

NRLS national patient safety incident reports: commentary

March 2020



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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 reflect an 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 548,761 incidents reported from July to September 2019 represent a 12.4% increase in the number reported from July to September 2018 (488,242).

Nationally there are still peaks in reporting every six months 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, reported degree of harm, care setting where the incident occurred) was consistent between October 2017 to September 2018 and October 2018 to September 2019.

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2. Introduction

This commentary interprets the data published in the national patient safety incident reports ([NaPSIR](#)) for England. NaPSIR provide 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, and make comparisons with the same 12- or three-month period in the previous year. This is because of seasonality in reporting patterns and when incidents occur. For example, the number of incidents **reported** peaks every May and November around the cut-offs for two of our routine data publications. So, comparing consecutive periods may be misleading if, for example, 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 NRLS. Our other 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 workbook. 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 is available on the [NaPSIR](#) webpage.

¹ Although not formally an official statistic, this output is included here due to its similarity to the OPSIR and NaPSIR.

Table 1: Main features of NaPSIR, OPSIR and monthly workbooks

Feature	NaPSIR	OPSIR	Monthly summaries
Purpose	<p>To provide a national picture of the reporting of patient safety incidents and of the characteristics of incidents (type, care setting, degree of harm).</p> <p>This dataset forms the basis of the indicator 'improving the culture of safety reporting' in Domain 5 of the NHS outcomes framework (Treating and caring for people in a safe environment and protecting them from avoidable harm).</p>	<p>To provide data on individual organisation's reporting and patient safety characteristics.</p> <p>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.*</p>	<p>To provide timely data on reporting to the NRLS to encourage more consistent reporting and support organisations to monitor potential under-reporting of incidents.</p> <p>Data is provided by organisation, degree of harm and month of reporting to the NRLS. Organisations are not grouped into 'clusters'.</p>
Dataset type	Dynamic [†]	Fixed/static	Dynamic
Dataset used	Reported and occurring datasets [‡]	Reported and occurring datasets [‡]	Reported dataset [‡]
Period covered	<p>Reported dataset: rolling quarters from October to December 2003 to the most recent quarter available.</p> <p>Occurring dataset: rolling quarters covering the last four available quarters.</p>	The most recent six months only.	A rolling 12-month period covering the preceding 12 complete months of available data.
Updated	Every six months	Every six months	Every month
Geography/ breakdown	All geographical locations, by care setting	England, by individual NHS organisation (organised by cluster)	England, by individual organisation
Inclusions	<p>The following care settings:</p> <ul style="list-style-type: none"> • acute/general hospital • mental health service • community nursing, medical and therapy service • learning disabilities service 	<p>The following organisation types:</p> <ul style="list-style-type: none"> • acute/general hospital • mental health service • community trust • ambulance service. 	<p>The following organisation types:</p> <ul style="list-style-type: none"> • acute/general hospital • mental health service • community trust • ambulance service • integrated care organisation.

Feature	NaPSIR	OPSIR	Monthly summaries
	<ul style="list-style-type: none"> • ambulance service • general practice • community pharmacy • community and general dental service • community optometry/optician service. 		

* [Information on clusters](#) is available in or accompanies the relevant publication.

† Figures for previous quarters may change slightly (figures for four consecutive quarters are given in each workbook for incidents ‘occurring’, from Tab 5 onwards) as the NRLS is a dynamic system (and incidents can be reported, or updated, at any time after they occurred).

‡ The reported dataset refers to incidents reported by, or within, a certain period. The occurring dataset refers to incidents occurring by, or within, a certain period. See above for more information.

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 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](#), but as a summary:

- 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 dataset (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.

Changes to patient safety data outputs

The [Patient Safety Information Management System \(PSIMS\)](#) will replace the existing NRLS, changing the way information is collected to make it easier to record patient safety incidents and to analyse and learn from the information shared with NHS England and NHS Improvement. This will support learning and improvement in the safety of NHS-funded services.

These improvements mean any output using the patient safety data currently collected on the NRLS will also change, including the OPSIR data tables and associated outputs.

We are using [agile methodology](#) to build the new system which means we constantly refine it in response to user need. Table 2 shows where we are at and what the next stages will be. As our approach means things can change rapidly, their exact timing is difficult to predict. Note that the predicted start of public beta has been delayed to this summer. We will provide more information as it becomes available alongside our data outputs.

Table 2: Anticipated impacts on NRLS data during PSIMS roll-out

Development phase	What will change	When
Private beta (pilot testing)	<p>Organisations participating in the pilot record incidents onto PSIMS and not the NRLS (some choose to double-report).</p> <p>Any output that includes these participating organisations may not include their data in full.</p> <p>National and other totals may be lower than expected.</p> <p>PSIMS and NRLS data is not comparable so including pilot PSIMS data into NRLS outputs may be misleading.</p>	April 2019 to Summer 2020

Development phase	What will change	When
Public beta	Any organisation that wishes to record into PSIMS rather than NRLS will be encouraged to do so. The above changes and impacts will then apply to these organisations as well as to the initial private beta pilot sites.	Summer 2020 onwards
Live	<p>National transition from recording incidents on NRLS to PSIMS.</p> <p>Outputs will start to present PSIMS data in addition to NRLS data.</p> <p>PSIMS and NRLS data will not be comparable so the data from the two sources cannot be added and must be treated differently.</p> <p>National and other totals may fluctuate in an unpredictable way – we will provide explanatory guidance on this.</p>	Late 2020/21 onwards

3. Incidents reported up to September 2019

This section analyses incidents reported to the NRLS using the **'reported dataset'**, the dataset used to look at patterns in reporting, such as frequency and timeliness. It contains incidents **reported** to the NRLS within a specified period (in this case up to the end of September 2019) and reflects seasonality in when incidents are reported to the NRLS.

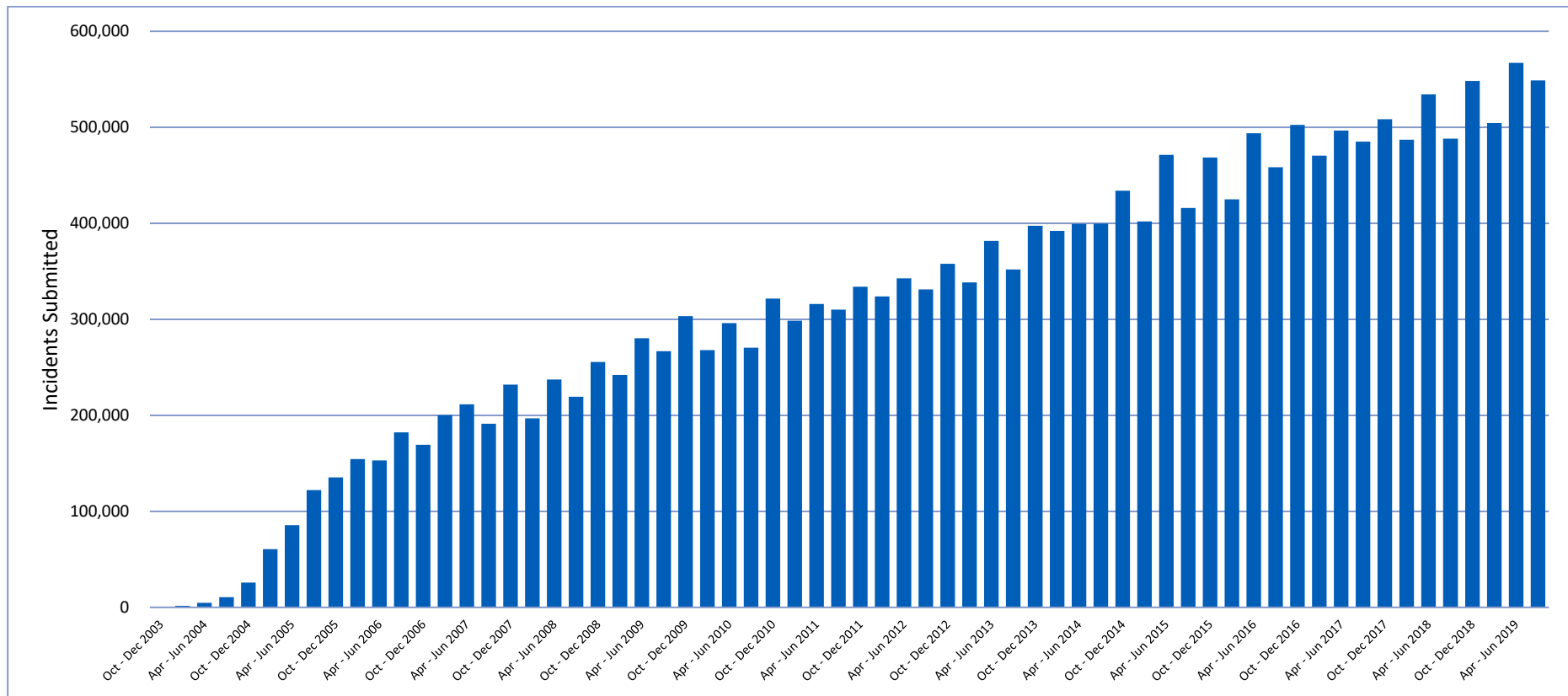
Reported number of incidents

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 July to September 2019, a total of 548,761 incidents were reported to the NRLS from England (153 were reported in the first quarter of the NRLS – October to December 2003). This represents a 12.4% increase when compared to July to September 2018, which is large compared to previous increases and likely reflects both improved reporting and a less pronounced seasonal 'peak and trough' pattern of reporting. Further monitoring of these trends will give us a better understanding of the reasons behind them.

The peaks in the number of incidents reported (Figure 1) reflect when many 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 July to September 2019



4. Incidents reported as occurring from October 2018 to September 2019

This section analyses incidents using the ‘**occurring dataset**’ to look at patient safety incident characteristics. This dataset contains incidents reported as happening (occurring) in a specific period and reflects seasonality in when incidents occur. Analysis based on it may be biased by numbers fluctuating over time due to reporting delays.

This report includes analysis of incidents reported to have occurred from October 2018 to September 2019 and reported to the NRLS by 30 November 2019. This cut-off allows 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 from October 2018 to September 2019 will include those that occurred in this period **and** those occurring before October 2018 because of delays in reporting.

The number of incidents reported to the NRLS as occurring continues to increase. From October 2018 to September 2019, English NHS organisations reported 2,154,315 incidents as occurring. This is 8.2% more than from October 2017 to September 2018 (1,991,797).

Incident characteristics

When submitting incidents to the NRLS, users 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 incidents are more common than others, so we can target our learning. Many factors can affect the types of incidents different organisations report, with resulting variation within and between different care settings.

Nationally, the top four reported incident categories were: 'Implementation of care and ongoing monitoring/review' (16.8%; 362,287); 'Patient accident' (13.3%; 286,250); 'Access, admission, transfer, discharge (including missing patient)' (12.0%; 258,229); and 'Medication' (10.4%; 223,106) – see Table 3. These are the same top four as in October 2017 to September 2018.

Table 3: Reported incident categories by year, England: incidents reported as occurring from October 2017 to September 2018 and from October 2018 to September 2019

Incident type	October 2017 to September 2018		October 2018 to September 2019		% change
	N	%	N	%	
Implementation of care and ongoing monitoring/review	282,539	14.2	362,287	16.8	28.2
Patient accident	293,272	14.7	286,250	13.3	-2.4
Access, admission, transfer, discharge (including missing patient)	235,599	11.8	258,229	12.0	9.6
Medication	211,278	10.6	223,106	10.4	5.6
All other incident categories	969,109	48.7	1,024,443	47.6	5.7
Total	1,991,797	100	2,154,315	100	8.2

Care setting of occurrence

This information helps us understand where reported incidents have occurred and is needed because any organisation can report an incident, even one that occurred at another organisation.

Nationally, the top four reported care settings of incident occurrence were: 'Acute/general hospital' (72.9%; 1,571,207); 'Mental health service' (13.4%; 288,341); 'Community nursing, medical and therapy service (including community hospital)' (11.3%; 243,904); and 'Learning disabilities service' (0.9%; 20,207) – see Table 4. These are the same top four as in October 2017 to September 2018.

Table 4: Reported incidents by care setting and year, England: incidents reported as occurring from October 2017 to September 2018 and from October 2018 to September 2019

Care Setting	October 2017 to September 2018		October 2018 to September 2019		% change
	N	%	N	%	
Acute/general hospital	1,467,411	73.7	1,571,207	72.9	7.1
Mental health service	266,955	13.4	288,341	13.4	8.0
Community nursing, medical and therapy service (including community hospital)	212,232	10.7	243,904	11.3	14.9
Learning disabilities service	17,154	0.9	20,207	0.9	17.8
All other care settings	28,045	1.4	30,656	1.4	9.3
Total	1,991,797	100	2,154,315	100	8.2

Incident type by care setting

The type of incident reported will of course vary by care setting because of the differences in the care provided and patients seen. For example, in the acute/general hospital care setting, three of the top four reported incident types are the same as those for the whole dataset (as most incidents are reported in this care setting): 'Implementation of care and ongoing monitoring/review' (16.0%; 246,686/1,571,207); 'Patient accident' (14.0%; 218,701); and 'Access, admission, transfer, discharge (including missing patient)' (13.0%; 205,469). The fourth most common incident type in this setting is 'Treatment, procedure' (12.0%; 185,133); while nationally it is 'Medication'.

Full breakdowns of the data are available in the accompanying [NaPSIR data workbooks](#).

Degree of harm definition

Degree of harm should describe the actual level of harm a patient suffered as a direct result of the patient safety incident. There are five NRLS categories for this:

- 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 causing most harm (severe harm and death) so we can prioritise their clinical review. [Clinical review](#) uses NRLS data to identify new or emerging issues that may need national action, such as issuing a Patient Safety Alert. It is still important that incidents causing all degrees of harm are reported to the NRLS as breadth of information is fundamental to improving patient safety.

Sometimes reporters give an incident's **potential** degree of harm instead; for example, coding the degree of harm as 'severe' for a 'near miss' even though no harm was caused because preventative action was taken. This needs to be considered when interpreting the degree of harm data.

Reported degree of harm

Nationally, most incidents are reported as causing no or low harm. Almost three-quarters were reported as causing no harm (72.6%; 1,564,635) and 24.4% (525,885) as causing low harm (Table 5). Only 2.5% (53,839) were reported as causing moderate harm, 0.3% (5,647) as causing severe harm and 0.2% (4,283) as causing death. This pattern is consistent with data for October 2017 to September 2018.

Table 5: Reported incidents by degree of harm and year, England: incidents reported as occurring from October 2017 to September 2018 and from October 2018 to September 2019*

Reported degree of harm	October 2017 to September 2018		October 2018 to September 2019		% change
	N	%	N	%	
No harm	1,487,988	74.7	1,564,635	72.6	5.2
Low	440,836	22.1	525,885	24.4	19.3
Moderate	52,716	2.6	53,839	2.5	2.1
Severe	5,526	0.3	5,647	0.3	2.2
Death	4,717	0.2	4,283	0.2	-9.2
Total	1,991,783	100	2,154,289	100	8.0

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

Reported degree of harm by care setting

The reported 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 varied by care setting. For example, the percentage of incidents reported as causing 'no harm' ranged from 93.0% (5,220/5,623) in the 'Community pharmacy care setting' to 51.0% (124,713/243,904) in the 'Community nursing, medical and therapy service (including community hospital)' care setting.

Full breakdowns of the data are available in the accompanying [NaPSIR data workbook](#).

Reported degree of harm by incident type

When degree of harm is broken down by incident type, the patterns are generally the same as those at a national level, with most incidents being reported as 'no harm'. 'Self-harming behaviour' had the highest reported percentage of 'death' as the degree of harm (1%; 1,257/105,008) and one of the lowest reported percentages for 'no harm' (52.0%; 54,274).

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 the 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 focus our learning and interventions to reduce harm. We continue to use this information to identify which incidents are clinically reviewed and how we should 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 (PSIMS) to replace the NRLS. The system will affect the exact type of data we collect and as a result change our statistics outputs in the future. 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: nrls.datarequests@nhs.net

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