

Patient safety incident reports in the NHS

NATIONAL REPORTING AND LEARNING SYSTEM QUARTERLY DATA SUMMARY

ENGLAND

ISSUE 12

MAY 2009

12

Putting patient safety first

Contents

England at a glance	3
About this report	4
How to use this report	4
About reporting	5
About the Reporting and Learning System	5
High reporting organisations	5
Publication of Summary Organisation Patient Safety Incident Reports	5
About serious incidents	6
How are we learning from serious incident reports?	6
Focus on serious events – this quarter	6
About these data	7
Learning from reporting	8
Is nutrition a patient safety problem?	8
How has incident reporting changed over the past three years?	13
Section 1	18
How many incidents are reported?	18
How many reports and organisations reporting?	18
How are reports received by the RLS?	19
Section 2	20
What gets reported?	20
How many patient safety incidents were reported as occurring in 2008?	20
What are the main incident types?	21
Where do incidents occur?	23
What types of incidents occur?	24
Acute/general hospitals	24
Mental health and learning disabilities services	26
Community services (including community hospitals), community pharmacies, community and general dental services, and community optometry and optician services	29
Ambulance services	31
General practice	32
Improving reporting and learning in primary care	33
How seriously harmed are patients?	34
Severe harm or death by care setting	35
Severe harm or death by incident type	37
Patient safety highlights	38
Appendix	39
The Reporting and Learning System	39
Interpreting RLS data	39
References	40

England at a glance

74 per cent of reported incidents occurred in **acute/general hospitals**.

14 per cent of reported incidents occurred in **mental health services**.

The three top incident types were **patient accidents** (33 per cent of all incident reports), **treatment/procedure** (10 per cent) and **medication** (nine per cent).

Patient accidents are consistently the most commonly reported incident type among care settings that take inpatients.

66 per cent of incidents were reported as causing **'no harm'**, while 27 per cent were reported as **'low harm'** and six per cent were reported as **'moderate harm'**.

One per cent of all incidents were reported as **'severe harm'**, and the proportion of incidents reported to have resulted in death was small.

250,059 incidents were reported in England between 1 January 2009 and 31 March 2009.

370 NHS organisations (94 per cent) in England reported at least once in the past quarter, an increase compared to the previous quarter.

22 NHS organisations (six per cent) in England did not report at all.

3,290,848 incidents in total have now been reported in England to the Reporting and Learning System (RLS) since its inception.

Trends and patterns in the RLS data show that no healthcare organisation can be complacent about patient safety – errors can and do happen everywhere.

About this report

This Quarterly Data Summary (QDS) report is produced by the National Patient Safety Agency (NPSA). It summarises data reported to the RLS, with the most recent quarter covered being 1 January 2009 to 31 March 2009. It offers an overview of the incident reports received by the RLS, including:

- what sector they are from;
- what type of incidents they describe; and
- the level of reported harm to the patients involved.

This quarter we also provide features ('Learning from reporting' from page 8) on:

- how nutrition impacts on patient safety within hospitals;
- an overview analysis of the association between reporting rate and degree of harm, and the most common incident types for incidents reported between April 2005 and March 2008.

This report shows data for England only, with the exception of the data used in the 'Learning from reporting' section. A separate report for Wales is available: www.npsa.nhs.uk/datareports

This issue of the QDS shows data reported from the ambulance services separately for England and Wales. Issues 10 and below display English and Welsh data combined.

How to use this report

The data presented in this report can be used to:

- compare data reported within local organisations against national trends;
- provide data for research;
- enable triangulation with other data sources.

A data workbook to accompany this QDS report is available on the NPSA website: www.npsa.nhs.uk/datareports. As well as containing all the data underpinning the analysis in the QDS report (frequencies and per cent), the workbook provides charts showing trends in the data on a quarterly basis. The workbook shows the data for both England and Wales separately, as well as the combined figures. Notes to aid the accurate interpretation of RLS data are provided in the appendix on page 39 of this report.

About the Reporting and Learning System

Ensuring patients are treated safely is the top priority for NHS staff. When incidents do happen, it is important they are reported so lessons are learned across the NHS to prevent the same incidents occurring elsewhere.

The RLS aims to help the NHS improve the safety of patient care. Reports made to the RLS are analysed with expert clinical input to identify hazards, risks and opportunities to improve safety. In short, information from reported incidents helps the NHS understand why things go wrong and how to prevent them happening again.

A patient safety incident is any unintended or unexpected incident that could have or did lead to harm for a patient receiving NHS healthcare.

The RLS is the first national-level patient safety incident reporting system of its kind in the world. It provides comprehensive coverage of healthcare settings (acute, ambulance, combined, learning disability, mental health and primary care organisations) and supports direct reporting from patients. For information on how the RLS works, go to www.npsa.nhs.uk/nrls/reporting

The first reports were submitted to the RLS in November 2003. By January 2005 all NHS organisations were linked to the national system and the flow of data to the RLS continues to increase.

All healthcare staff in England and Wales providing NHS-funded care can report patient safety incidents to the RLS.

Incident reporting typically involves staff recording information on events that led to unintended or potential harm to patients. Ninety-nine per cent of the incidents reported to the RLS come through Local Risk Management Systems (LRMS) of NHS organisations. Electronic transfer of the incident reports mean that incidents reported once serve both local and national needs.

Staff, patients and the public can also report directly to the NPSA through the website: www.npsa.nhs.uk/nrls/reporting

High reporting organisations

A commitment to reporting demonstrates a commitment to patients and their safety.

Consistently high reporting levels tend to be a mark of high reliability organisations. Research shows that organisations with high and consistent levels of incident reporting are more likely to demonstrate other features of a stronger safety culture, such as high NHS Litigation Authority ratings¹.

For case examples of how NHS organisations are developing a culture of high reporting, see the joint NPSA and NHS Confederation briefing, June 2008: www.npsa.nhs.uk/nrls/reporting/five-actions-to-improve-reporting/

Publication of Summary Organisation Patient Safety Incident Reports

In March 2009 the NPSA began publishing summary Organisation Patient Safety Incident Reports from each NHS trust or local health board in England and Wales.

The publication of these reports aims to encourage greater awareness of patient safety and to improve the quality of local and national reporting from all healthcare staff, as part of embedding strong patient safety standards in all NHS organisations.

The data presented in the summary reports covered patient safety incidents that took place during the six months from 1 April 2008 to 30 September 2008, and which were reported to the RLS by 28 November 2008.

See: www.npsa.nhs.uk/nrls/patient-safety-incident-data/organisation-reports/

About serious incidents

How are we learning from serious incident reports?

Every year, around 10,000 patient safety incidents resulting in death or severe harm to patients are reported by NHS organisations. Each of these incident reports are reviewed by expert clinical reviewers at the NPSA to identify opportunities for national learning. Free text within the incident report is used to better understand the patient story and its clinical significance. This helps identify the contributing factors leading to the incident and wider system failures. If further information about the incident or underlying safety issues is required, the NPSA contacts the reporting organisation.

Key reports are prioritised according to their importance for national learning and action, using robust criteria and decision processes. This happens at a weekly multi-disciplinary meeting at the NPSA with a range of clinical inputs. Other potential safety issues are also considered from sources such as:

- coroners' data; and
- serious untoward incidents.

Where needed, safety recommendations are developed with input from the NHS and experts and disseminated to providers of NHS-funded care to raise awareness of risks and inform local priorities and action. These are issued as Rapid Response Reports (RRRs), i.e. one-page guidance with timelines for action. They are issued through the Central Alerting System (CAS) in England and directly to organisations in Wales.

Nineteen RRRs have been issued to date, ranging from problems with insertion of chest drains to overdoses of midazolam. For a complete listing, see www.npsa.nhs.uk/rrr

All incident reports received are important and those that do not lead to an RRR inform regular and thematic reviews. For example, the NPSA has recently carried out detailed analyses of incident data on chemotherapy incidents and risks to children. Further work is exploring some of the broader themes emerging from a review of serious incidents.

For further, detailed information on how we review serious incidents and identify key areas for action, download *Acting on serious risks to patient safety* from: www.npsa.nhs.uk/rrr

If you would like to feedback to the NPSA on its approach, you can send your comments to: rrr@npsa.nhs.uk

Focus on serious events – this quarter

- 1,259 incidents were reported to the national Reporting and Learning System (RLS) as resulting in death and 2,439 incidents were reported as resulting in severe harm during the period 1 January to 31 March 2009. These 3,698 serious incidents were reviewed individually by clinical experts to identify safety issues with the potential for national learning.
- Between January and March 2009, we scoped 134 new incidents that had potential for national learning, together with issues from other sources including Serious Untoward Incidents, coroners' data and other.
- All 134 incidents were explored further, either through contact with the reporting trust, advice from topic experts, or searches of the RLS, and where appropriate shared with other organisations who could act on our findings (for further, detailed information on how we review serious incidents and identify key areas for action, download *Acting on serious risks to patient safety* from: www.npsa.nhs.uk/rrr).
- Two RRRs were issued during this period; 'Reducing risks of harm from oral bowel cleansing solutions' (19 February 2009) and 'Mitigating surgical risk in patients undergoing hip arthroplasty for fractures of the proximal femur' (11 March 2009). Other issues were referred to other bodies for information or action, such as risks of contrast media to patients with renal impairment to radiologists and radiographers and immunisation issues to the national vaccine team.

See *Learning from reporting* on page 8.

The data summarised here are from the RLS[†] and include all patient safety incidents reported from NHS organisations in England. For further information on the RLS, see the appendix on page 39.

Two sets of data and analysis are presented in this report:

- **Section 1** describes the level of reporting to the RLS by quarter and uses data based on the date that the report was received by the NPSA[‡]. The data covers the period from when the RLS was first set up in October 2003 until the end of March 2009.
- **Section 2** contains an overview of patterns and trends in patient safety incident reports. It uses data based on the date that the patient safety incidents were reported as having occurred. The data covers the four quarters between January 2008 and December 2008.

Data presented in Section 1 should not be compared with data in Section 2 of this report, as they are not based on the same time period. Care should also be taken when comparing data with previous issues of the quarterly data summary reports, since the RLS is a dynamic reporting system and the number of incidents reported as having occurred in each quarter may vary to some extent in the different issues of the data summaries.

The following notations are used when per cent is shown in the report and accompanying workbook:

- '0' is used for percentages that are rounded down to 0;
- '-' is used for a true 0 in a row/column showing per cent, i.e. when there are no cases in a category;
- '**' is used when the base number is deemed too small to provide reliable percentages (n<30). This notation may differ compared to that used in QDS reports and workbooks prior to Issue 6.

Note: *Rounded figures are presented in this report. Therefore totals may differ marginally compared to the sum of figures as stated in the text. The exact figures can be found in the workbook.*

[†] The Reporting and Learning System was previously called the National Reporting and Learning System.

[‡] The date the report was received by NPSA is also referred to as 'date of submission'.

Is nutrition a patient safety problem?

What have we learnt?

- 1 A nutrition-related patient safety incident is an incident where the provision of nutrition (or nutritional services) either caused harm or had the potential to cause harm to an individual.
- 2 Commonly reported nutrition-related patient safety incidents relate to:
 - The provision of nutrition via artificial feeding.
 - Incidents relating to patients being nil by mouth (NBM).
 - The provision of nutrition via oral feeding.
- 3 Nutrition-related patient safety incidents can occur at any stage in the patients' journey.
- 4 Key contributing factors for nutrition-related patient safety incidents include:
 - Poor communication between staff and departments.
 - Staffing issues including levels of staffing, training and skills of staff.
 - Unreliable application of protocols and systems.
- 5 Nutrition-related patient safety incidents are under reported and healthcare organisations should recognise and report nutrition-related patient safety incidents. Information, guidance and resources on delivering safe nutritional care are available in the *10 Key Characteristics of Good Nutritional Care Factsheets*: www.npsa.nhs.uk/nutrition

Introduction

This analysis aims to provide an overview of the number of nutrition-related patient safety incidents reported to the RLS and a summary of themes identified within these data. A nutrition-related patient safety incident is defined as "An incident in which the provision of nutrition (or nutritional services) either caused harm or had the potential to cause harm to an individual". The analysis was undertaken by the Clinical Nutrition Research Group (CNRG) at King's College London in collaboration with the NPSA.

Analysis

Incidents reported as occurring during 2006 and 2007 were searched for nutrition-related themes using a free text search. The keywords used are shown in table 1.

The search yielded 52,675 incidents. Of those incidents, the CNRG were provided with a random sample of 4,992

incident reports. A sample of 208 reports was drawn from each month during the two year period.

Table 1: Nutrition-related keywords

NG Tube/NG/NGT/N.G.T	Snack
Nas*Gastric	Nutrition/Nutritional
Oro*Gastric	Starve/Starving/Starvation
Feeding Tube	Nil by mouth/NBM/N.B.M/ per orem/per orum
Feeding	Oral fluids
Fed/Feed/Food	Catering
Eat/Eaten/Eating	Parenteral
Ate	Drip
Breakfast	Weigh/Weight/Weighting
Lunch/Brunch	Mal-nourish/Mal-Nourished/ Mal-Nourishment
Dinner	BMI/B.M.I./Body Mass Index
Supper/	De-hydrate/de-hydrated/ De-hydration/De-hydrating
Meal	

All the 4,992 incidents were reviewed by the CNRG:

- 1,433 (28.7 per cent) were defined as a nutrition-related patient safety incident;
- 3,548 (71.1 per cent) were excluded on the basis of not meeting the definition of a nutrition-related patient safety incident (for example incidents occurring at mealtimes but unrelated to nutrition);
- 11 incidents were excluded as duplicate records.

The nutrition-related incident reports were reviewed and attributed to one or more key themes. 14 broad categories were identified that demonstrated the themes. Within each of these themes more specific sub-categories were identified (see table 2).

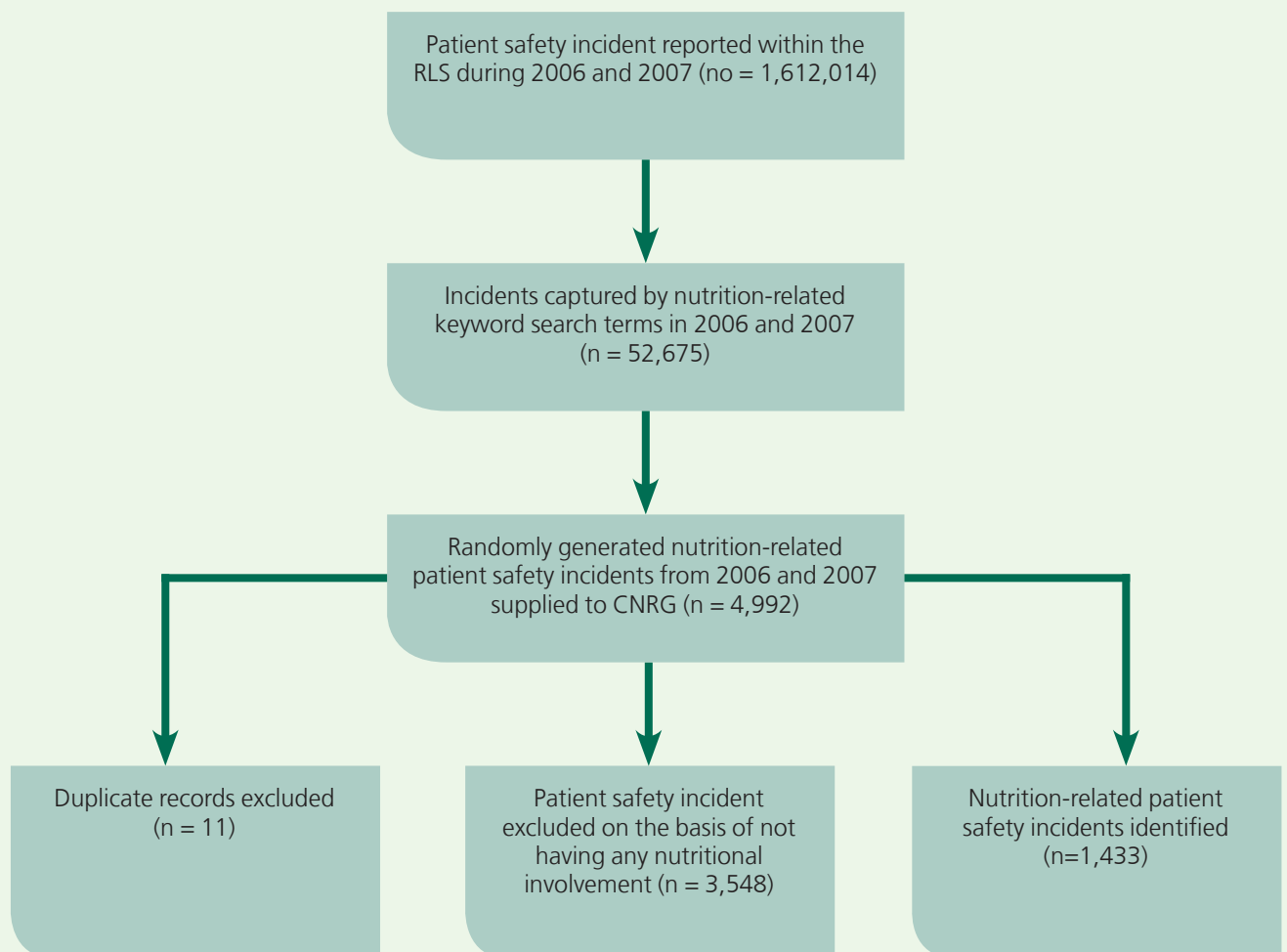
Results

The most commonly reported aspects of nutrition care where patient safety incidents occur included the provision of nutrition via artificial feeding (22.9 per cent) and incidents relating to patients being nil by mouth (22.7 per cent). The provision of nutrition via oral feeding accounted for 17.2 per cent of the incidents.

Issues relating to nutritional assessment or support accounted for 11.0 per cent of the nutrition-related incidents, discharge and community assistance concerns were identified in 7.5 per cent of the reports and 5.7 per cent of the incidents were contributed to food hygiene and food safety.

There were several categories of incidents that accounted for less than five per cent of the reports. These included diabetes and blood sugar levels, consequences of malnutrition, fluid management, falls/slips/trips with nutrition involvement, patient refusal of food/drink and allergy.

Figure 1:
Flow chart to demonstrate nutrition-related patient safety incidents



Learning from reporting

Table 2: Summary of the aspects of nutrition care where patient safety incidents occur.

Broad theme – category level 1	First nutrition theme Frequency	Second nutrition theme* Frequency	Total nutrition themes Frequency	Per cent of incident reports (n=1,433)**
Provision of nutrition via artificial feeding	321	7	328	22.9
Nil by mouth (NBM)/fasting	323	3	326	22.7
Provision of nutrition via oral feeding	243	4	247	17.2
Nutritional assessment or support	151	7	158	11.0
Discharge related/community assistance	107	1	108	7.5
Food hygiene and food safety	79	3	82	5.7
Diabetes and blood sugar levels	64		64	4.5
Consequences of malnutrition	43	12	55	3.8
Fluid management	34	13	47	3.3
Falls/slips/trips (with nutritional involvement)	28		28	2.0
Patient refusal of food/drink	16	1	17	1.2
Insufficient information provided	13		13	0.9
Allergy	9		9	0.6
Other	2		2	0.1
Total	1,433	51	1,484	103.6

* Some incidents contained features that related to two distinct categories and were assigned to both categories.

** Percentages add up to more than 100 per cent due to the assignment of some incidents to two categories.

Examples of the most common nutrition-related patient safety incidents within each aspect of nutritional care

a) Provision of nutrition via artificial feeding (22.9 per cent)

Among the 328 incidents classified as provision of nutrition via artificial feeding, the most frequently reported type of incident in this theme related to tube and pump placement (50.6 per cent), followed by feed type (17.1 per cent), feed amount (13.4 per cent), feed rate (12.2 per cent), and then other aspects of artificial feeding (6.7 per cent).

Examples of incident descriptions:

I received pt with NG tube. CXR was done and reviewed by Dr X. I was told by her that NGT is in right place. At 15.00 hrs feeding started. At 16.30 hrs doctors managing pt came and reviewed the CXR and I was told the NGT is in the lung.

Energy multifibre nutrition not supplied for several days despite request from the dietician to the kitchen. Some multifibre is being delivered but not Energy – as pt is specifically on this regime only and it comprises this pt dietary intake over 24hrs. Dietician provided feed from surplus stock in office.

b) NBM/fasting (22.7 per cent)

Among the 326 incidents relating to NBM, the highest percentage of reported incidents concerned non-observation of NBM (49.7 per cent) and prolonged NBM (43.6 per cent). 2.5 per cent of reports related to inappropriate NBM and 4.3 per cent of incidents related to other aspects of NBM or fasting.

Examples of incident description:

Patient operation had to be postponed because nurse fed the patient milk despite being told of patient planned surgery.

Pt NBM since midnight waiting for theatre. 20.30 I rang theatre who said pt had been cancelled but no – one had informed ward. Pt has now been NBM for 2 days-risk of malnutrition.

c) Provision of nutrition via oral feeding (17.2 per cent)

There were 247 nutrition-related incidents involving oral feeding. Among these, the most commonly reported incident related to food type including inappropriate texture (40.1 per cent), followed by food amount (23.5 per cent), other aspect of oral feeding (17.0 per cent), food timing (13.4 per cent) and feeding assistance (6.1 per cent).

Examples of incident descriptions:

** Male hostess entered B bay to give out breakfast. * He has been taught about the traffic light system and the SALT instructions above bed. * Hostess did not read the instructions and took the pts request for cornflakes, bread and jam contrary to the puree diet prescribed by SALT. * Pt found with bread overload in mouth and falling – she was unable to manage it. * Hostess removed and informed Supervisor and instructions given again. * Pt safety and awareness is very poor and she is unable to choose appropriate so Hostess should have discussed with staff.*

13/03/07 – Staff ordered special lunch and evening meals for the patient. 16/03/07 – Patient reports he did not receive it. Rung diet chef who did not know why food was not sent up but assures staff that he would. 19/03/07 – Patient received food over weekend. However did not receive evening meal.

Nutrition-related themes

Through analysis of the nutrition-related patient safety incidents the CNRG were able to identify themes which impacted on the reported patient safety incidents as follows:

- Poor communication between staff and departments.
- Inadequately kept patient documentation regarding food and fluid requirements.
- Staffing issues including levels of staffing, training and skills of staff.
- Lack of services around nutrition and nutritional assessment.
- Failure to follow protocols or guidelines or implement changes in regime with regard to feeding and fluids.
- Ineffective systems around theatre and surgery relating to fasting guidelines and inadequate communication between departments.
- Problems relating to ordering, prescription and delivery of feed/food/fluids.
- Inadequate or incorrect patient documentation prior to admission, transfer, handover or discharge.
- Lack of equipment and equipment failure.

Learning from reporting

Critical points where nutrition-related patient safety incidents seemed to arise most often were:

- admission:

Patient admitted on 30/03/07. Patient not screened for risk of malnutrition and not weighed since admission. Patient referred to Dietician on 02/05/07 because of concern that she has lost about 2 stones in weight. Normal weight 54kg. Weight on 03/05/07 39.3kg. Patient has lost 27 per cent of body weight = significant weight loss (BMI 16.05).

- handover:

Patient with poor appetite referred to dietetic service by medical staff on 16/1/07 (documented in medical notes). Patient not actually referred to dietician until 25/1/07 (onward) = 9 day delay in treatment + assessment of patient.

- transfer:

Communication breakdown between ward... and... on transfer 24-8-06. On 29-8-06 seen on... No feeding regime present. Assumed by... to be self caring with Bolus Peg feeding – not the case patient had not been trained to be self caring had been fed with pump on ward... bolus feeding insufficient amount and inappropriate storage of feed, not flushing Peg sufficient and taking oral diet and fluids when should be nil by mouth as per medical notes from ward.

- discharge:

Poor discharge from... community hospital. Patient was not to be discharged without care package. No discharge paperwork. No dressings. ICS care package not in place – ... Hospital responsible. Follow up date for speech therapist not given.

Conclusion

The key findings of this analysis are:

- Of all of the nutrition-related patient safety incidents captured by the keyword search slightly more than a quarter were directly caused by nutrition-related issues.
- Reported nutrition-related patient safety incidents often involve the following elements of nutritional care:
 - provision of nutrition via artificial feeding;
 - NBM/fasting;
 - provision of nutrition via oral feeding.

- Contributing factors related to nutrition-related patient safety incidents include:
 - poor communication between staff and departments;
 - staffing issues including levels of staffing, training and skills of staff;
 - unreliable application of protocols and systems.
- Nutrition-related patient safety incidents tend to occur at critical points of a patients' journey:
 - admission;
 - handover;
 - transfer;
 - discharge.

Healthcare organisations need to recognise that all aspects of nutritional care, if delivered poorly, have the potential to cause unnecessary harm to patients and service users. Currently nutrition-related patient safety incidents are under reported and organisations should encourage frontline staff to report these incidents.

How has incident reporting changed over the past three years?

What have we learnt?

- 1 Among acute trusts, the median incident reporting rate has risen from 18.8 incidents per 1,000 admissions in 2005-06 to 48.2 incidents per 1,000 admissions in 2007-08.
- 2 The increased reporting rate is likely to indicate a strong improvement in the reporting and learning process, and a changing patient safety culture within trusts rather than a greater number of safety problems.
- 3 While the reporting rate remained fairly constant between 2006-07 and 2007-08, among the top 25 per cent of trusts, it rose substantially among the bottom 25 per cent of trusts during the same period.
- 4 Trusts in the top 25 per cent of reporting were consistently most likely to report the lowest proportion of severe harm or death incidents in all three years, whereas low reporters tended to report a higher proportion of severe harm or death incidents.
- 5 Comparing trusts over time, there was a decrease in the proportion of incidents reported as patient falls among trusts with a higher than average reporting rate, whereas there was an increase among trusts in the bottom 25 per cent of reporting. This suggests that high reporters tend to report other types of incidents as their reporting rates increase, while low reporters often report patient falls.

Introduction

Incident reporting is likely to be associated with both the reporting processes that are in place and an organisation's patient safety culture. Further, high and low reporters are likely to exhibit different patterns of reported incidents. These patterns may reflect the level of maturity of incident reporting.

This feature shows how reporting patterns have changed as reporting rates have increased.

The analysis divides trusts into four groups based on their reporting rate per 1,000 admissions. Particular focus is given to the proportion of incidents reported as severe harm or death, and the most commonly reported incident type, that is, slips, trips, and falls.

Methodology

This feature looks at data reported from acute trusts in England only. The analysis includes incidents reported as occurring during a three year period between 1 April 2005 and 31 March 2008.

Reporting rates were calculated as the number of incidents occurring per 1,000 admissions in each year, based on Hospital Episode Statistics for 2005-06, 2006-07 and 2007-08 (www.hesonline.org.uk).

Trusts were divided into four groups based on reporting rate. The first group (upper quartile) contains the 25 per cent of trusts with the highest reporting rate in each year and the fourth group (lower quartile) contains the 25 per cent of trusts with lowest reporting rate in each year.

The number of acute trusts included in the analysis were:

- 171 in 2007-08;
- 168 in 2006-07;
- 169 in 2005-06.

Reporting rate among acute trust types

In 2007-08, the median reporting rate among all acute trusts was 48.2 incidents per 1,000 admissions. In 2006-07 it was 44.9 incidents per 1,000 admissions, whereas it was 18.8 incidents per 1,000 admissions in 2005-06, showing a substantial rise in the average reporting rate.

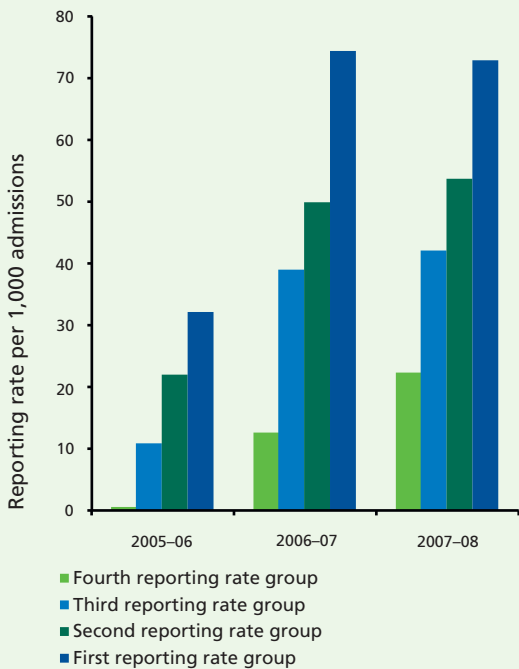
Looking at the first and fourth reporting rate groups each year, the median reporting rate in 2007-08 was 72.9 incidents per 1,000 admissions in the first group and 23.8 incidents per 1,000 admissions in the fourth group. In 2006-07, the equivalent figures were 74.4 and 15.2. In 2005-06, the equivalent figures were 32.1 and 1.9. Consequently, the most substantial increases in reporting rates were seen among trusts in the fourth reporting rate group.

In terms of trust type, in 2007-08 the median reporting rate per 1,000 admissions was highest among acute teaching trusts (54.3 incidents per 1,000 admissions), followed by specialist, small and medium acute trusts (50.8, 49.4 and 48.3 incidents per 1,000 admissions, respectively). It was lowest among large acute trusts (44.7 incidents per 1,000 admissions). This pattern was similar in 2006-07 and 2005-06.

Learning from reporting

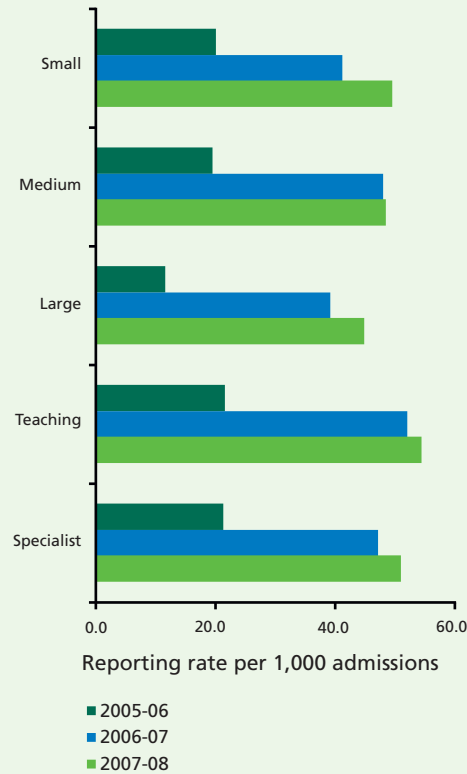
Hutchinson et al[†] have shown that higher incident reporting rates tend to be associated with a stronger patient safety culture. It is possible that the more substantial increase in reporting rates between 2005-06 and 2006-07 reflects an improvement in reporting processes, whereas the increase between 2006-07 and 2007-08 may be associated with a strengthened safety culture to a greater extent. Further work is however needed in order to fully establish the underlying reasons.

Figure 2
Median reporting rate per 1,000 admissions in acute hospitals by reporting rate group and year, 2005-06 to 2007-08



- There was an increase in median reporting rate per 1,000 admissions in acute hospitals over time, in particular between 2005-06 and 2006-07.

Figure 3:
Median reporting rates per 1,000 admissions among acute trust types, 2005-06 to 2007-08



- The pattern of median reporting rates per 1,000 admissions was similar among acute trust types across 2005-06, 2006-07 and 2007-08, although there was a substantial increase in reporting rate overall.

[†] Hutchinson et al, 'Trends in healthcare incident reporting and relationship to safety and quality data in acute hospitals: results from the National Reporting and Learning System', *Quality and Safety in Health Care*, 2009;18:5-10

Reported severe harm and death incidents

In 2007-08, the median per cent of severe harm and death incidents combined was 0.85 per cent of all incidents. In 2006-07, the median per cent was 0.82 per cent, whereas it was 0.70 per cent in 2005-06 (excluding trusts that reported fewer than 30 incidents overall in each year). There was substantial variation among trusts in the different reporting rate groups.

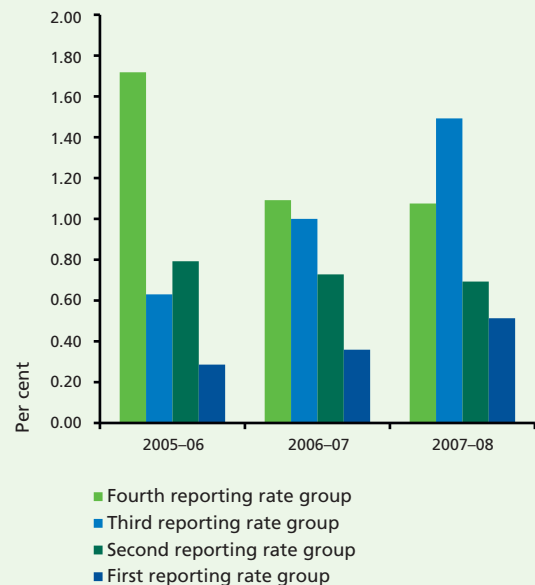
Trusts in the first reporting rate group consistently tended to report the lowest proportion of severe harm or death incidents in all three years, whereas low reporting trusts tended to report a higher proportion of severe harm or death incidents.

For example, in 2007-08, trusts in the first group had a median of 0.51 per cent of incidents classified as severe harm or death, whereas it was 1.49 per cent among trusts in the third group and 1.07 per cent among trusts in the fourth group.

Comparing the reporting rate groups over time, there was a substantial decrease in the proportion of severe harm and death incidents reported by the fourth group between 2005-06 and 2006-07. This finding suggests that additional incidents reported by the trust with the lowest reporting rates tend to be associated with no, low or moderate harm.

Figure 4:

Median per cent of incidents reported as severe harm or death by reporting rate group and year, 2005-06 to 2007-08



- High reporting trusts consistently tended to report the lowest per cent of incidents reported as severe harm or death.

Learning from reporting

Most commonly reported incident type: Slips, trips, and falls

The most commonly reported incident type has consistently been patient accidents, of which slips, trips, and falls (subsequently referred to simply as 'falls') makes up the majority of incidents.

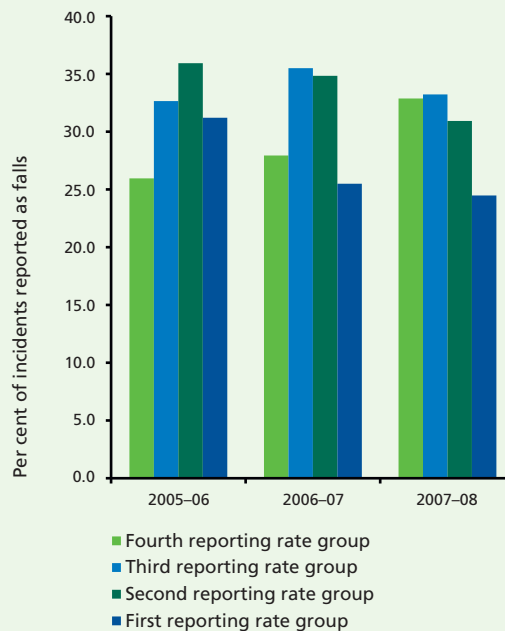
The median per cent of incidents reported as falls remained very similar across the three years. In 2007-08, the median percentage of all incidents reported as falls was 31.1 per cent (excluding trusts that reported fewer than 30 incidents in total). In 2006-07 the equivalent figure was 31.8 per cent and in 2005-06 it was 33.6 per cent.

High and low reporters were not equally likely to report falls in each year. Further, there was no consistent pattern in terms of which reporting rate group reported the highest percentage of falls. In 2007-08, trusts in the first group reported the lowest proportion of falls, suggesting that they reported a larger proportion of other incident types. This pattern was different in 2005-06, when trusts in the fourth group reported the lowest proportion of falls. It is likely the different pattern is linked to the higher reporting rates overall in the latter year.

Comparing the reporting rate groups between 2005-06 and 2007-08, there was a decrease in the proportion of incidents reported as falls among trusts in the two highest reporting rate groups, whereas there was an increase among trusts in the fourth group. There was no consistent trend among trusts in the third group.

Figure 5:

Median per cent of incidents reported as falls by reporting rate group and year, 2005-06 to 2007-08



- The percentage of incidents reported as falls decreased between 2005-06 and 2007-08 among trusts in the two groups with the highest reporting rate, while there was an increase among trusts in the bottom reporting rate group.

Summary and conclusion

Reporting rates have increased substantially between 2005-06 and 2007-08 among all acute trust types, with the most substantial increase occurring between 2005-06 and 2006-07. It is likely the increase in reporting rates reflects both strengthened reporting processes and safety culture. Acute teaching trusts have consistently had the highest reporting rate, closely followed by acute specialist trusts. Large acute trusts have consistently had the lowest reporting rate.

In terms of incidents reported as severe harm or death, the findings show that trusts in the bottom reporting rate groups tend to report the highest proportion of severe harm and death incidents, while trusts in the top 25 per cent tend to report the lowest proportion of incidents associated with severe harm or death. This finding suggests that when trusts report a higher level of incidents, additional incidents tend to be associated with no, low or moderate degree of harm.

In terms of falls, the data suggest that once the reporting system has matured, high reporters tend to report a larger proportion of non-falls incidents compared to low reporters. In contrast, during the system's initial stages when reporting rates were low overall, low reporters tended to report the smallest proportion of falls. It is possible that this pattern is explained by slips, trips, and falls being associated with a 'no blame' culture to a greater extent than other incident types.

Further work is needed to improve our understanding of the underlying reasons reporting rates differ across trusts, and how patterns of reporting reflect the level of maturity of reporting systems.

How many incidents are reported?

This is an overview of the volume and frequency of patient safety incidents reported to the RLS.

How many reports and organisations reporting?

From October 2003, when the RLS was first set up, to March 2009, 3,290,848 incidents reports were received from organisations in England based on the date of submission (see figure 6).

In the past quarter, 1 January 2009 to 31 March 2009, 250,059 incident reports were submitted. This is a decrease of 18,938 incidents compared to the previous quarter (268,997 incidents in October to December 2008).

Of the 392 NHS organisations in England[§], 370 organisations (94 per cent) reported at least once between 1 January 2009 and 31 March 2009. Of these:

- 214 organisations (55 per cent) reported at least once every month;
- 156 organisations (39 per cent) reported at least once in the quarter but less often than every month;
- 22 organisations (six per cent) did not report at all during the quarter.

(See figure 7 on page 19)

The overall trend in reporting is upwards. This suggests much greater awareness of patient safety and openness among staff. Healthcare organisations with a high rate of reporting are much more likely to have a strong commitment to patient safety and high safety standards.

[§] Since the start of the quarter October to December 2008, one organisation in England has split into two, resulting in a total of 392 NHS organisations in England as of 1 January 2009. This excludes NHS Direct.

Figure 6:

Number of incidents reported in England, October 2003 to March 2009

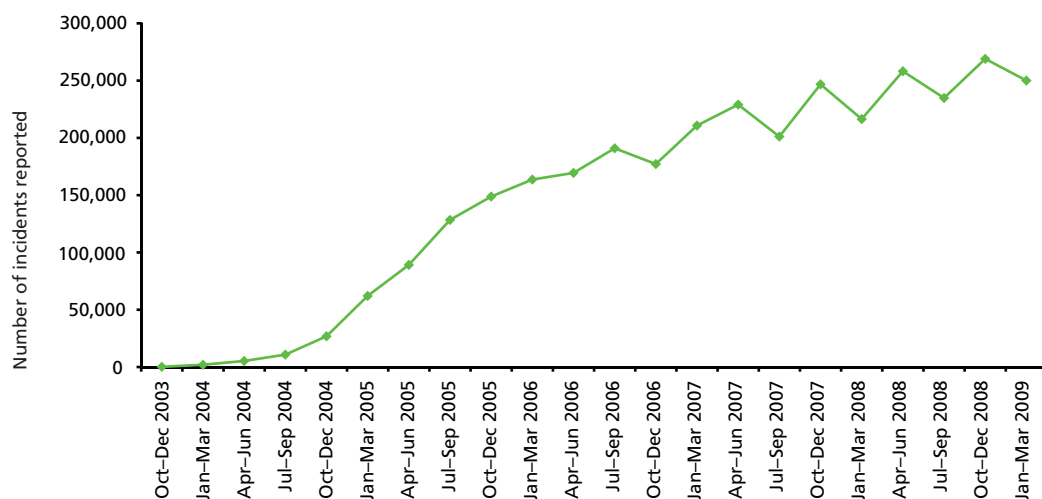
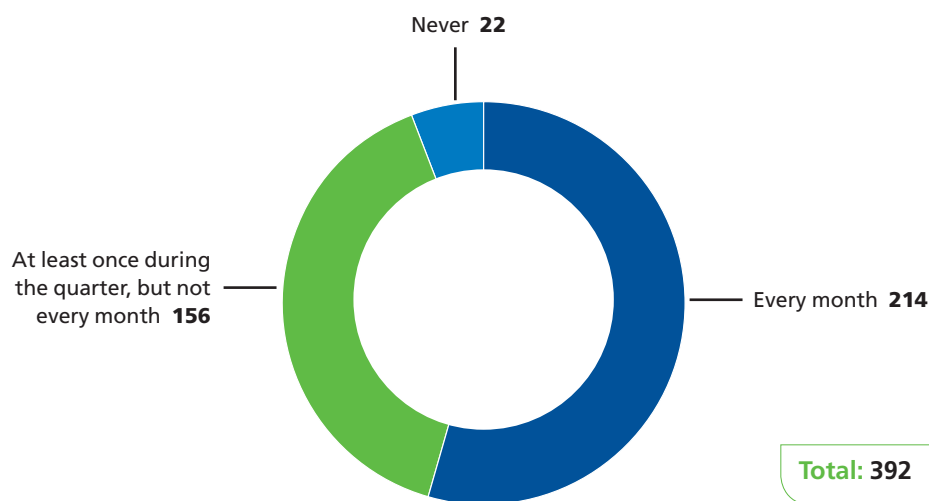


Figure 7:
Timeliness of reporting among NHS organisations in England, January to March 2009



How are reports received by the RLS?

Most reports received by the RLS come from staff working in NHS organisations and are reported via the local risk management system (LRMS) of the NHS trust (which collate staff reports at the local level).

The source of reports to the RLS in England from 1 January 2009 to 31 March 2009 shows that the LRMS accounted for 99 per cent of incident reports received. The proportion of reports submitted via LRMS has not dropped below 98 per cent since the quarter January to March 2004.

The NPSA encourages staff to report via the LRMS, to avoid duplicate data entry and to facilitate learning within NHS organisations.

The remaining incidents are submitted using direct reports by NHS staff to the RLS using a specially designed electronic form (the e-Form) that allows anonymous reporting. Staff reporting on e-Forms can choose to share their reports with their organisation and the majority do choose to do this.

What gets reported?

This section gives an overview of the patterns and trends in patient safety incidents, focusing on incident types, care settings and degree of harm.

The data presented in this section covers the four consecutive quarters from 1 January 2008 to 31 December 2008, based on the date the incidents were reported as having occurred.

How many patient safety incidents were reported as occurring in 2008?

Between 1 January 2008 and 31 December 2008, a total of 863,691 patient safety incidents in England were reported to the RLS. This figure is based on the date incidents were reported as having occurred. The incidents reported in England during this period accounted for 94 per cent of all incidents reported to the RLS, while five per cent were reported to have occurred in Wales. The remaining one per cent of incidents were reported anonymously and can therefore not be allocated to a country.

The number of reported incidents was similar in the three quarters from January 2008 to September 2008, although it was slightly lower in October to December 2008. Of the reported incidents:

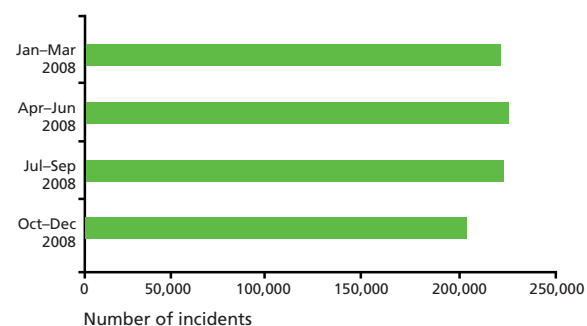
- 216,371 incidents (25 per cent) were reported as having occurred between January and March 2008;
- 223,350 incidents (26 per cent) between April and June 2008;
- 221,371 (26 per cent) between July and September 2008;
- 202,599 incidents (23 per cent) between October and December 2008.

(See figure 8)

The comparatively low number of reports in the most recent quarter may reflect the time lag with which some incidents are reported. This pattern is similar to that seen in previous issues of the QDS.

Figure 8:

Number of incidents reported as occurring in England, January to December 2008



About these data

The three month time lag in publishing these data allows time for the majority of incidents to be reported, uploaded to the RLS and processed.

The data were extracted as of 1 April 2009. Further incidents which occurred during the period October to December 2008 that have been sent to the RLS since this date will be included in subsequent QDS reports. Accordingly, the figures presented in this report for the three quarters between January 2008 and September 2008 may also vary to a small extent compared to previous issues of the report, since additional incidents have been submitted since then.

Data in this section have been through data quality measures to eliminate duplicate data and blank reports. The data in this section are presented on a 12-month basis, which is followed, where relevant, by a description of trends and changes in the patterns seen across the four individual quarters. The primary focus in the text in this section is the data expressed in term of per cent. Figures and charts display the number of incidents while aiming to provide a visual overview of relevant patterns.

The full tables for this section as well as additional charts showing trends in the data on a quarterly basis are provided in the data workbook which accompanies this report (see www.npsa.nhs.uk/datareports).

What are the main incident types?

In 2008, patient accident was the most commonly reported type of incident, which accounted for 33 per cent of all incidents.

Following patient accidents, the next most commonly reported incident types were:

- treatment/procedure (10 per cent);
- medication (nine per cent);
- access/admission/transfer/discharge (eight per cent);
- infrastructure (including staffing, facilities and environment) (seven per cent);

- documentation (including records and identification) (six per cent);
- clinical assessment (including diagnosis, scans, tests and assessments), disruptive/aggressive behaviour, implementation of care and ongoing monitoring/review and consent/communication/confidentiality (four per cent each);
- medical device/equipment and self-harming behaviour (three per cent each).

(See figure 9).

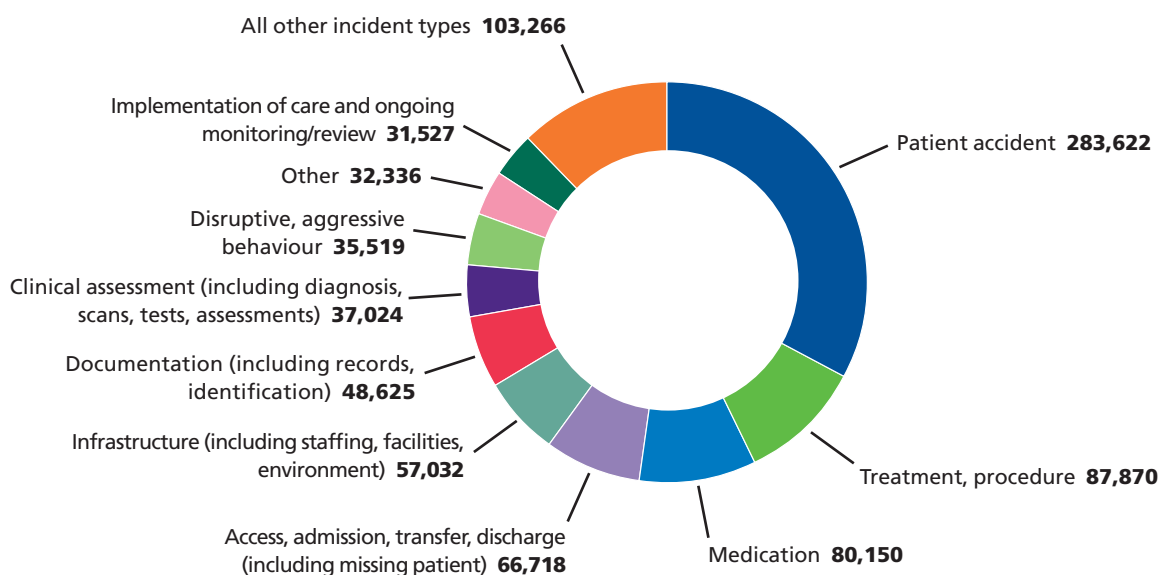
The least commonly reported incident types were infection control and abuse of patient (by staff/third party), two per cent and one per cent respectively.

Four per cent of all incidents were categorised as 'other'.

This pattern was very similar in all four quarters.

Figure 9:

Reported incident types in England, January to December 2008



Total: 863,689

Two reports received did not state incident type

Examples of incidents classified as 'other':

"I visited my client at his home. He was walking from the kitchen as I walked into the property, he said he had some water and told me he had hoped the tablets he had taken would have killed him by the time I had arrived. I asked what he had taken and he said 20 paracetamol and told me he wanted to die. I asked him to lie down on his side on his sofa and I said I needed to ring for an ambulance. He became very anxious and told me not to. I said I needed to tell my supervisor so contacted the physio who came to the property straight away. He then agreed to ring 999 so I rang for an ambulance, rang his GP and a relative and the mental health team."

"Patient reported hospital acquired pressure ulcers. Location both heels. Referral letter from Ward, stated 'noted black necrotic heels please monitor, dressing prescribed' No pressure relieving equipment requested. Home Visit by [Staff Name], Community Staff Nurse [date]. On examination, findings both heels blisters present beneath the blisters black areas seen. Patient said 'I kept telling the nurses my heels were sore but nobody took any notice' patient reported developed pressure sore on heels whilst in hospital. Patient reported she told staff she had painful heels but patient said they took no notice until being discharged."

Examples of incident types

- **Patient accident:** 'Pt found on floor in toilet by Staff nurse, very sleepy, but rousable. No memory of how fell or if hit head. Denies pain.'
- **Treatment/procedure:** 'Patient had a right total knee replacement. The loban used to drape patient resulted in break of patient skin on distal aspect of tibia. Surgeon informed.'
- **Medication:** 'Prescription for insulin written as 6iu – misread by nurse as '61 units', so wrong dose given.'
- **Access/admission/transfer/discharge:** 'Delay in arrival of ambulance for emergency transfer, ambulance took 57 minutes on a 999 call. On a previous occasion an ambulance car has been sent for an obstetric transfer which is not appropriate.'
- **Infrastructure:** 'Patient requires 4-handed turn with head hold due to spinal injury, only three staff at night so normal procedure is to obtain help from Ward 5. Since night of [date] Ward 5 closed due to D&V (Norovirus) so help obtained from Ward 7 & 8. Tonight [date] all open wards very busy with own work and unable to help. Eventually help obtained from Ward 6 at 2230hrs, which was 1½ hrs late. Patient pressure areas were compromised, though no deterioration noted. Forewarned other wards of time for next turns to enable cover to be obtained.'
- **Documentation:** 'No notes pt seen on yellow sheet and copy letters, notes in transit, arrived after pt was seen.'
- **Clinical assessment:** 'Biochemistry delayed informing ward of urine sample not being labelled by twenty four hours.'

Where do incidents occur?

In 2008, the majority of reported patient safety incidents occurred in acute trusts or general hospitals (74 per cent).

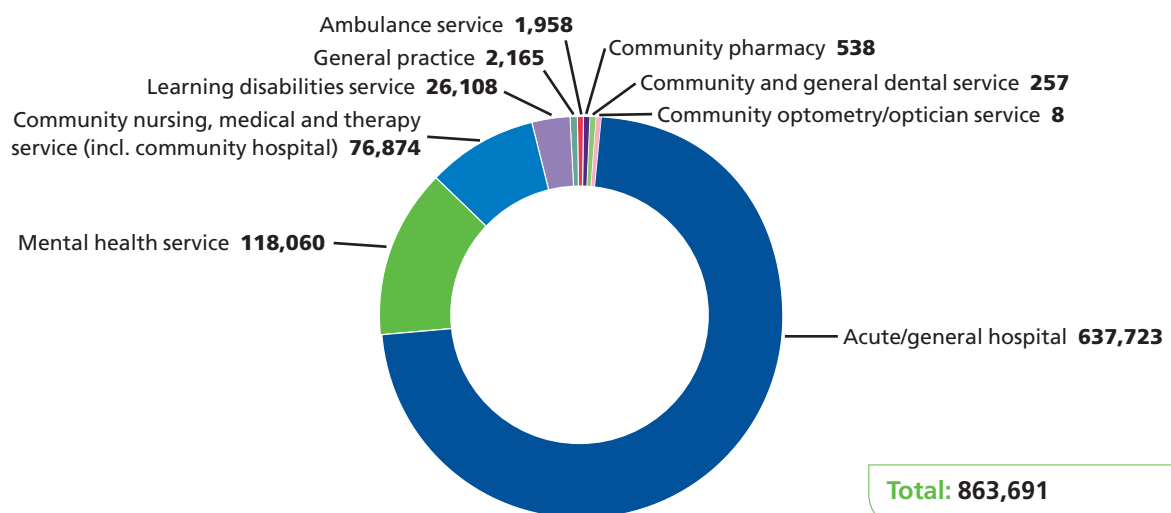
The second most common care setting for reported incidents was mental health services (14 per cent), followed by community services** (including community hospitals) which combined with community pharmacy, community and general dental services and community optometry/optician services accounted for nine per cent. Among the community services, community hospitals accounted for the majority of incidents. Learning disabilities services accounted for three per cent of all reported incidents. Ambulance services and general practice both accounted for a small proportion of all incidents (rounded down to 0 per cent). This pattern was similar across all four quarters.

The patterns of reported incident types within each care setting during the period show that there was substantial variation across the different care settings. Yet patient accident was consistently the most commonly reported incident type in care settings taking inpatients, ranging from 31 per cent in acute/general hospitals to 50 per cent in community services (including community hospitals).

Note: The care setting in which incidents were reported as taking place should not be confused with organisation cluster types which are used in the QDS public workbook (S.1 Regularity of reporting) and some of the NSPA's other publications. Organisation cluster types are directly related to the organisation which has provided an incident report (for example, large acute organisations or mental health organisations). Depending on the vendor system used by an organisation, care setting may be based on where the reporter thought the incident occurred and can include settings outside of that normally provided by an organisation. For example, an ambulance trust may report an incident which occurred in the acute/general care setting, and vice versa.

** Community services include community nursing, medical and therapy services.

Figure 10:
Care setting of incident reports in England, January to December 2008



What types of incidents occur?

Acute/general hospitals

In 2008, the most commonly reported type of incident in acute/general hospitals was patient accident (31 per cent).

Following patient accidents, the next most commonly reported incident types were:

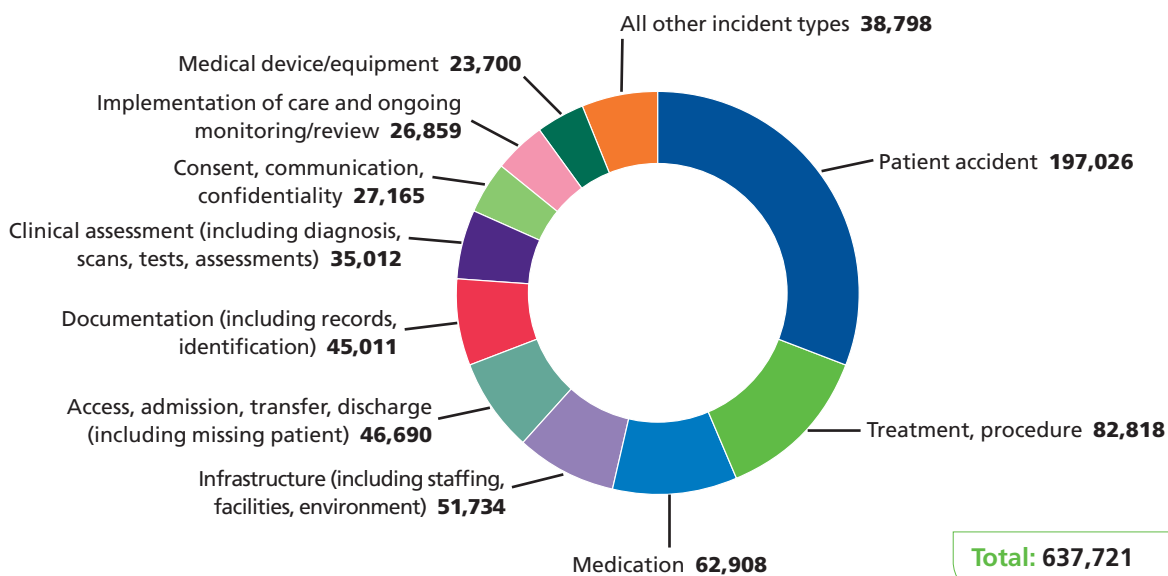
- treatment/procedure, the second most commonly reported incident type (13 per cent);
- medication (10 per cent)
- infrastructure (including staffing, facilities, environment) (eight per cent);

- access/admission/transfer/discharge (including missing patient) and documentation (including records, identification) (seven per cent each);
- clinical assessment (including diagnosis, scans, tests, assessments), implementation of care and ongoing monitoring/review, consent/confidentiality, medical device/equipment and incidents coded as 'other' (between five per cent and three per cent);
- incidents categorised as infection control (two per cent).

The remaining incident types (disruptive/aggressive behaviour, patient abuse (by staff/third party)) and self-harming behaviour each accounted for a negligible proportion (each rounded down to 0 per cent).

A similar pattern was seen in all four quarters.

Figure 11:
Reported incident types in acute/general hospitals in England, January to December 2008



Two reports received did not state incident type

Examples of incidents occurring in acute/general hospitals**Care setting:** Acute/general hospital**Incident type:** Treatment/procedure – Delay/failure**Reported degree of harm:** Severe harm**Incident description:** Pt had syringe driver in situ, site had been changed overnight by night staff, but old needle and giving set had been left in, now taken out. Also, because new giving set had been primed and volume of syringe had changed, infusion has finished four hours early because flow rate had not been changed. Syringe driver contained Diamorphine and Haloperidol. No documentation in medical notes or syringe driver careplan as to why site changed and by whom.**Care setting:** Acute/general hospital**Incident type:** Clinical assessment (including diagnosis, scans, tests, assessments) – patient incorrectly identified**Reported degree of harm:** No harm**Incident description:** Sample received in Path Lab from patient with incorrect hospital number which belonged to another patient with same date of birth.**Care setting:** Acute/general hospital**Incident type:** Medical device/equipment – Lack/unavailability of device/equipment**Reported degree of harm:** Severe**Incident description:** Alerted to the probable delivery of a 24 week gestation infant. Setting up the admission space, asked to place a ventilator with Oscillatory capability. No clean blocks in the CSSD [Central Sterile Supply Department] tray. HCA [healthcare assistant] sent to take one coming off a machine and to collect the one sent yesterday. None in CSSD, CSSD shift leader says there are none, have we looked properly. They will process the one sent today [date] at 14.00. None on the unit and awaiting the one now in CSSD, therefore can not use the SLE 2000 HFO [high-frequency oscillations] ventilator as yet.**Care setting:** Acute/general hospital**Incident type:** Patient accident – Slips, trips, and falls**Reported degree of harm:** Low**Incident description:** The patient fell backwards against the sink in side [Room name], after leaving the toilet. Previous to this the patient had removed indwelling catheter whilst trying to mobilise. Patient has had recent surgery to repair fracture to left NOF 6/52 and has been mobilising around the room area with a walking frame.**Care setting:** Acute/general hospital**Incident type:** Medical device/equipment – Lack/unavailability of device/equipment**Reported degree of harm:** Death**Incident description:** Diabetic COPD – shortness of breath of 1 flight stairs. Hypertension-hypercholesterolemia. Peripheral vascular disease. Urgent above knee amputation for ischaemic unsalvageable leg. Pre-op urea 10.4 – renal compromise – previously 6.5. Anaesthetised under epidural & planned epidural for post-op analgesia/rehabilitation. No epidural pumps available. Switched to morphine PCA & femoral nerve block given. Uncontrolled pain – morphine continued – pt deteriorated-renal function deteriorated further – morphine accumulated – > sedation/resp depression-needed naloxone infusion & ITU admission. 15/5 – U21.2 – Cr 244. Lack of epidural pump led to periarrest situation.

Mental health and learning disabilities services

The pattern of incident types in mental health services was different compared to other care settings, although patient accidents still accounted for the largest proportion of incidents (33 per cent) in England in 2008.

In mental health services, the next most commonly reported incident types were:

- disruptive/aggressive behaviour. This was the second most commonly reported incident type (21 per cent) – this is in contrast to other care settings;
- self-harming behaviour (16 per cent);
- access/admission/transfer/discharge (including missing patient) (10 per cent);
- medication (seven per cent);
- ‘other’ incidents (six per cent);

The remaining incident types (two per cent or less). This pattern was similar in all four quarters.

(See figure 12)

Similar to mental health services, in learning disabilities services the most commonly reported incident types were:

- patient accidents (32 per cent);
- disruptive/aggressive behaviour (27 per cent);
- self-harming behaviour (19 per cent);
- incidents coded as ‘other’ (eight per cent);
- medication (six per cent);

The remaining incident types (two per cent or less) were:

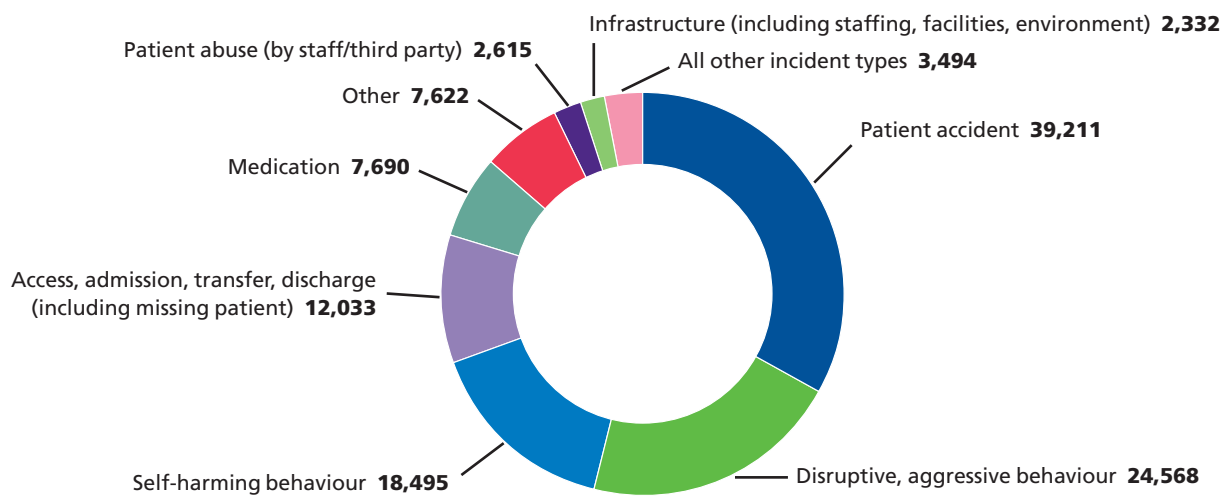
- patient abuse (by staff/third party);
- access/admission/transfer/discharge (including missing patient);
- infrastructure (including staffing, facilities, environment);
- implementation of care and ongoing monitoring/review;
- treatment/procedure;
- medical device/equipment;
- infection control incidents;
- documentation (including records, identification);
- consent/communication/confidentiality and clinical assessment (including diagnosis, scans, tests, assessments).

There was no substantial change in the pattern of incident types seen in learning disabilities services across the four quarters.

(See figure 13)

Figure 12:

Reported incident types in mental health services in England, January to December 2008



Total: 118,060

Examples of incidents occurring in mental health

Care setting: Mental health service

Incident type: Self-harming behaviour – Self-harm

Reported degree of harm: No harm

Incident description: [patient] was admitted following suicidal ideations about harming self, had prior to admission tried to hang self with a TV lead in a bathroom at [hospital]. Following admission was nursed on Level 2 observation however remained low in mood expressing suicidal ideations. At 12:15 hrs staff member [staff name] witnessed [patient] run from another clients room, room 6, past the nursing office, crying aloud and go into her bedroom. Room 1, a shared bedroom. When [staff name] went to investigate she found the door locked and on entering the room found [patient] standing on an arm chair with her bed sheet tied to the curtain rail around her bed. Bottom of sheet on the floor. [patient] claimed she wanted to die and had planned to hang herself.

Care setting: Mental health service

Incident type: Medication

Reported degree of harm: No harm

Incident description: Inpatient was given the incorrect dosage of medication by Staff Nurse. Patient was prescribed Seretide Inhaler 125 X two puffs, however patient was give Seretide Inhaler 250 X two puffs. On-Call Doctor informed as well as the patient. Physical observations taken. Advised by On-Call Doctor for monitoring of physical observations every hour for next four hour period.

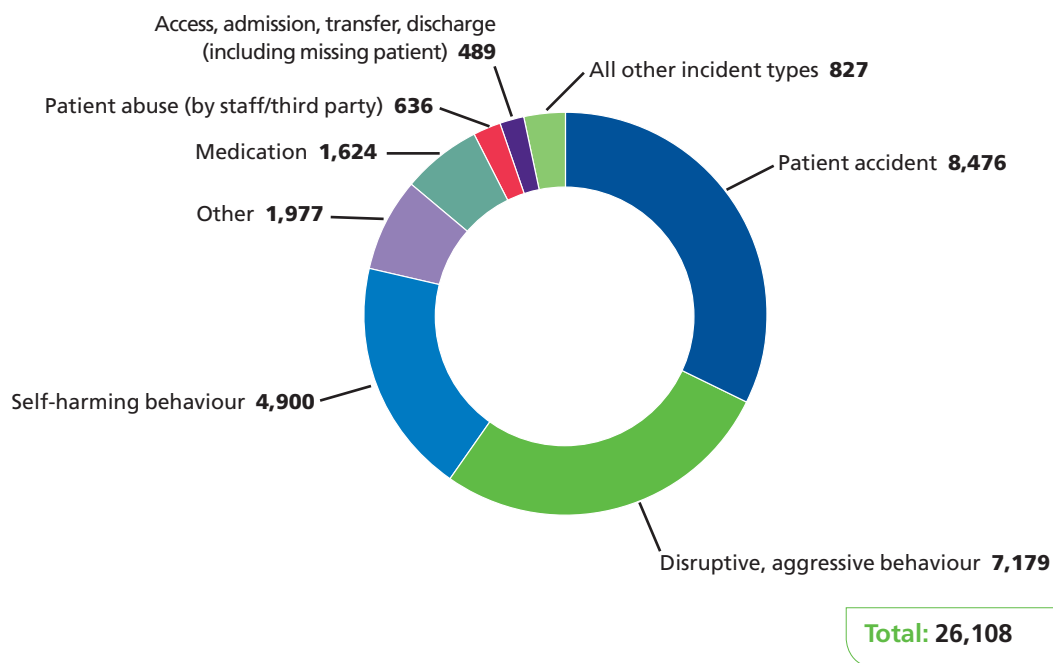
Care setting: Mental health service

Incident type: Self-harming behaviour – Self-harm

Reported degree of harm: No harm

Incident description: [Staff name] was doing his routine checks when he found the bathroom door was locked. When [staff] opened the door he found [patient] trying to drown herself by filling the bath with water and lying face down holding her mouth tightly shut.

Figure 13:
Reported incident types in learning disabilities services in England, January to December 2008



Community services (including community hospitals), community pharmacies, community and general dental services, and community optometry and optician services

Overall, in 2008 the most commonly reported type of incident in community services^{††} (including community hospitals) was patient accident, which alone accounted for 50 per cent of all incidents.

None of the remaining categories accounted for more than 10 per cent of reported incidents, these were:

- access/admission/transfer/discharge (including missing patient) and medication (nine per cent each);
- incidents coded as implementation of care and ongoing monitoring/review and 'other' (five per cent each);
- treatment/procedure and documentation (including records, identification) (four per cent each);

^{††} Community services include community nursing, medical and therapy services.

The remaining categories each accounted for between one per cent and three per cent, they were:

- infrastructure (including staffing, facilities, environment);
- consent/communication/confidentiality;
- medical device/equipment;
- disruptive/aggressive behaviour;
- clinical assessment (including diagnosis, scans, tests, assessments);
- infection control incidents;
- self-harming behaviour and patient abuse (by staff/ third party).

The pattern of incident types in community services (including community hospitals) was similar in all four quarters.

In community pharmacies, the vast majority of reported incidents related to medication (92 per cent). None of the remaining incidents types accounted for more than three per cent of the incidents.

In community optometry/optician services:

- two incidents were reported to have occurred in England in the quarter from October to December 2008;
- the overall number of incidents received between January 2008 and December 2008 remained very low (n=8).

Therefore, no conclusions can be drawn with respect to incident patterns in this care setting.

In community dentistry treatment/procedure was the most commonly reported type of incidents (18 per cent). The other most commonly reported incident types were:

- patient accident and access/admission/transfer/discharge (including missing patient) (17 per cent each);
- medical device/equipment (14 per cent);
- infrastructure (including staffing, facilities, environment) (eight per cent);
- incidents coded as 'other' (seven per cent).

The remaining incident types accounted for five per cent or less, they were:

- medication;
- documentation (including records, identification);
- clinical assessment (including diagnosis, scans, tests, assessments);
- consent/communication/confidentiality;
- patient abuse (by staff/third party);
- infection control;
- disruptive/aggressive behaviour;
- implementation of care and ongoing monitoring/review.

There were large fluctuations in the pattern of incident types in community dentistry. However, the number of reported incidents in each quarter remains low, meaning that small changes in the number of reported incidents can produce an inconsistent pattern.

Example of an incident occurring in community services

Care setting: Community nursing

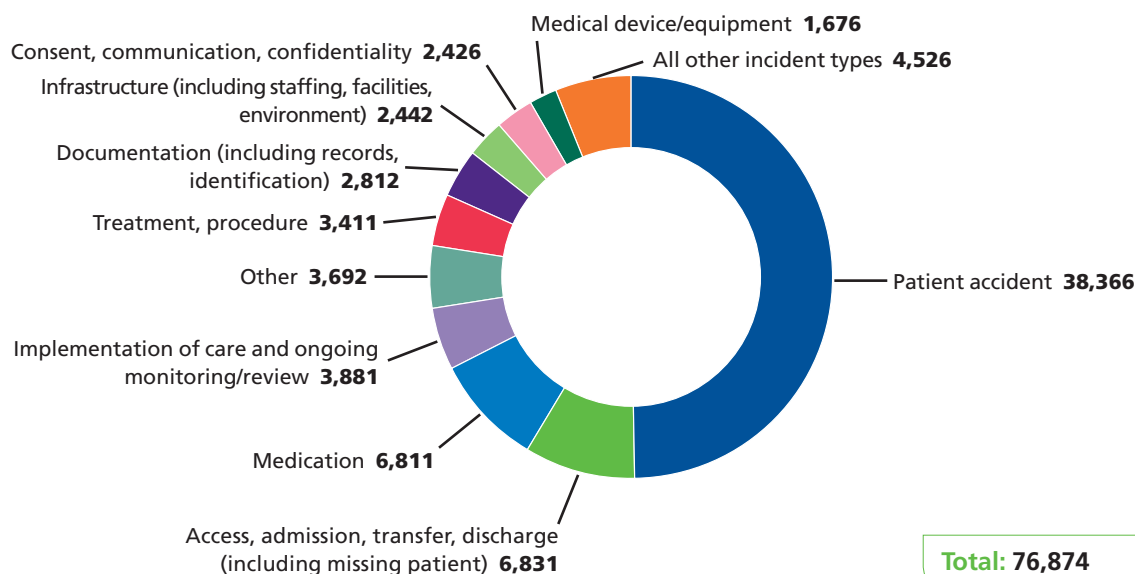
Incident type: Medication

Reported degree of harm: No harm

Incident description: Patient attended treatment room daily and home visits at weekend for administration of Tinzaparin injections, prescribed dose was 21,500 units... equating to 1.075ml – clearly marked on prescription. Nursing notes state that 1.75ml had been given over a period of seven days. Anti-coagulant clinic contacted and discussed with specialist nurse, patient fit and well with no bleeding. Informed patient's GP. Change in practice that all first time doses of Tinzaparin referral will be done and check by two qualified nurses.

Figure 14:

Reported incident types in community services (including community hospitals) in England, January to December 2008



Ambulance services

The most commonly reported incident type in ambulance services was access/admission/transfer/discharge (including missing patient), which accounted for 21 per cent of all incidents in 2008.

In ambulance services other reported incident types were:

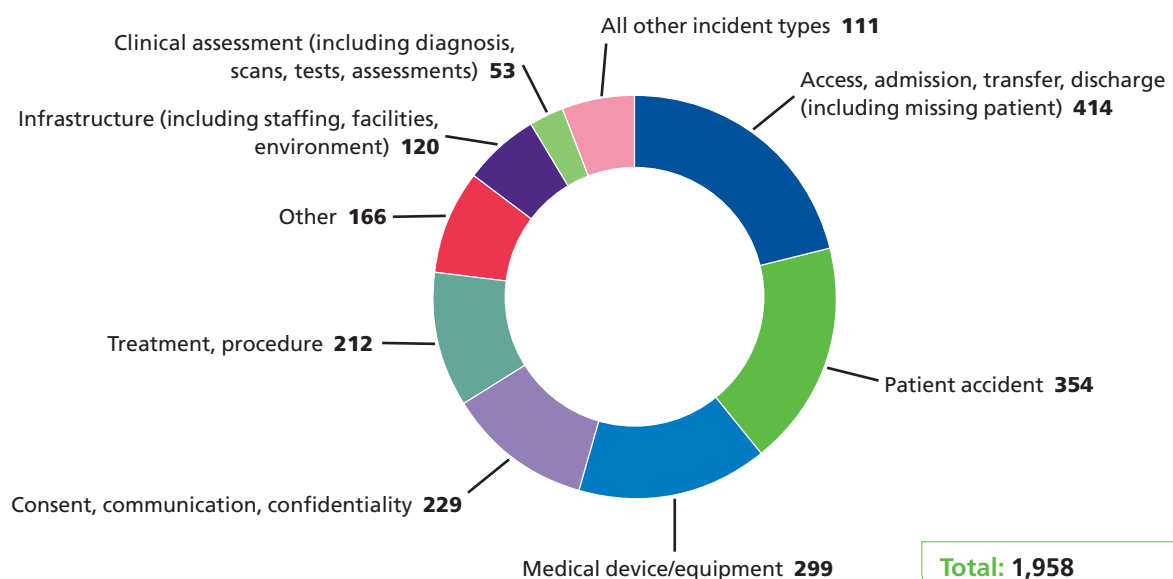
- patient accident (18 per cent);
- medical device/equipment (15 per cent);
- consent/communication/confidentiality (12 per cent);
- treatment/procedure (11 per cent);
- incidents coded as 'other' (eight per cent);
- infrastructure (including staffing, facilities, environment) (six per cent).

The remaining incident types accounted for three per cent or less, they were:

- medication;
- clinical assessment (including diagnosis, scans, tests, assessments);
- patient abuse (by staff/third party);
- documentation (including records, identification);
- implementation of care and monitoring/ review;
- self-harming behaviour;
- disruptive/aggressive behaviour;
- infection control.

The pattern of incident types fluctuated notably during the four quarters between January 2008 and December 2008, which may be explained by the relatively low number of total incident reports received from this care setting.

Figure 15:
Reported incident types in ambulance services in England, January to December 2008



General practice

The incident types reported in general practices showed a markedly different pattern compared to care settings that take inpatients.

Between January 2008 and December 2008 the most commonly reported incident type in general practice was medication (26 per cent), followed by:

- consent/communication/confidentiality (12 per cent);
- documentation (including records, identification) (11 per cent);
- access/admission/transfer/discharge (including missing patient) (10 per cent);
- clinical assessment (including diagnosis, scans, tests, assessments) (eight per cent);
- treatment/procedure and patient accident (seven and six per cent respectively).

The remaining incident types each accounted for five per cent or less, they were:

- incidents coded as 'other';
- infrastructure (including staffing, facilities, environment);

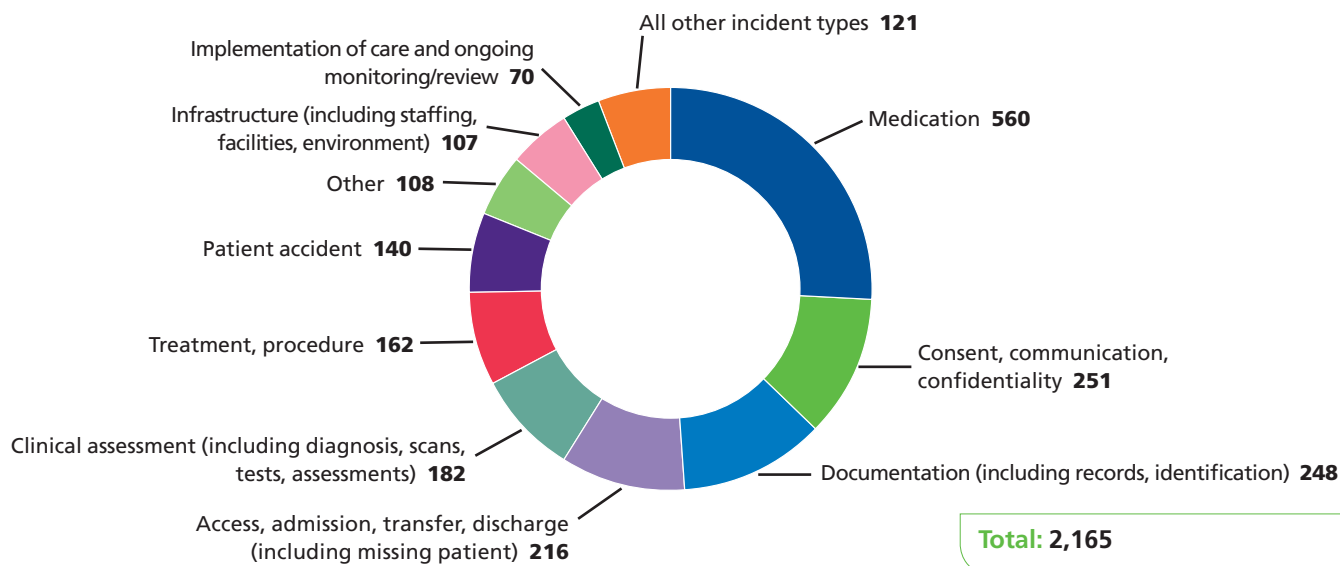
- implementation of care and ongoing monitoring/review;
- medical device/equipment;
- infection control incidents;
- disruptive/aggressive behaviour;
- self-harming behaviour;
- patient abuse (by staff/third party).

The number of incidents reported from this care setting has fluctuated to some extent over the past year, with 539 incidents reported as occurring in January to March 2008 and 505 incidents reported as occurring in April to June 2008. However, since April to June 2008 the number of incidents reported as occurring has continually increased, from 553 incidents in July to September 2008 to 568 incidents in October to December 2008. It is likely that the number of incidents reported in the most recent quarter will still increase as some incidents tend to be reported after a time lag of more than three months.

Some variation was seen across the four quarters in the pattern of incident types, although no consistent trends were evident. The notable fluctuations are likely to be the result of the relatively low number of total incident reports submitted by general practices.

Figure 16:

Reported incident types in general practice in England, January to December 2008



Improving reporting and learning in primary care

Primary care is the cornerstone of the NHS: each year in England alone there are approximately 300 million consultations in general practice with nearly 800 million prescriptions dispensed in the community.

Studies have identified that medical error occurs between five and 80 times per 100,000 consultations, mainly related to the processes involved in diagnosis and treatment. Prescribing and prescription errors have been identified to occur in up to 11 per cent of all prescriptions, mainly related to errors in dose.

The NPSA is committed to promoting safe practice in primary care and 2009/10 will see the Agency launch a number of initiatives to support this aim.

Seven steps to patient safety in general practice will be published in the coming months. This quick reference guide describes the key steps for a general practice to keep safe the patients they care for, including activities that can be taken to develop policies, strategies and action plans. There will also be practical hints and techniques that can be used to promote quality care.

We are committed to **making reporting easier**, more relevant and accessible to frontline healthcare staff. To help this process, we are currently revising the electronic form used to report incidents from general practice; this builds on an earlier feasibility study with a volunteer sample of 14 practices and four out-of-hours

services, which found that the service specific e-Form was usable and took less time to complete than the standard NPSA e-Form. We aim to make the e-Form available to all staff later this year.

Significant Event Audits (SEA) are also particularly important to primary care as they involve systematically investigating and reviewing incidents of both good and bad practice that have been reported by primary care teams.

The process offers the chance to hold regular structured meetings to discuss recent practice, as well as identify individual and organisational learning needs. Last year the NPSA released guidance on how to conduct SEAs, including a template data collection tool to extract learning from SEAs that can then be shared across organisations. We are currently working with PCTs in one SHA to use the template and will continue to promote the guidance throughout the year.

In addition, the NPSA is working with a PCT in the north east to develop and test thematic reporting of patient safety incidents, and will be working closely with two SHAs to undertake patient safety collaboratives designed to support clinical staff in identifying local patient safety risks as well as working to design and test solutions.

How seriously harmed are patients?

In 2008, 66 per cent of incidents in England were coded by local reporters as resulting in no harm to patients.

Twenty-seven per cent were reported as causing low harm and six per cent were reported as causing moderate harm. One per cent of all incidents were coded by the reporter as resulting in severe harm or death, with the majority of these incidents being classified as severe harm rather than death. This pattern was similar across the four quarters.

Definition of degree of harm

No harm

Impact prevented: any patient safety incident that had the potential to cause harm but was prevented, resulting in no harm

Impact not prevented: any patient safety incident that ran to completion but no harm occurred

Low harm

Any patient safety incident that required extra observation or minor treatment and caused minimal harm

Moderate harm

Any patient safety incident that resulted in a moderate increase in treatment and which caused significant but not permanent harm

Severe harm

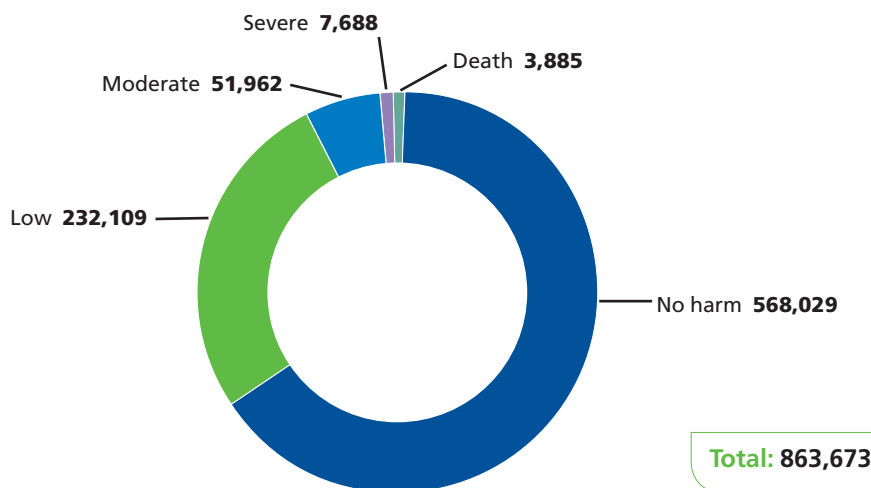
Any patient safety incident that resulted in permanent harm

Death

Any patient safety incident that directly resulted in the death of the patient

Figure 17:

Reported degree of harm to patients in England, January to December 2008



The total number of incidents (863,673) is lower than that quoted elsewhere, as it excludes those incidents where degree of harm was not stated.

Severe harm or death by care setting

The proportion of incidents associated with severe harm or death in England showed some variation across care settings (see figure 18). The proportion of incidents reported as leading to either severe harm or death of patients between January 2008 and December 2008 was highest from general practice (2.6 per cent)*, followed by mental health services (1.8 per cent), ambulance services and community and general dental services (both 1.6 per cent) and community services (including community hospitals) (1.5 per cent). The equivalent proportion was 1.3 per cent in acute/general hospitals. In community pharmacies and learning disabilities services the equivalent proportions were 0.6 per cent and 0.4 per cent, respectively.

It is likely that the relatively high proportion of incidents reported as resulting in either severe harm or death in general practices reflects a different reporting culture compared to other care settings: fewer incidents are reported overall but incidents that result in severe harm or death are more likely to be reported.

In almost all care settings, the proportion reported as leading to severe patient harm was higher than the proportion reported as causing death. For example, in general practice the proportion resulting in severe harm was 1.6 per cent, whereas the proportion causing death was 1.0 per cent. In community services (including community hospitals) the equivalent proportions were 1.1 per cent and 0.5 per cent, respectively. The exception to this pattern was mental health services where 1.1 per cent of incidents were reported to have resulted in death, compared to 0.7 per cent of incidents resulting in severe harm. This pattern was largely similar in the four quarters.

The NPSA works closely with NHS organisations to individually review all incidents where the harm to a patient is reported as death or severe harm to identify opportunities for national learning.

Analysis of incidents reported as resulting in death suggests that this is a complex area. Some incidents may be coded based on the potential harm to the patient, rather than the actual harm.

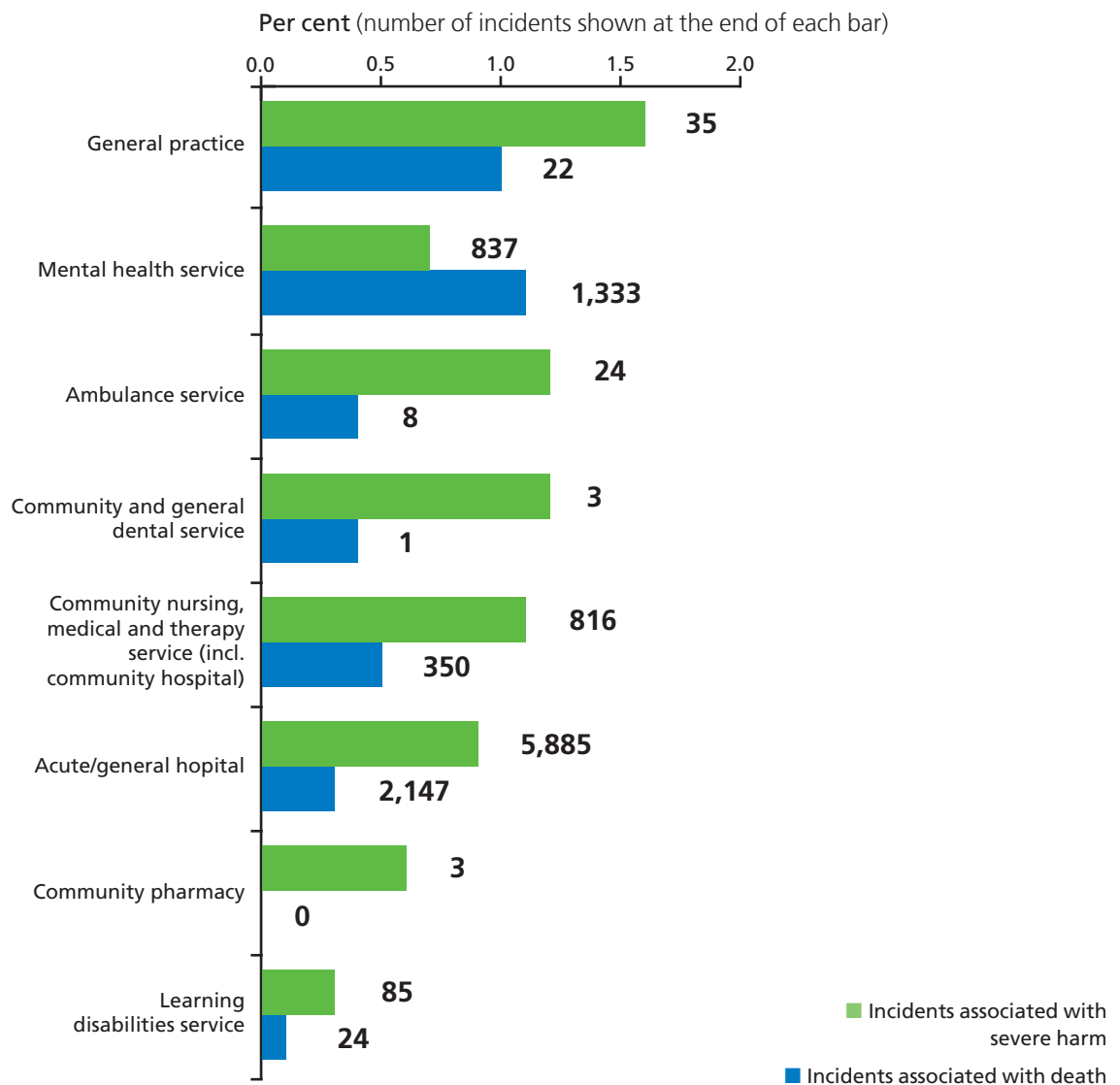
Often it is unclear whether the death of the patient was, or might have been, directly related to a patient safety incident. Organisations often capture events in the LRMS where patients have died, even if there was no patient safety incident, for example, still births, neonatal deaths and outpatient suicides. Even following investigation, the relationship between any incident which occurred and the outcome for the patient is often unclear, as some incidents may happen during the care of patients with life threatening illness.

Improving the coding of degree of harm to patients is an important aspect of data quality which the NPSA is working with NHS organisations to improve.

The fifth report from the Patient Safety Observatory, *Safer care for the acutely ill patient: Learning from serious incidents*² shares learning about two related patient safety issues in acute care settings which were identified as themes from analysis of death reports: deterioration not recognised or acted on, and resuscitation. For further information on incidents reported as deaths from maternity services, see the *Quarterly Data Summary* Issue 6³.

* Since the proportion of incidents resulting in either severe harm or death is very low, the proportions discussed in this section are referred to using one decimal point.

Figure 18:
 Reported incidents associated with
 severe harm or death by care setting
 in England, January to December 2008



Severe harm or death by incident type

The proportion of incidents reported as severe harm or death varies between incident types. The combined proportion of severe harm or death incidents was highest among incidents categorised as infection control (7.8 per cent), followed by 'other' incidents (7.5 per cent) and self-harming behaviour (3.2 per cent).

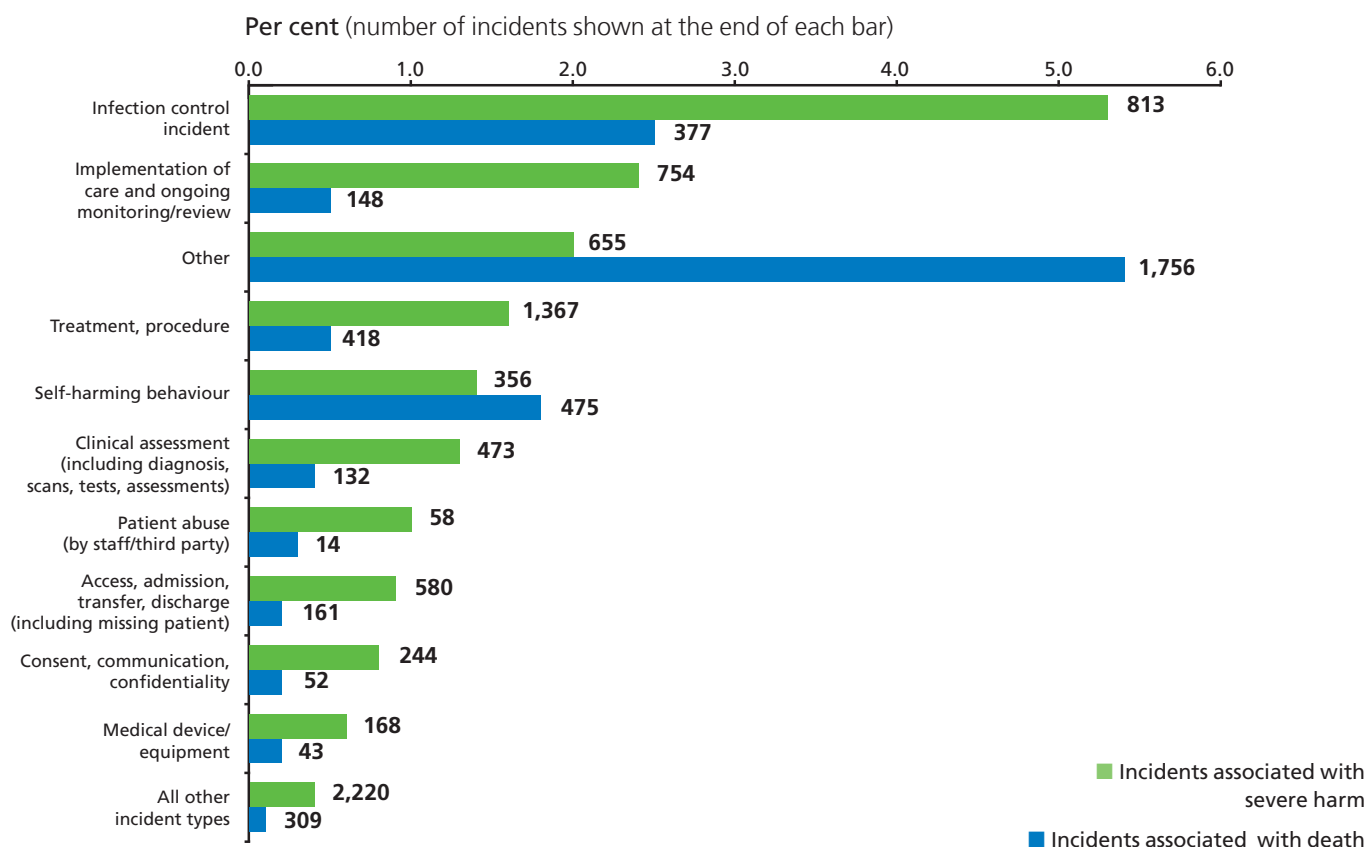
Among incidents categorised as implementation of care and ongoing monitor/review 2.9 per cent were coded as severe harm or death. Between 2.0 and 1.0 per cent of incidents

were coded as severe harm or death among the following incident types: Treatment/procedure, clinical assessment (including diagnosis, scans, tests, assessments), patient abuse (by staff/third party), access, admission, transfer, discharge (including missing patient), and consent, communication, confidentiality. Less than 1.0 per cent of the remaining incident types were coded as either severe harm or death.

While a larger proportion of incidents tended to be coded as severe harm rather than death among most incident types, the exceptions were incidents categorised as 'other' (2.0 per cent severe harm, 5.4 per cent death) and self-harming behaviour (1.4 per cent severe harm, 1.8 per cent death).

Figure 19:

Reported incidents associated with severe harm or death, by incident type in England, January to December 2008



Patient safety highlights

This section highlights recent, selected published literature on patient safety issues.

Errors in administration of parenteral drugs in intensive care units: multinational prospective study

Andreas Valentin et al for the *British Medical Journal*, March 12 2009; 338:b814

This is an assessment on a multinational level of the frequency, characteristics, contributing factors and preventive measures of administration errors in parenteral medication in intensive care units.

Data was collected on 1,328 adults in 113 intensive care units from 27 countries. 861 errors affecting 441 patients were reported: 74.5 (95 per cent confidence interval 69.5 to 79.4) events per 100 patient days. Three-quarters of the errors were classified as errors of omission. Twelve patients (0.9 per cent of the study population) experienced permanent harm or died because of medication errors at the administration stage.

Factors which appear to correlate with an increased risk of occurrence of parenteral medication errors were:

- number of organ failures;
- number of parenteral administrations;
- typical interventions in patients in intensive care;
- intensive care unit size;
- number of patients per nurse;
- occupancy rate.

Factors which correlated with a decreased risk of occurrence of parenteral medication errors included:

- presence of basic monitoring;
- having an existing critical incident reporting system;
- an established routine of checks at nurse's shift change;
- an increased ratio of patient turnover to the size of the unit.

It was concluded that parenteral medication errors at the administration stage are common and a serious safety problem in intensive care units. With the increasing complexity of care in critically ill patients, organisational factors such as error reporting systems and routine checks can reduce the risk for such errors.

Application of patient safety indicators internationally: a pilot study among seven countries

Saskia E. Drösler et al, *International Journal for Quality in Health Care* 2009; doi: 10.1093/intqhc/mzp018

This pilot study explores the potential for international comparison of patient safety as part of the Health Care Quality Indicators project of the Organization for Economic Co-operation and Development (OECD) by evaluating patient safety indicators originally published by the US Agency for Healthcare Research and Quality (AHRQ).

Data from seven countries (USA, UK, Sweden, Spain, Germany, Canada and Australia in 2004 and 2005/2006) were used in this study. Each country's vector of national indicator rates and the vector of American patient safety indicators rates published by AHRQ (and re-estimated as part of this study) were highly correlated (0.821–0.966). However, there was substantial systematic variation in rates across countries.

This pilot study reveals that AHRQ Patient Safety Indicators can be applied to international hospital data. However, the analyses suggest that certain indicators (e.g. 'birth trauma', 'complications of anesthesia') may be too unreliable for international comparisons.

Data quality varies across countries; under-coding may be a systematic problem in some countries. Efforts at international harmonization of hospital discharge data sets as well as improved accuracy of documentation should facilitate future comparative analyses of routine databases.

The Reporting and Learning System

The RLS aims to help the NHS improve the safety of patient care. Reports made to the RLS are analysed with expert clinical input to identify hazards, risks and opportunities to improve safety. Information from reported incidents helps the NHS understand why things go wrong and how to stop them happening again.

A patient safety incident is any unintended or unexpected incident which could have or did lead to harm for one or more patients receiving NHS care.

The NPSA encourages the reporting of all patient safety incidents. This includes:

- incidents you have been involved in;
- incidents you may have witnessed;
- incidents that caused no harm or minimal harm;
- incidents with a more serious outcome;
- prevented patient safety incidents (known as 'near misses').

The information from reports feed into the RLS. All this information helps us to identify trends and patterns in patient safety and helps in our work to develop solutions. The aim is to help the NHS to learn from things that go wrong.

The NPSA provides regular feedback reports to NHS organisations on the incidents that have been sent to us.

Interpreting RLS data

There are a number of notes of caution in interpreting the data from the RLS:

- A higher number of reported incidents from a trust, speciality or location does not necessarily mean that the trust, speciality or location has a higher number of incidents; it may instead reflect greater levels of reporting.
- NHS organisations have provided data to the RLS for report may not be representative of the rate of incidents across all of England and Wales.
- Reports made to LRMS may not capture all types of incidents that occur.

- The data are confidential. The NPSA does not seek to hold information on the identities of individual staff or patients and this means that the data are not routinely checked with the reporter. Steps are taken to maximise the quality of the data held by, for example, checking for duplicate reports and feeding back to individual trusts if there are problems with their reports.
- Incident reports are often made soon after the incident occurs but before the incident has been investigated locally. Therefore, reports to the RLS may not contain complete information about the incident, especially findings of more detailed investigations such as root cause analysis.
- No reports from the public or patients are included in this analysis, although since April 2006 patients and the public have been able to report incidents via a dedicated reporting form.
- Some incidents recorded in LRMS and subsequently forwarded to the RLS may not technically be patient safety incidents. For example, deaths from natural causes which occurred in hospital and also deaths where patients died unexpectedly are sometimes reported to LRMS for local audit purposes and then uploaded to the RLS.
- The data are likely to include incidents where the impact on the patient or whether the incident could have been avoided is not clear. For example, suicides are often reported to LRMS in cases where the event could not have been prevented by health services.
- The level of detail collected locally varies. For example, some organisations and local data collection systems do not currently collect contributing factors or the ethnicity of the patients involved. At the present time, there is insufficient information on the age and gender of patients involved in incidents to allow analysis of this information, but the quality of demographic data is improving.

Although incident reports are fundamental to understanding patient safety, on their own they cannot tell us all that we need to know. There are a number of reasons for this. Incident reporting systems are not comprehensive due to under-reporting, biases in what types of incident are reported and the existence of several reporting systems. For example, in the UK, in addition to the RLS there are separate reporting systems for medical device incidents⁴, adverse drug reactions⁵, healthcare associated infections⁶ and suicide and homicide of people with mental illness⁷. Also, serious incidents are rare, and information on them is often distributed across the healthcare system.

References

- 1** NHS Confederation and NPSA briefing, June 2008.
www.npsa.nhs.uk/nrls/reporting/five-actions-to-improve-reporting/
- 2** National Patient Safety Agency, *Safer care for the acutely ill patient: Learning from serious incidents*. Available at:
www.npsa.nhs.uk/nrls/alerts-and-directives/directivesguidance/acutely-ill-patient/
- 3** National Patient Safety Agency, *Quarterly Data Summary Issue 6*. (October 2007) Available at:
www.npsa.nhs.uk/Datareports
- 4** Medicines and Healthcare products Regulatory Agency. *Reporting adverse incidents involving medical devices*. Available at: www.mhra.gov.uk/home/idcplg?IdcService=SS_GET_PAGE&nodeId=291
- 5** Medicines and Healthcare products Regulatory Agency. *Reporting suspected adverse drug reactions and suspected defects in medicinal products*. Available at: www.mhra.gov.uk/home/idcplg?IdcService=SS_GET_PAGE&nodeId=286
- 6** Health Protection Agency. *Surgical Site Infection – Mandatory surveillance of orthopaedic categories*. Available at: www.hpa.org.uk/infections/topics_az/surgical_site_infection/ManSurv.ht
- 7** Appleby L et al. *Safety First: Five-Year Report of the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness*. (2000). Available at: www.dh.gov.uk/assetRoot/04/05/82/43/04058243.pdf

All websites accessed on 26 May 2009.



**To reference this report and the data presented,
the following citation is suggested:**

National Patient Safety Agency. *Patient safety incident reports in the NHS: Reporting and Learning System Quarterly Data Summary*. Issue 12: May 2009 – ENGLAND

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Reference: 0926 May 2009

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