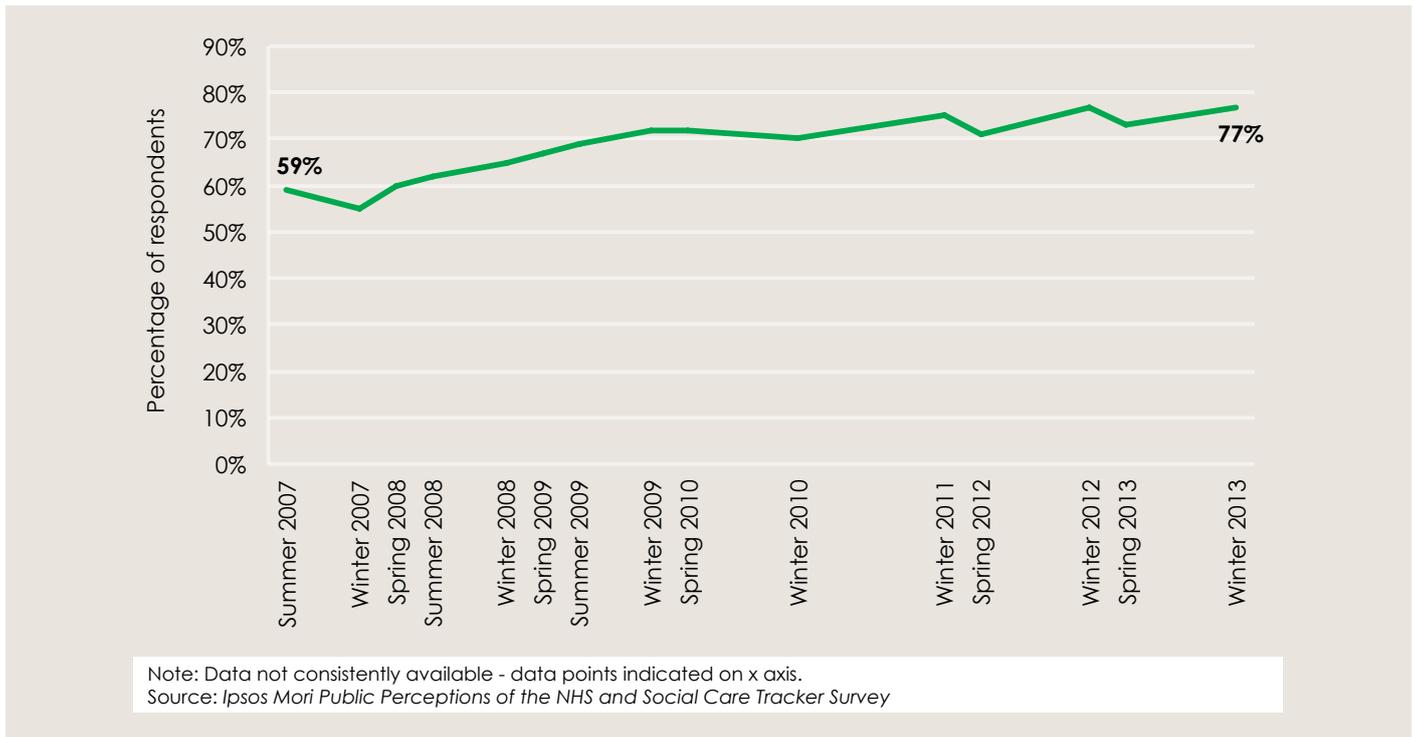


In 2014, the government introduced a duty of candour, which made it a legal requirement for all organisations to tell patients when there has been a patient safety incident associated with their care. It will be important to monitor the effect this policy has on incident reporting and perceptions of blame over the coming years.

Patient perceptions of safety

Ipsos MORI conducted a series of surveys about public perceptions of the NHS, consisting of samples of around 1,000 adults, on behalf of the Department of Health.¹⁵ The findings of these surveys show a steady rise in the percentage of people who agree that they would feel safe in an NHS hospital if they were ill, from 72% in 2010 to 77% in 2014 (see figure 10). This rise has taken place despite the public inquiry into events at Mid Staffordshire NHS Foundation Trust and a number of other high profile reports of health care failings.

Figure 10: Percentage of respondents agreeing that they would feel safe in an NHS hospital if they were ill



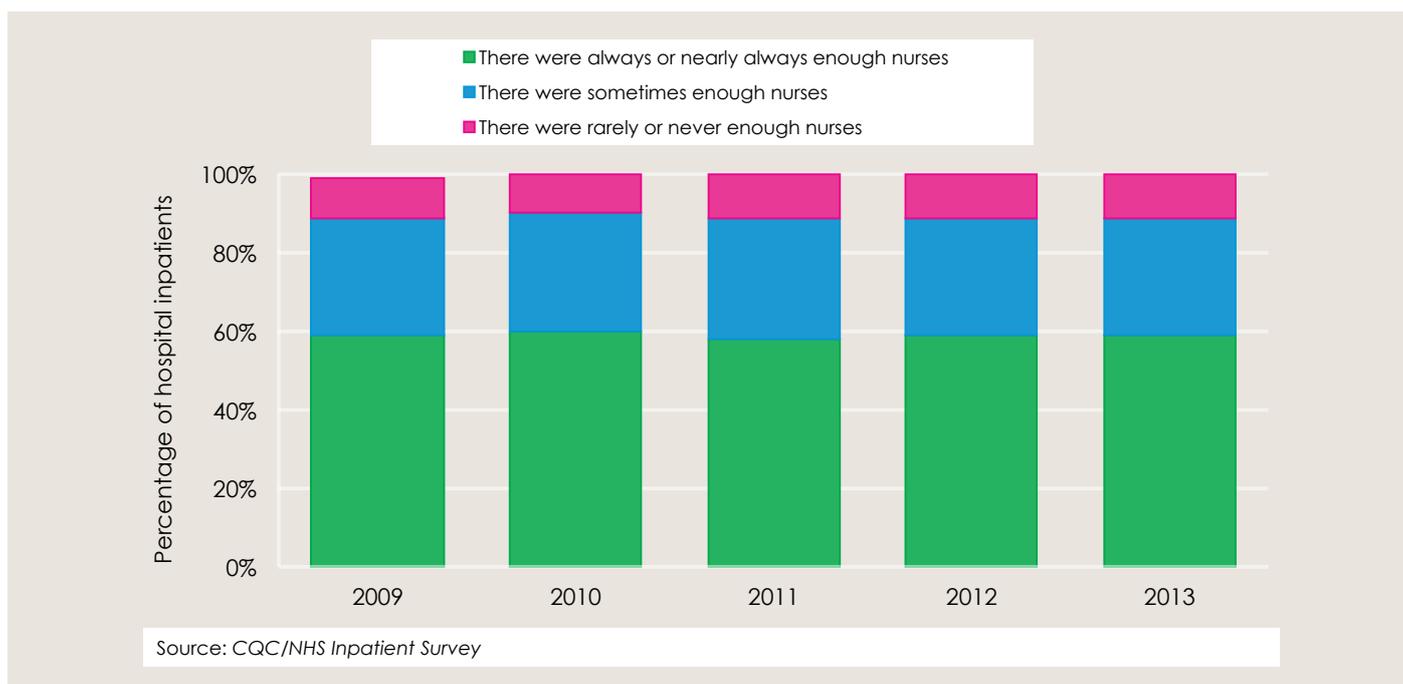
40%

The proportion of inpatients answering that there were not always enough nurses on duty to care for them has consistently been around 40%

Having an appropriate number of skilled nurses is seen as an integral part of providing safe and high quality care. Guidance has been produced by the National Institute for Health and Care Excellence (NICE) to help organisations establish what an appropriate number is, while information on 'nursing hours filled as planned' is available on NHS Choices.¹⁶

The National Inpatient Survey asks whether patients felt there were enough nurses on duty to care for them in hospital. The proportion of inpatients answering that there were not always enough nurses on duty to care for them has consistently been around 40% (see figure 11, page 11).

Figure 11: Percentage of inpatients who felt there were enough nurses on duty to care for them in hospital



Conclusion

Is the NHS getting safer? To paraphrase Professor Charles Vincent and colleagues in their 2013 Health Foundation report, *The measurement and monitoring of safety*, the answer remains curiously elusive.¹

The NHS has targeted a number of specific types of harm over the last few years – health care associated infections, pressure ulcers, falls and so on – and has made significant progress in reducing them. This is likely to have contributed to lives being saved and outcomes improved for thousands of people. But from here the picture gets murkier.

We know very little about safety in settings where the vast majority of health care interactions take place – outside of hospitals. Indicators such as mortality ratios, which purport to offer ‘smoke signals,’ remain controversial and rely on counting incidents that have tragic consequences for patients, carers and families. And although staff are more confident that action will be taken following an incident, more staff are now reporting being unwell because of work-related stress and feeling that their organisation blames them for making mistakes.

Rising rates of incident reporting and a greater sense that harm isn’t inevitable are two very positive developments, but they also cloud our understanding of whether care is getting safer. And given that much of what we know comes from lagging indicators, this briefing perhaps provides a clearer picture of how harmful health care has been for patients in the past, rather than how safe it is today, or might be tomorrow.

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Errors or omissions remain the responsibility of the author alone.

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John Illingworth joined the Health Foundation in September 2012 as Policy Manager for our patient safety work.

Prior to joining the Health Foundation, John worked predominantly in health care regulation and was Policy Adviser at the Professional Standards Authority for Health and Social Care.

He was an Analyst at the Commission for Health Improvement and worked on national investigations into serious care failings at the Healthcare Commission before going on to work at McKinsey and Company's UK health care practice.

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