Incident Management
In search of continuous healthcare improvement
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**Introduction**

Over the last 10 years, more attention has been paid to embedding safety throughout the health system. Research conducted in the United States related to unintended damage and death in hospitals was an important catalyst in this process. This research was fundamental to the publication in the year 2000 of a report entitled ‘To err is human: building a safer health system.’

In 2005, the World Health Organization (WHO) published guidelines related to the reporting of and learning from incidents. Based on developments and regulations in a large number of countries around the world, the WHO report contained numerous proposals for the establishment and structure of systems to facilitate safe incident reporting.

Another important development on the international stage was the publication of the so-called Luxembourg Declaration on Patient Safety in April 2005. This declaration was formulated during a conference on patient safety, organised by the European Union. The statement contained a number of explicit recommendations about safe incident reporting. They read as follows: “The conference recommends to the National Authorities:

- to consider the benefits of a national voluntary confidential reporting system of adverse events and near misses”;
- to create a culture that focuses on learning from near misses and adverse events as opposed to concentrating on ‘blame and shame’ and subsequent punishment”.

Incident Management is not new, but the strategic approach to it has becoming increasingly professional. The digitalisation of reporting, registering and analysing incidents has positively contributed to the way in which safety commissions function. Regrettably, however, healthcare institutions seem to ignore important opportunities in the field of cyclical analysis that would promote continuous improvement in healthcare systems, despite the available options to do so.
Transparency with regard to medical incidents

Reporting calamities and the lessons learned from them would appear to be the next logical step after a decade of hard work on safety and learning how to anticipate medical incidents. Only through transparency can research be conducted into what went wrong, can lessons be learned and can healthcare be enhanced.

A learning network for hospitals and researchers

Research indicates that transparency regarding medical incidents doesn’t just happen. The willingness to be open and upfront is no more than a point of departure. Transparency truly needs to be organised. The hard question is simply: “how can being open and upfront about complaints and incidents best be institutionalised?” This issue was the reason why Project OPEN was set up. OPEN kicked off in the spring of 2015 and is the learning network for hospitals and researchers, working together to generate greater insight into the way in which transparency can best be promoted.

Incident disclosure

In international scientific literature, the art of being open and upfront is generally referred to by the word disclosure. This is the process by which the institution provides clarity about what happened, how it happened, what is being done for the patient involved or the family and those bereaved, and what the institution intends to improve to prevent repetition of a similar incident in the future.

The disclosure of information by supervisory authorities is expected to drive the desire of caregivers and institutions to improve, thereby advancing the protection of public health.

Incident management: is that solely incident registration?

Studies into calamities indicate that these are often caused by a series of adverse events (or near misses). This series of events can be identified in the various phases of calamity development.

In England, the ‘National Reporting and Learning System’ (NRLS) was established under the auspices of the National Patient Safety Agency. The NRLS facilitates electronic incident reporting. The notification itself is anonymous and the NRLS registers the report rather than reviewing it. Research remains the responsibility of the institutes and bodies within the National Health Service that have been charged with doing so. The NRLS objective is to identify is “national patient safety trends and priorities” on the basis of the incoming reports and, subsequently, propose improvements.

The majority of healthcare institutions work with a centralized safety commission. This commission looks into each and every incident that arises within the institution. In the Netherlands, however, institutions have appointed decentralised safety commissions at departmental level, working alongside a centralized safety commission. The prime advantage of this is that the commission members actually work on the department in question. The commission can be broadened to include the supervisor or a medical specialist.
These commissions are well informed about the day-to-day operations on their department and, ideally, are able to identify during analysis the logical connection between the incident and its fundamental cause. Moreover, they can implement improvement measures more easily.

**Unused opportunities for improvement**

Over the 10-year period of increasing attention for healthcare safety, we have gained considerable experience in the reporting and registration of incidents. Their analysis, however, is still regarded as a challenge.

Now that not only incidents but also near misses are reported, the number of notifications has increased substantially in recent years. The vast majority of incidents reported are classified as low risk (to be compared with the airline industry > 95% is low risk).

There is simply no sense of urgency to analyse a reported incident classified at low risk. Time pressure often contributes to the fact that – following registration – incidents of this nature are taken no further. Analysis and optimisation of the cyclical improvement process is overlooked or not applied. And the opportunity for continuous healthcare improvement is wasted.

We can learn from the airline industry. In the Dutch healthcare system, for example, approximately 1,000 people die unnecessarily every year. In the global airline industry, “only” 500 people suffer a similar fate. Safety within the airline industry would appear to be extremely well organised (KIZ-magazine, June 2016). Thanks to technological developments, aircrafts have become much safer and accidents have much less to do with technology than human factors. This ensured that the airline industry implemented rules and regulations and pro-active safety management became mandatory.

In the airline industry, reported incidents classified as low risk are added to a trend report and distributed to all departments as feedback. Incidents classified as medium to high risk are always analysed.
The aim is to draw appropriate conclusions, because we can learn from our mistakes. This means that all reported incidents in the airline industry – whether they be low, medium or high risk – are published on the intranet anonymously.

Lessons learned instead of silo solutions
Safety commissions analyse reported incidents. Once the incident has been redressed, the necessary improvements are implemented within the department. The lessons learned are not always shared within the team or department, however. By providing specific feedback to the individual incident reporter and – anonymously – to the team, each and every team member realises that this could have happened to him or her. It makes caregivers more aware of the risks.

In addition, it is important that the incidents and the outcome of the analysis is shared throughout the institution, so that everybody can profit from lessons learned from the mistakes made. This also prevents silo solutions with the risk that somebody else makes the same mistake again.

It is worthwhile to learn from one another by providing feedback to the organisation from analyses and improvement propositions for the following reasons:
- by publishing the notification on intranet, caregivers can take note of the incident and realise that what happened to a colleague could also happen to themselves;
- by informing departmental colleagues through the intranet, awareness is raised about the incidents processed and the overarching issue of safety;
- by providing an overview of the number and kind of notifications during team meetings as a recurring agenda item, or highlighting a particular incident (reported falls, for example), the feedback can be discussed collectively as a team.
Timely incident registration
It is important that the reported incident is addressed and dealt quickly so that all involved still have the cause of the incident top of mind.

It can happen that a reported incident contains only limited information. In order to analyse the incident, relevant information must be collected by talking with the incident reporter and others directly involved. A uniform and coherent manner of registration by reporting an incident on a standard form, with all the information required for proper analysis, is a step in the right direction. It prevents mistakes and it facilitates unambiguous, unequivocal registration.

Role of departmental supervisor and quality manager
Supervisors play a crucial role in promoting an ‘open’ atmosphere in healthcare institutions. They can radiate openness as the norm and - in a practical sense - meet the requirements associated with openness by making money, time and staff available. Moreover, supervisors have an understanding of the bigger picture and how to start the correct procedures and to put the right person in that process centre stage.

The challenges with which healthcare is confronted during day-to-day operations makes it important to address the large number of reported incidents and their analysis in a practical manner. When the quality manager (Quality Officer or Security Officer) and departmental supervisor (Head Nurse) regularly review the list of incidents reported, the weaker links within the care process can be identified more swiftly.

The vast majority of reported incidents are low risk, as already stated. Having said that, they provide important information about healthcare safety. The fact that all notifications offer
a certain insight enables them to be transparent about the incidents that take place in the institution or on the department. This is not simply a management thing; the impact touches everybody within the organisation.

Reported incidents have a signal function. If no incidents are reported, the correlation between the risks and the focus of subsequent management attention is difficult to ascertain. Caregivers can demonstrate leadership by discussing the incidents amongst themselves.

**Analysis with the help of the PRISMA method**

A reported incident can be analysed in various ways, such as ROOT Cause Analysis (RCA) and Prevention and Recovery System for Monitoring and Analysis (PRISMA), so that the fundamental cause or causes of the incident can be revealed. These methods differ in the degree to which the information is unravelled and perused in order to reveal the root causes of an incident and classify them accurately.

The PRISMA method was developed for the healthcare sector by Dr. T.W. van der Schaaf. The healthcare sector ‘borrowed’ this analysis methodology from the chemical industry, where the method is used to track and trace mistakes and improve processes. PRISMA offers the following benefits:

- A quick way to analyse incidents.
- Stepping back to a number of recurring root causes. These fundamentals shape the way ahead towards further improvements.
- Classification of root causes enables identification of trends and the opportunity to compare departments and clinics.
Database with root causes

When the root causes are made visible with the help of a PRISMA analysis, it is possible to graphically illustrate these causes after, say, 30 to 50 analyses. This data can reveal which departments stand out, and structural improvements can be implemented there. Subsequent analysis can ascertain if the incident volume has diminished and if the implemented improvements have done the job.

From registration to optimisation

The large number of reported incidents leads safety commissions to question where to begin when dealing with them. It costs a lot of time to analyse every adverse event and every near miss. It is however important to determine the root cause or causes to make healthcare processes safer. A number of solutions aimed at generating greater insight into healthcare safety are listed below:

Practical solutions

If the number of reported incidents increases, incident analysis should preferably take place in as practical a manner as possible by:

- clustering comparable incidents and analysing them collectively (one analysis of more than one incident);
- beginning with a regularly recurring type of incident or with a high-risk incident;
- simply beginning! Each and every analysis reveals potential areas for improvement!

Trendanalysis

If a low-risk incident is reported just once, it doesn't necessarily need to threaten patient safety. But if a similar incident is reported on numerous occasions, a certain trend can become visible. With the help of incident analysis, the safety commission can look into why something happens as often as it does and how it can be prevented. Or as they do in the airline industry: when a cabin attendant spills hot water over herself, this is a low-risk notification. But if it happens 20 times in a row, it would appear to be part of a trend.

Random check

A random check of a number of reported incidents can lead to in-depth analysis with the help of an analysis method such as RCA or PRISMA. In this way, reported incidents can be analysed structurally and the cycle of improvement can be optimised and further expanded.

Make a choice

In the plethora of incidents reported, it is worthwhile determining which incidents to analyse. The selection can be made according to management policy. The choice can be between:

- a certain period of time, for example three months, or the holiday season;
- a certain theme, for example a particular medication process or incidents involving falls;
- a certain care process, for example discontinuation of a given medication;
- frequency of incidents reported.
Monitoring and transparency
In the airline business, flight data is monitored from take-off to landing, generating insight into the quality and execution of operational processes. Trend reports can be drawn up on the basis of these analyses. Incident reporting is no different. It offers the quality manager, the departmental head, the Board and all care professionals information about quality. It provides input about which processes can be improved or further developed.

The monitoring of these incidents provides insight into the knowledge and capabilities of professionals, the degree of training and education, the operational functioning of technology and equipment etc. In the airline business, special training sessions are organised on the basis of these trend reports. Centralised safety commissions are in touch with one another to discuss the conclusions of trend reports.

This serves to lower the threshold in terms of monitoring and transparency of incidents reported. According to the principle of “Just-culture”, of course. This implies that caregivers are not punished for their errors unless negligence or intent is at issue.

Incident reporting offers insight into risks of care process
Awareness about the safety of care processes can be boosted by offering insight into incidents reported.

It can happen that a large number of incidents are reported over a short period of time about one particular care process. A low-risk process it may be, but still an incident. The number of incidents with a low or very-low risk within a certain process can give rise to the need to execute a prospective risk inventory. By making an inventory of risks in the care process, improvements can be implemented and care enhanced.

Case study: Endoscopy department
In the period of a week, various incidents were reported about the care process of the Endoscopy department, because:
- The patient should have been given sedation;
- It was not clear that the patient was to be admitted after the test and that there was no bed available;
- It was not known that the patient should have undergone a gastroscopy as well as an endoscopy.
During registration, the root cause of the incidents could have easily been brushed off as a lack of communication. Simply, because the communication between doctor and patient was not good enough.

**Incident analysis**

The safety commission in question decided to submit this process for a Healthcare Failure Mode and Effect Analysis (HFMEA) and ran through the HFMEA with all care professionals involved in this case. Incident analysis provided clarity as to the root cause of the origin of these incidents.

**Insight into root cause of incident**

Thanks to the HFMEA, it became clear that the agreements made in this process were not clear to one and all with regard to the decision to perform a gastroscopy or endoscopy. Far too much was left to chance; whether the doctor was on duty at that moment, whether the fax confirming the hospital admission was available at that moment and where it should be. Nobody shouldered the responsibility in this care process. A process coordinator was appointed and she rewrote the care process, together with care professionals involved. In this way, improvements could be implemented immediately, the care process was optimised and care became safer.

If the lack of communication had been seen from the outset as the reason for this incident occurring, the root cause would never have been identified and no further attention would have been paid to the inadequate agreements made in the course of this process.

These incidents impacted patient safety. The day before, the patient prepared for the test at home by drinking liquid barium, sat in the waiting room for hours and the eventually returned home without the test being carried out. Next time around, the patient is likely to feel less secure, because who can assure him that the process will be executed properly?
Quite apart from the cost of the entire process, a team was on stand-by to perform the test, the next patient had not yet turned up and there was a gap in the programme. Time lost – and money wasted.

Lessons learned
What we can learn from this example is that the analysis of adverse events or near misses provides more information about the safety or the risks of care than becomes available if the incident is simply registered.

Success factors
The success factors that emerge from airline safety are related to transparency and the safety culture. The disclosure of calamities by supervisory authorities and the disclosure of all reported incidents in a care institution can help integrate transparency in a proper safety culture. Incident reporting contributes to the safety of an institution and encourages care professionals to shoulder their responsibility for healthcare safety.

Once everybody is aware of the risks, care can be made a safer proposition.

How can The Patient Safety Company help?
The software solutions of The Patient Safety Company support the improvement process, reducing risk for clients, patients and staff and enhancing quality. The weaknesses of some current processes are visualised, analysed and optimised. Standard solutions can be adapted to the specific requirements of the care institution.
Incidenten reporting

Every care professional, patient or client can report an adverse event or near miss on an online form accessible through desktop or mobile devices. This form is easy to complete and can be compiled as the care institution so requires. Completion of the form implies that answers are immediately incorporated into an analysis methodology, so that the Safety Commission can ascertain the root causes of the incident and initiate improvements.

Every step of the Incident Management System is easy to undertake. The Safety Commission is supported during the handling of an adverse event or near miss by automatic e-mail notifications and alerts.

Reporting process

The solution goes some way to removing the concerns regarding incident reporting and trends or the reporting process at specialist or departmental level. Automatic reports are generated from each reported incident.

Supervisors, team leaders, quality managers or safety commissions can access real-time information from a dashboard about the number and type of incidents and the root causes. This illustrates in the blink of an eye where the weaknesses in the institutions and in the relevant care processes can be found.

Analysis

The support of various analysis methodologies such as RCA, HFMEA and Ishikawa enables rapid and easy insight into the root causes of an incident. In addition, various tools for creating graphs and charts are available as well as automatic analysis report creation. A trend analysis is not difficult to compile from this tool, enabling the classified root causes to be made visible at institutional or departmental level.
Process improvement
Notification, analysis and the reporting process offer insight into the weaker links of the care processes so that improvements can be implemented. The Patient Safety Company supports this process through its Improve 2.0 module, facilitating initiation and monitoring of these improvements. Moreover, it is possible to calculate the lead time of a given improvement proposal.

Benefits in a nutshell
- An easy and swift online form completion process.
- Step-by-step workflow supervision.
- Internationally-acknowledged analysis techniques.
- Determine improvement propositions and monitor them.
- Management dashboards and reporting opportunities.
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