NRLS national patient safety incident reports: commentary

September 2018
We support providers to give patients safe, high quality, compassionate care, within local health systems that are financially sustainable.
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1. Summary

Reporting to the National Reporting and Learning System (NRLS) is largely voluntary, to encourage openness and continual increases in reporting.

Increases in the number of incidents reported reflects improved reporting culture and should not be interpreted as a decrease in the safety of the NHS. Equally, a decrease cannot be interpreted as an increase in the safety of the NHS.

The number of incidents reported to the NRLS for England continues to increase. The 486,986 incidents reported from January to March 2018 represents a 3.5% increase on the number reported from January to March 2017 (470,480).

Nationally there are still peaks every six months in the number of incidents reported. This is when users submit large batches of data at the cut-off for the six-monthly official statistics publications.

Nationally the overall profile of incident characteristics (incident type, degree of harm, care setting where the incident occurs) reported as occurring is consistent between April 2017 to March 2018 and April 2016 to March 2017.

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For queries relating to this document or our statistics please contact: nhsi.nrls.datarequests@nhs.net
2. Introduction

This commentary interprets the data published in the national patient safety incident reports (NaPSIR) for England. NaPSIR provides data on patient safety incidents at a national level. We analyse data for the current 12- or three-month period being published, rather than by month or calendar or financial year. We make comparisons over time using the same 12- or three-month period but in a previous year. This is because of known seasonality in reporting patterns and when incidents occur. For example, the number of incidents reported peak every May and November around the cut-offs for two of our data publications. So comparing consecutive periods may be misleading: for example, if the previous period included a known reporting peak.

The data and this commentary are part of a range of official statistics on patient safety incidents reported to the National Reporting and Learning System (NRLS). Our other official statistic outputs are:

- organisation patient safety incident reports (OPSIR)
- monthly summary data on patient safety incident reports.¹

This document should be read alongside the NaPSIR data tables. The data contained in NaPSIR and OPSIR differs for the reasons listed in Table 1. Therefore the statistics are not comparable and numbers should not be expected to match.

Detailed information on how we manage data quality and revisions and corrections to the data is available on the NaPSIR webpage.

¹ The monthly summary data will shortly be classified as experimental statistics and we are working to the code of practice for these statistics. Further information will be provided on our webpages.
Table 1: Main features of NaPSIR, OPSIR and monthly workbooks

<table>
<thead>
<tr>
<th>Feature</th>
<th>NaPSIR</th>
<th>OPSIR</th>
<th>Monthly summaries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>'To provide a national picture of the reporting of patient safety incidents and of the characteristics of incidents (type, care setting, degree of harm). This dataset forms the basis of the indicator 'improving the culture of safety reporting' in Domain 5 of the <a href="https://www.england.nhs.uk/what-we-do/nrls/about-nrls/nhs-outcomes-framework/">NHS outcomes framework</a> (treating and caring for people in a safe environment and protecting them from avoidable harm).</td>
<td>To provide data on individual organisations' reporting and patient safety characteristics. Different NHS organisations provide different services and serve different populations. Therefore, to make comparisons as meaningful as possible, the NRLS groups NHS organisations into 'clusters' of similar organisations.*</td>
<td>To provide timely data on reporting to the NRLS to encourage more consistent reporting and support organisations to monitor potential under-reporting of incidents. Data is provided by organisation, degree of harm and month of report to the NRLS. Organisations are not grouped into 'clusters'.</td>
</tr>
<tr>
<td><strong>Dataset type</strong></td>
<td>Dynamic†</td>
<td>Fixed/static</td>
<td>Dynamic</td>
</tr>
<tr>
<td><strong>Dataset used</strong></td>
<td>Reported and occurring datasets‡</td>
<td>Reported and occurring datasets‡</td>
<td>Reported dataset‡</td>
</tr>
<tr>
<td><strong>Period covered</strong></td>
<td>Reported dataset: rolling quarters from October to December 2003 to the most recent quarter available. Occurring dataset: rolling quarters covering the last four available quarters.</td>
<td>The most recent six months only.</td>
<td>A rolling 12-month period covering the preceding 12 complete months of available data.</td>
</tr>
<tr>
<td><strong>Updated</strong></td>
<td>Every six months</td>
<td>Every six months</td>
<td>Every month</td>
</tr>
<tr>
<td><strong>Geography/breakdown</strong></td>
<td>All geographical locations, by care setting</td>
<td>England, by individual NHS organisation (organised by cluster)</td>
<td>England, by individual organisation</td>
</tr>
</tbody>
</table>
Overview of NRLS data collection and interpretation

The NRLS collects data on patient safety incidents in England and Wales. This commentary covers data reported by English organisations; data relating to Wales is available online.

Most data is submitted to the NRLS from an NHS organisation’s local risk management system. A small number of reports are also submitted using online ‘eForms’ by individuals and organisations that do not have local risk management systems. More information is available in our accompanying guidance notes.
Many factors affect how NRLS data and statistics are interpreted. Detailed information is available in our accompanying guidance notes and data quality statement; this is a summary of factors influencing interpretation:

- Data reflects incidents reported to the NRLS, not the number of incidents actually occurring in the NHS.
- There can be a delay between an incident occurring and when it is reported to the NRLS, so we publish data based on the occurring dataset (the date when an incident is reported to have occurred) and the reported data (the date when the incident is reported to the NRLS). For any given period, the number of incidents occurring and incidents reported is unlikely to match.
- Reporting error and bias affect trends in the number of incidents reported to the NRLS; known sources include: the type of organisations that report to us; the type of incidents reported; changes in policy; seasonality in when incidents are reported and when incidents occur (as detailed above); delays in reporting incidents to us.

It is important to consider these factors when interpreting or comparing any NRLS data over time.
3. Incidents reported up to March 2018

This section analyses incidents reported to the NRLS using the ‘reported dataset’. This dataset is used to look at patterns in reporting, such as frequency and timeliness. It contains incidents reported to the NRLS within a specified period. It includes incidents that were reported up to March 2018. This dataset will reflect seasonality in when incidents are reported to the NRLS.

Reported number of incidents

Patient safety incidents have been reported to the NRLS since October 2003 (Figure 1), with all NHS organisations being able to access the system from 2005. From January to March 2018, 486,986 incidents were reported to the NRLS. This compares with 153 incidents reported in the first quarter of the NRLS (October to December 2003). The peaks observed in the number of incidents reported (Figure 1) reflect when many reporting organisations submit large batches of incidents to the NRLS close to the cut-offs for the NaPSIR and OPSIR publications.

Figure 1: Number of incidents reported to the NRLS, October to December 2003 up to January to March 2018
4. Incidents reported as occurring from April 2017 to March 2018

This section analyses incidents using the ‘occurring dataset’. This dataset is used to look at patient safety incident characteristics. It contains incidents reported as actually happening (occurring) in a specific period. The dataset reflects seasonality in when incidents occur. Analysis based on it may be biased by fluctuation in numbers over time due to reporting delays. In this report, analysis includes incidents reported to have occurred between April 2017 and March 2018 and reported to the NRLS by 31 May 2018. This cut-off is to allow time for quality assurance and analysis.

The number of incidents reported as occurring for any period will differ from the number of incidents reported in the same period because they capture different data. For example, incidents reported between April 2017 and March 2018 will include incidents that occurred in this period and incidents occurring before April 2017 because of known delays in reporting.

The number of incidents reported as occurring to the NRLS continues to increase. Between April 2017 and March 2018, English NHS organisations reported 1,942,179 incidents as occurring. This is 4.3% more than between April 2016 and March 2017 (1,861,581).

Incident characteristics

When incidents are submitted to the NRLS, users also enter information describing the incident in more detail. For example, we collect information on the type of incident and where it occurred. This helps us learn more about the types of incidents occurring in the NHS and focus our efforts to reduce harm to patients. Key incident characteristics are described below.
Incident category

Incident category is important because it helps us understand if certain types of incident are more common than others, so we can target our learning. Many factors can affect the types of incident reported by different organisations, and this can cause variation within and between different care settings.

Nationally the top four incident categories reported were (Table 2): ‘patient accident’ (15.3%; 296,194/1,942,179); ‘implementation of care and ongoing monitoring/review’ (13.9%; n=270,416); ‘access, admission, transfer, discharge (including missing patient)’ (11.6%; n=225,713); ‘medication’ (10.5%; n=204,162). These are the same as those for April 2016 to March 2017.

Table 2: Reported incident categories by quarter, England: incidents reported as occurring from April 2016 to March 2017 and from April 2017 to March 2018

<table>
<thead>
<tr>
<th>Incident category</th>
<th>April 2016 to March 2017</th>
<th>April 2017 to March 2018</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Patient accident</td>
<td>307,975</td>
<td>16.5</td>
<td>296,194</td>
</tr>
<tr>
<td>Implementation of care and ongoing monitoring/review</td>
<td>252,640</td>
<td>13.6</td>
<td>270,416</td>
</tr>
<tr>
<td>Access, admission, transfer, discharge (including missing patient)</td>
<td>197,540</td>
<td>10.6</td>
<td>225,713</td>
</tr>
<tr>
<td>Medication</td>
<td>198,943</td>
<td>10.7</td>
<td>204,162</td>
</tr>
<tr>
<td>All other incident categories</td>
<td>904,483</td>
<td>48.6</td>
<td>945,694</td>
</tr>
<tr>
<td>Total</td>
<td>1,861,581</td>
<td>100</td>
<td>1,942,179</td>
</tr>
</tbody>
</table>

Care setting

Information on the reported care setting of occurrence helps us understand where reported incidents have taken place, as they can be reported by any organisation even if they did not happen in the reporting organisation.
Nationally the top four reported care settings of occurrence (Table 3) were: ‘acute/general hospital’ (73.8%; n=1,432,683); ‘mental health service’ (13.2%; n=255,615); ‘community nursing, medical and therapy service’ (10.8%; n=208,948); ‘learning disabilities service’ (0.9%; n=17,150). These are the same as for April 2016 to March 2017.

Table 3: Reported incidents by care setting by quarter, England: incidents reported as occurring from April 2016 to March 2017 and from April 2017 to March 2018

<table>
<thead>
<tr>
<th>Care setting</th>
<th>April 2016 to March 2017</th>
<th>April 2017 to March 2018</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Acute/general hospital</td>
<td>1,378,144</td>
<td>74.0</td>
<td>1,432,683</td>
</tr>
<tr>
<td>Mental health service</td>
<td>241,494</td>
<td>13.0</td>
<td>255,615</td>
</tr>
<tr>
<td>Community nursing, medical and therapy service (inc community hospital)</td>
<td>198,786</td>
<td>10.7</td>
<td>208,948</td>
</tr>
<tr>
<td>Learning disabilities service</td>
<td>19,287</td>
<td>1.0</td>
<td>17,150</td>
</tr>
<tr>
<td>All other care settings</td>
<td>23,870</td>
<td>1.3</td>
<td>27,783</td>
</tr>
<tr>
<td>Total</td>
<td>1,861,581</td>
<td>100</td>
<td>1,942,179</td>
</tr>
</tbody>
</table>

Incident type by care setting

Due to the differences in the care provided and patients seen, the type of incident reported varies by care setting. For example, in the acute and general care setting the top four reported incident types are the same as those for the whole dataset (as most incidents are reported in this care setting): ‘patient accident’ (15.7%; 224,225/1,432,683); ‘implementation of care and ongoing monitoring/review’ (13.2%; n= 189,039); ‘access, admission, transfer, discharge (including missing patient’) (12.6%; n= 180,792); ‘treatment, procedure’ (12.0%; n= 171,225). By contrast, ‘patient accident’ was not the most commonly reported incident category in any other care setting. For example, in the general practice care setting the top four reported incident types were: ‘medication’ (29.3%; 2,551/8,713); ‘implementation of care and ongoing monitoring/review’ (22.0%; n=1,915); ‘documentation (including electronic and paper records, identification and drug
charts)’ (11.2%; n=974); ‘clinical assessment (including diagnosis, scans, tests, assessments)’ (6.5%; n=562). The general patterns in the incident types reported by each care setting are consistent over time.

Full breakdowns of the data are available in the accompanying NaPSIR data workbooks.

Degree of harm

The degree of harm should describe the actual degree of harm suffered by the patient as a direct result of the patient safety incident. There are five NRLS categories for the degree of harm:

- no harm – a situation where no harm occurred: either a prevented patient safety incident or a no harm incident
- low harm – any unexpected or unintended incident that required extra observation or minor treatment and caused minimal harm to one or more persons
- moderate harm – any unexpected or unintended incident that resulted in further treatment, possible surgical intervention, cancelling of treatment, or transfer to another area, and which caused short-term harm to one or more persons
- severe harm – any unexpected or unintended incident that caused permanent or long-term harm to one or more persons
- death – any unexpected or unintended event that caused the death of one or more persons.

The degree of harm helps us learn about the impact of incidents on patients and identify those incidents causing most harm (severe harm and death), to prioritise clinical review of these incidents. Clinical review uses NRLS data to identify new or emerging issues that may need national action, such as a Patient Safety Alert. It is still important that incidents causing all degrees of harm are reported to the NRLS, as this breadth of information is fundamental to improving patient safety.

Sometimes reporters give an incident’s potential degree of harm instead. For example, the resulting degree of harm is occasionally coded as ‘severe’ for ‘near miss’ even though no harm resulted as the impact was prevented. This should be considered when interpreting the degree of harm.
Nationally most incidents are reported as causing no or low harm. Approximately three-quarters of incidents were reported as causing no harm (74.3%; 1,443,863/1,942,170) and 22.5% (n= 436,774) as causing low harm (Table 4). The remaining incidents were reported as causing moderate harm (2.7%; n=51,495), severe harm (0.3%; n=5,501) and death (0.2%; n=4,537). This pattern is consistent with data for April 2016 to March 2017.

Table 4: Reported incidents by degree of harm, by quarter, England: incidents reported as occurring from April 2016 to March 2017 and from April 2017 to March 2018*

<table>
<thead>
<tr>
<th>Degree of harm</th>
<th>April 2016 to March 2017</th>
<th>April 2017 to March 2018</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>No harm</td>
<td>1,362,324</td>
<td>73.2</td>
<td>1,443,863</td>
</tr>
<tr>
<td>Low</td>
<td>434,219</td>
<td>23.3</td>
<td>436,774</td>
</tr>
<tr>
<td>Moderate</td>
<td>55,084</td>
<td>3.0</td>
<td>51,495</td>
</tr>
<tr>
<td>Severe</td>
<td>5,548</td>
<td>0.3</td>
<td>5,501</td>
</tr>
<tr>
<td>Death</td>
<td>4,392</td>
<td>0.2</td>
<td>4,537</td>
</tr>
<tr>
<td>Total</td>
<td>1,861,567</td>
<td>100</td>
<td>1,942,170</td>
</tr>
</tbody>
</table>

*Excludes incidents where the degree of harm was not reported.

Degree of harm by care setting

The degree of harm caused by incidents reported in all care settings follows the same pattern as that observed nationally, with no harm being the most commonly reported degree of harm and death the least common. However, the relative proportion of each degree of harm varies by care setting. For example, the percentage of incidents reported as no harm ranges from 90.3% (3,520/3,896) in the community pharmacy care setting to 54.3% (113,449/208,948) in the community nursing, medical and therapy service (including community hospitals).

Full breakdowns of the data are available in the accompanying NaPSIR data workbook.
Degree of harm by incident type

When degree of harm is analysed by the incident type the patterns are generally the same as those observed at a national level, with most incidents being reported as no harm. ‘Self-harming behaviour’ has the highest reported percentage of reported degree of harm as death (1.7%; 1,331/84,964) and one of the lowest percentages reported as no harm (54.5%; n=43,424).

Full breakdowns of the data are available in the accompanying NaPSIR data workbook.
5. Final remarks

The NRLS is a system designed to support learning. The incidents collected reflect what is reported to us and reporting culture. The system is not designed to count the actual number of incidents occurring in the NHS. Therefore, the continual increase in incidents reported to the NRLS over time indicates a constantly improving reporting culture, providing more opportunity for us to learn and reduce the risk of harm to patients. We encourage organisations to report incidents to the NRLS at least every month rather than submitting data in large batches a few times a year.

We rely on the quality and accuracy of information submitted to be able to focus our learning and interventions to reduce harm. We continue to use this information to identify which incidents are clinically reviewed and how we work to improve patient safety. We also encourage all users to review their own patient safety incidents locally, to understand more about their reporting culture and areas where local improvements in safety culture and patient safety can be made.

We are currently developing a new data collection system to replace the NRLS. The system will affect the exact type of data we collect and as a result change our statistics outputs. More information is available online.

We thank all staff, patients and members of the public who have taken the time to report incidents. This information is essential in helping us all improve patient safety and protect our patients from harm.

6. Contact us for help

If you have any questions about the NRLS data collection, the published data or your organisation’s data please contact the NRLS team:

nhsi.nrls.datarequests@nhs.net