



# Data and decision-making regarding patient safety incidents: a survey of leaders in healthcare organisations

# Introduction

Patient safety incidents continue to be a major contributor to the global disease burden and there is significant variance across comparable countries. According to "Global State of Patient Safety 2023" produced by the Institute of Global Health Innovation, Imperial College London, the UK alone could have had 17,356 fewer deaths annually if it had performed at the level of the top decile of OECD countries.

Patient safety incidents account for trillions of dollars each year in aggregate costs, including loss of capacity and productivity of patients and carers. The report and its follow up argue for the implementation of a value-based approach including professional education and training, safety standards and a solid information infrastructure.

The small scale study presented in this paper was carried out to learn more about availability and of the data and information about patient safety incidents among leaders in healthcare organisations. In particular, we set out to understand the extent to which combining this data with other datasets is perceived to be useful. It is hoped that this research can help to identify future research questions and potential themes and ideas that are worth further exploration.





# **Methods**

This paper draws on the findings from a survey that was initially designed to be completed by participants at the Senior Leaders Summit hosted at the International Forum on Quality and Safety in Healthcare in May 2023. The initial questions in the survey sought to understand the various roles, organisations and countries in which respondents worked. The remainder of the survey utilised a mixture of ranking, scaled response and open qualitative response questions. Within the survey, it was necessary to identify potential categories of root causes to patient safety incidents. In order to do this, we conducted a brief scan of literature on the topic and considered categorisations within these studies. The studies we considered mention several categories including: environmental factors, human factors, patient factors, organisational factors, process of care and technical factors. It was thought that given the nature of the questionnaire and the time and place in which it was being conducted this would be too lengthy and complex. Categories of root causes were therefore summarised for the purposes of this survey into four categories: workforce related, organisation related, patient related and technical related. All questions within the survey questionnaire were drafted by SK Consulting and agreed with BMJ-X and RL Datix staff.

We made use of a convenience sampling method, inviting responses from those attending the Senior Leaders Summit which included CEO's, Directors, Chief Medical / Nursing Officers and other very senior staff roles from hospitals and health care organisations across several countries. The survey was administered on paper during the Summit and data was then input to an online survey tool by BMJ-X staff. This elicited 32 responses. To boost this response rate, the survey was circulated to a CEO mailing list held by BMJ-X and gathered a further 9 responses, the survey was then shared for a third time on a larger mailing list of health care leaders across the globe which elicited 135 further responses. This brings the total number of survey responses to 176. In analysing qualitative data, we undertook a thematic analysis – identifying key words and themes throughout the responses.

In addition to the 176 responses gathered through this route, the questionnaire was conducted via a teams call with four individuals who agreed for the name and job title to be shared. These surveys were conducted by staff from BMJ and allowed for participants to expand on their answers to various questions.

In this paper we have conducted a descriptive analysis of each survey question. We have not undertaken cross tabulations or breakdowns of the data by country or role of respondents (among other factors) because of the sample size.

### Limitations

This survey was primarily conducted to elicit initial thoughts and support the development of further questions and considerations about the use of data in relation to reporting of patient safety incidents. As such, the study does include some notable limitations. The size and nature of the sample means that we are

likely to have reached healthcare leaders most interested in patient safety and with the means and awareness to attend the International Forum on Quality and Safety in Healthcare 2023 or be on the BMJ's relevant mailing list.

As will be shown in the findings section, there is a large skew in the sample towards European respondents, in particular those from Denmark and the UK. However, the sample is not large or robust enough to provide country by country comparisons. Moreover, we have not considered several factors that might be considered in a bigger, more robust, future study e.g. country in which organisations are based, type of healthcare setting, characteristics of the population group served by the healthcare organisation, levels of fundings, nature of leadership teams within organisations, governance arrangements or a variety of other factors.

With regard to survey completion, 176 respondents provided some response to the survey. However, there were some responses that were incomplete as respondents chose not to answer some questions or provide rating to some of the statements. This is reflected in some of the charts and findings below.

The results of this study should not be seen as generalisable. Rather they can provide an indication of areas that might be worth further consideration in future.

## **Findings**

Our survey gathered responses from 176 respondents from 22 countries. More than 1 in 3 respondents (37%) were from Denmark, accounting for the largest proportion of respondents of any country. The UK accounted for the next largest number of responses, with around 18% of all total respondents. When considering regions of the world, the vast majority of respondents to the survey came from Europe as is shown in the chart below.



Participants were able to provide a free text response to indicate their job title. This resulted in a wide variety of job titles and so we utilised this data to establish a number of categories so that we could describe the base of respondents. The largest proportion of respondents were from clinical roles such as consultants and medical doctors but also other clinical professions. We have categorised this group as other – clinical to differentiate them from Chief Medical Officers<sup>1</sup> and Chief Nurses. Taken together, all clinicians account for 42% of respondents, non clinicians in leadership or management positions accounted for 30% or respondents and those with academic, analytical or advisory job titles accounted for 18%.



In order to gather an understanding of the nature of patient safety incidents, we asked survey respondents to rank the most common root causes of incidents. Root causes were grouped into four categories, workforce related, patient related, organisation related and technical related. The stacked bar chart below shows the ranking participants selected across these four categories. Almost all respondents ranked workforce related factors (staff capability, capacity, knowledge based behaviours, absence) as either the first or second most common root causes of patient safety incidents. Organisation related factors were the next most commonly ranked first, with 60 respondents suggesting these factors were the most common causes of patient safety incidents. This category included care coordination, communication and safety culture. In the chart further below, we provide a weighted score which shows that respondents collectively rated workforce related causes as the most common and technical related causes as least common root causes of patient safety related incidents.

"It's a combination of all 4. We are not very good at recognising that we create systems for failure, as we design systems with perfect use in mind but the reality of how they are used does not match this.

Patient compliance is a term I don't like, as it contains a power differential. We have to work in partnership with people with lived experience. Empowered patients have the greatest ability to ensure safety, but we haven't quite created the conditions for this yet."

Sue Holden, CEO, Advancing Quality Alliance, UK

"It's a mix of workforce and patient, but you can't separate the two, or from the environment surrounding them.

Workforce includes how the professionals work together. Do they have adequate routines to identify risk of events occurring and then respond. Also culture and skills – do they have the right skills to respond to a risk, and does the culture of the place they work in support them to do so. At the moment there are challenges because we have gaps in both workforce and deficiency in the right skills.

Patient related includes things such as vulnerable patients who present late for health conditions, or vulnerable patients who are more challenging to support due to behavioural issues, or due to the characteristics of their condition (e.g. the very frail, confused or unwell)."

John Dean, Deputy Medical Director, East Lancashire NHS Trust and Clinical Vice President, RCP, UK





"The Blueprint for action is about why harm is so persistent. To Err is human set out the challenges for safe and effective care and started to explore systemic implications. It challenged the perception that safety is implicit and implied that you have to design safety in. We collated the evidence base to try and answer the questions as to why this is not being achieved, and highlighted the following 6 foundations:

**Leadership** – without the right leadership and support you just have policies and processes and strategies without any organisational system leadership modelling the right behaviours and establishing cultures. If this is not done then it becomes a contributing factor to the number of incidents. Everyone has to come together and put safety at the core of what they do. Poor leadership leads to toxicity and blame cultures where people are afraid to speak up (or they don't bother because they are not listened to).

**Shared learning** – We don't always share learning of harm, or of good practice. And if we do, we are not good at disseminating that across an organisation or outside organisation to help others.

**Professionalising patient safety** – this is about staff and how well they are enabled to do their job, including how humans and technology and business processes interact. For example, when an Electronic Healthcare System is implemented in a hospital there can be an increase in harms and critical incidents if it is not designed with the frontline clinicians who are working with it.

**Patient engagement** – There is strong evidence that if you engage patients and family in decision making around their care it leads to better outcomes. If you don't engage them when things go wrong you don't learn from their insight. They are also important in holding the system to account.

**Data and insight** – If you don't know what your risks are, if you're not putting in place measurement, you're not prioritising the mitigation of those risks and you can't anticipate where things might start to go wrong.

**Culture** – Are there sufficient resources? Are staff trained and sufficiently experienced, and are they being deployed in a way that makes multidisciplinary teams work effectively. Are there communication and information gaps within the teams and with patients? Those are contributory factors in how you deploy your workforce."

Helen Hughes, Chief Executive, Patient Safety Learning, UK

"It's a combination of all, but certain environments make patient safety incidents more likely. Things like relationships, culture, teamwork, fear and psychological safety. Pressure on staffing, for example when particularly peripheral hospitals struggle to recruit, they drop the bar on what capabilities the candidates need to have as it's such a competitive space."

Philip Crowley, National Director for Strategy and Research, HSE, Ireland

In order to understand how data regarding patient safety is used we asked respondents about the extent to which they agreed or disagreed with a series of statements. The bar chart below shows that the majority of participants agreed or strongly agreed that they were good at using data to inform decisions and had sufficient data regarding patient safety incidents. The majority of participants also strongly agreed that data on patient safety incidents is regularly reviewed/ considered at executive meetings.

The majority of participants indicated that they are able to identify root causes to patient safety incidents – with 108 of the 172 people who provided a response indicating that they strongly disagreed or somewhat disagreed to the statement *"in my organisation it is difficult to identify root causes of patient safety incidents."* 



However, the extent to which data on patient safety incidents is viewed alongside other datasets provided a more mixed response. In responding to this statement, 78 of the 172 respondents either agreed or strongly agreed that data related to patient safety incidents was viewed in isolation from other datasets and a further 33 neither agreed nor disagreed.

Respondents were asked to provide open qualitative responses about what they saw as the main barriers to understanding the root causes of patient safety incidents. One way of considering the data is to identify the most commonly used words in the analysis. The five most commonly utilised words in response to this question were "lack" (58 times), "time" (51), "data" (39), "analysis" (37) and "culture" (24). Whilst simply counting the number of times these words appear may be over-simplistic, in this instance it did highlight some of the key and emergent themes among responses. Several responses talked about either a lack of time or a lack of data/good quality data.

This notion of a lack of time often was related to the rushing of analysis or a lack thereof which prevented organisations from properly understanding of the issues.

"How we assess and investigate is also a barrier. There is movement towards a whole NHS system safety approach, looking at a narrative of the work as done rather than asking for reports, which is positive. There is so little time and capacity for reporting when the workforce is so stretched."

John Dean, Deputy Medical Director, East Lancashire NHS Trust and Clinical Vice President, RCP, UK

"Culture is very investigation heavy, when in reality a rapid review or similar would have done just as well and got to the solution quicker."

Philip Crowley, National Director for Strategy and Research, HSE, Ireland

A lack of data was also mentioned, which often was related to not enough reporting of incidents or issues with the relevance of the data collected. The quotes below are illustrative of these types of responses.

> "Lack of robust and accurate data and software systems that do not talk to each other." "Other – clinical" respondent, UK.

> > "Not enough reporting of incidents." "Chief Medical Officer" respondent, Australia

Several responses discussed the need for more nuanced thinking about safety incidents and in some cases considered that there was often more complexity than a single root cause and a need to think about organisational or systems issues that produce several contributory factors.

"There are usually multiple reasons, so understanding what is the main cause is difficult." "Academic or analytical" respondent, The Netherlands.

"We do not organize care around the patient's whole journey, and since the majority of adverse events lie in coordination or communication (failed) between caregivers, you don't really grasp the whole underlying cause if you don't think system." "Chief Medical Officer" respondent, Sweden

Culture was also a recurring theme through the data – with a fear of blame and lack of willingness to speak up being prominent in responses.

"People fear getting blamed for the incident and hence kept to themselves." "Manager or Lead" respondent, Singapore

> "Psychological safety for staff to speak up." "Director" respondent, UK

Conceptually what do we understand by error and harm. We capture information when an incident happens as an immediate issue. But you are just capturing what the reporter knows about at the time, answering questions in a drop down table etc all within a very short period of time. Does the person know when to report something, even if it's a good catch rather than error? They need interest, experience and time to report...Then often the outcome or a review is not updated onto a system. That is trapped within organisations, mechanisms are not there to share it more widely. You can go back and update the system, but few people do.

We rely a lot on voluntary reporting, but we could be using our enterprise systems more effectively. For example, if a GP tries to prescribe a medication to a patient that is contraindicated, they get a red flag in the system. But this is not captured as an incident or a near miss.

However, there is also the problem of the amount of data – the volume is so big that people can't deal with it or process it into real insights. And do we capture data on the right things? We might want to design metrics that say how good are our multidisciplinary teams? Are we setting them up properly? Are we training and supporting people to work effectively because we know that works?

Helen Hughes, Chief Executive, Patient Safety Learning, UK

"Defensiveness, people feeling under attack. Media coverage, incessant, microscopic and constant efforts to find out who knew what when and blame people. This is particularly bad in Ireland in comparison to other places.

It leads to a culture where people are less likely to report an incident. They may deal with it but don't report it. But it's not always like this, and when he was responsible for the national response they did not seek out individuals for blame, and they provided professional support to people who were the subject of an investigation"

Philip Crowley, National Director for Strategy and Research, HSE, Ireland

Following the question on barriers to understanding the causes of patient safety incidents, respondents were then asked what barriers they face in learning from these incidents. Time and culture were again key themes, with a lack of time dedicated to learn from patient safety incidents being the most common factor reported by respondents. Blame culture, or a lack of learning culture, was also very commonly cited throughout responses as a major barrier to learning.

#### "Blame culture.

In September of this year a new reporting system called PSIRF was brought in. moving from the view that only serious incidents should be investigated, to a method where all incidents should be an opportunity for learning.

But we can only learn from incidents when we suspend blame, as you cannot do this when there is a culture of fear. People are encouraged not to admit failings, to wait until there is a report and distance themselves from it. But the best and most impactful learning often takes place as close to the incident as possible when people can analyse their emotions and the conditions that led it to take place." Sue Holden, CEO, Advancing Quality Alliance, UK

"There is a cultural issue where people are fearful of criticism and encountering reputational issues if they share where things haven't worked or gone wrong. But actually this transparency is what we really need.

The other issue is where to go for this information, as it's such a fragmented space and you don't always know what's out there or where to look. We need a more safety management system type approach and a way to collate this like they do in other industries. HSIB will be bringing out a report shortly that supports this idea."

#### Helen Hughes, Chief Executive, Patient Safety Learning, UK

"Relatively easy to capture the root cause of an adverse event. What's harder to achieve is spreading that learning across an entire healthcare system – you don't always learn from other people's mistakes, as there can be a mentality of that it would 'never happen here'.

The next step is to extract the learning and them disseminate across the country, but this is very hard to do in practice. They try to review on a biannual basis all of the things that come through their office in terms of safety incidents and all the data that they could gather in terms of learning from them, but there is still the implementation gap.

Its not so much a gap of will, but one of time, effort and intention as there are so many other pressures, and often this is the thing that will get deprioritised."

Philip Crowley, National Director for Strategy and Research, HSE, Ireland

One of our interviewees cited a specific attempt to address these issues, making use of the Patient Safety Learning hub.

"Some of this is cultural, and it's the reason they have set up the hub – a free resource for sharing learning. This was set up in response to people not being able to easily share and access best practices, including more Safety II thinking. It includes blogs, testimonies."

Helen Hughes, Chief Executive, Patient Safety Learning, UK

When asked directly about the extent to which bringing datasets together would be useful, most respondents selected extremely or very useful. Whilst findings related to this question were broadly positive about the possibility of bringing any of the mentioned datasets together, participants were most positive about bringing together data on patient safety related incidents with patient experience and outcome related data.



Conducted at the International Forum on Quality & Safety in Healthcare - Copenhagen, May 2023

Respondents were also asked to say, in their own words what would be useful or not useful about bringing these datasets together. Responses indicated the potential usefulness of bringing together data including:

# Transparency and better insight or understanding of the root causes of patient safety incidents:

"Triangulation of data gives a more intelligent and insightful safety opportunity for learning"

"Understand associations and root causes"

"Help to see relationships and find areas to intervene"

"See process outcomes in all dimensions"

# Seeing a broader picture, which encourages lateral thinking, recognises interconnectedness and allows for a deeper exploration of themes and possible causality:

"A system like that would probably inspire to "lateral thinking" and uncover other possible causes of patient safety incidents."

"These areas are interconnected and interdependent parts in the process of delivering care and can not be evaluated separately."

# Consideration correlation between patient safety and workforce experience as a useful predictor.

Three responses recognised the potential usefulness of data but emphasised the need for ensuring data was relevant and well considered in order for it to be useful. Some of these responses highlighted the need for data to be discussed and the complexity of causes to be acknowledged. Indeed, some responses noted that causality can be challenging to identify and that interpreting data can requires competence and provides a risk of misuse. :

"Data is good if you take the time to discuss it and act on it. Otherwise it's useless"

"Too much information would potentially overload. Would need to be well summarised. Culminating data would make more informed, evidence based decisions."

"In the US, they have the power to bring together patient, staff and performance issues. Staff experience is a predictor of patient harm. Organisations that don't have good staff surveys are often the ones that have issues with safety and performance. Staff experience is a better predictor of when the culture isn't right, and that increases the risk of harm.

There is a sweet spot coming where we should require organisations to triangulate data. If you are getting patient safety incidents, they need to be seen in the context of other data such as staff turnover, no of agency staff, no of HR complaints in that department to understand the full picture of why it is going wrong.

As long as we have a preference for reductionist data and metrics we won't affect the change around patient safety and data.

Upskilling using SPC charts and not RAG rating. Non-exec directors run after RAG ratings but they miss the areas that are on a gradual decline. I think there should be a requirement that NHS England should look only at trend data rather than standalone points where that is the best measure; some standards do not lend themselves to SPC. The legacy medical mindset of RCT style data being the gold standard is holding us back, we have to combine performance and qualitative data in order to gain the full picture. We should always be looking at trends and identifying the things that are starting to go into a gradual decline, not those isolated cases.

Sometimes good comes from positive reporting too – Care Opinion found that there was more learning taken from the positive cases of feedback shared on their network."

Sue Holden, CEO, Advancing Quality Alliance, UK

This is essential to do, we need to take an integrated approach. Merging together complaints, incidents with other sources of info is really key.

Types of data that is important in terms of workforce are: numbers of relevant staff, knowledge and skills, training and their own assessment of the work culture

Types of data that is important from patients is feedback, narrative, experience of care, and their identification of risks. Generally their narrative and how confident they are and observations of the clinical team. Patients are often the best at flagging risk and concern as they are the people living the experience day after day.

Workforce data they can get from many places. Cultural data is harder, Patient experience data is less systematised. That needs strengthening – particularly the qualitative data

It's not difficult to integrate the sources. You don't need a dashboard that brings it together in one place necessarily, its people that need to be brought together to explore it. It's not about the technical integration, its about the people who need to know working together, and understanding what the data can tell them.

We need to think about what the level of reporting is. It's additional work, so how do you capture low level events within a clinical team and learn from them, what's the threshold from reporting. Reporting should be a benefit, not a burden."

John Dean, Deputy Medical Director, East Lancashire NHS Trust and Clinical Vice President, RCP, UK

This is hugely important, but it also starts from the point of what are you using the data for? How are you using it for accountability, and for learning because that is how you can decide what the most appropriate data sources are and how to bring them together.

There is often no lacking in quantity of data but we don't have an analytical capacity that presents what this means for us, what we need to do differently or what we need to celebrate that is going well. Helen Hughes, Chief Executive, Patient Safety Learning, UK

"We need to understand what data really means, for example they have a national data reporting system for adverse events, and an institution was unfairly criticised for having unsafe care as their number of reports increased a lot. However, this is an example of care becoming safer as they are reporting incidents properly. So there is a risk in interpretation of data.

It's also very important that data is benchmarked, as in isolation it's hard to interpret. If 75% of people feel respected in the workplace, is that good or bad, or how do you compare? You also need to see it in the context of staff and patient experience."

Conducted at the International Forum on Quality & Safety in Healthcare – Copenhagen, May 2023

"Patient experience data is hard as you don't always get it on a timely basis. But non timely data is still really valid and has its place. Often the culture of a place does not change drastically over a period of time as it tends to have the same people working there.

What you really want to have is a red flag system where your normal metrics of critical data, such as rate of sepsis, hip fracture surgery within 48 hour etc would identify sectors or areas that are at risk of adverse events, and then you go in and investigate using qualitative methods such as staff surveys and patient experience to find out what's really happening there. If you have that there would be a much safer system in place for everybody"

Philip Crowley, National Director for Strategy and Research, HSE, Ireland

Conducted at the International Forum on Quality & Safety in Healthcare – Copenhagen, May 2023

## Conclusions

As has been noted above, this study was intended to provide further ideas for more detailed study or exploration in the future. Findings from the survey do show that the leaders in healthcare organisations whom we surveyed think:

- Workforce and organisation related factors are the most common root causes of patient safety related incidents;
- That data on patient safety incidents is regularly considered in executive meetings; and,
- That tools that brought together different datasets with patient safety data would be useful.

Many of the responses to qualitative questions suggested that other issues were also central. Notably, organisational culture and time/capacity were key barriers to learning from patient safety related incidents. In addition, a lack of analysis and analytical capacity were seen as important factors that limit learning from patient safety incidents.

Moreover, consideration of how the analysis and presentation of data could take account of a variety of complex factors and consideration of multiple causes is likely necessary. It is also the case that the data is likely one input into a broader conversation on this topic, in which organisational culture and how organisations talk about and respond to patient safety incidence are central to improving the ability of organisations to learn and improve In any future work on this topic, it may be useful to:

- Gather more robust data on the root-causes of patient safety related incidents

   this could begin with a more complete literature scan than was possible within the scope of this work to identify the completeness and strength of the existing evidence base before proceeding to formulate further questions and methods for investigation; and,
- Consider bringing together forums where leaders in organisations share their experiences and good practice with regard to encouraging learning from patient safety incidents, how they have navigated and overcome barriers and the role combined datasets has or could play in this process.

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