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Problems with incident reporting: reports lead rarely to recommendations

Liukka, Mari

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MS. MARI LIUKKA (Orcid ID : 0000-0003-1475-1465)

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Running title: Incident reports lead rarely to recommendations

Mari Liukka, RN, MNSc, PhD-candidate,

Manager of Quality and Patient Safety

University of Eastern Finland, South Karelia Social and Health Care District

tel. +358 50 322 1144

Adress: University of Eastern Finland

Kuopio Campus

Department of Nursing Science

POBox 1627

70211 Kuopio, FINLAND

mari.liukka@gmail.com

Markku Hupli, MD, PhD, Chief Physician of Physical and Rehabilitation Medicine, Master of Quality

Director of Rehabilitation Services

South Karelia Social and Health Care District

Adress: South Karelia Social and Health Care District

Valto Käkelän katu 3

53130 Lappeenranta, FINLAND

Hannele Turunen, Professor, PhD, RN

Head of the Department

University of Eastern Finland, Kuopio University Hospital

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Abstract

Aim: The aim of this study was to analyse trends in incident reporting over the last five years and determine how many reports led to recommendations?

Background: Patient safety incident reporting systems have been used in health care for years. However, they have a significant weakness in that reports often do not lead to any visible action.

Design: The study is a retrospective register study. STROBE checklist was applied in the preparation of the paper.

Methods: Data were collected from a web-based incident reporting database (HaiPro) for a social- and health care organization in Finland, covering the period from 2011 to 2015.

Results: In total, 16 019 incident reports were analysed. In 2,7% (n=426) of all reports there were written recommendation to develop action that such incidents would not happen again. Those reports were classified into seven categories: education, introduction and information, introduction to work, patient care, guidelines, instruments and IT-programmes, and the physical environment.

Conclusions: Managers get major amount incident reports. There should be 1) a definition what kind of events should be reported, 2) a definition for how serious events managers has to make a recommendation, 3) control that recommendations are implemented.

Relevance to clinical practice: There is a need for more action to promote patient safety based on incident reports.

Keywords: management, incident reporting, nursing, patient safety

What does this paper contribute to the wider global clinical community?

- This study showed that health care professionals report patient safety incidents every year more and more
- Only a minor part of incident reports lead to visible change in action for better patient safety

Introduction:

Patient safety incident reporting systems have been used in health care for years. A major impulse for their adoption was the *To err is human* report published by the Institute of Medicine (Kohn, Corrigan, & Donaldson, 2000). National reporting systems were set up by the UK in 2003, by Ireland in 2004, and by Australia in 2005 (Stavropoulou, Doherty, & Tosey, 2015).

A constant process of social- and health care reform is currently underway in many countries including Finland, with the aim of unifying the two forms of care in single organizations (Ministry of Social Affairs and Health, Finland, 2016). This creates a range of new challenges and opportunities for healthcare management and the improvement of patient safety.

Okafor's findings show that most reported incidents relate to care or management (Okafor et al., 2015) but in UK the most common reported incident is patient accident (NHS Improvement, UK, 2018). A significant weakness of current incident reporting systems is that there is frequently a lack of visible action after reports are made. Ideally, reports should be investigated and analysed, and the results of these investigations should be communicated to the reporter, the other people working in

the reporter's unit and organization, and individuals outside the organization who could benefit from such information (Howell et al., 2016; Mitchell, Schuster, Smith, Pronovost, & Wu, 2016). A large study conducted in the UK on the usefulness of safety reports in hospitals concluded that the more information and feedback staff receive concerning changes made in response to their reports, the more likely they are to file reports when incidents occur (Howell et al., 2015). However, there is a problem with the process of giving feedback that has become a major barrier to incident reporting by health care professionals: it is often a one-way process in that staff make reports and must then wait for someone else to fix the problem (Kodate, Walters, & Dodds, 2013, Kvist et al., 2013, AbuAlRub, Al-Akour, & Alatari, 2015, Alqubaisi, Tonna, Strath, & Stewart, 2016, Anderson & Macrame, 2016, Lee, 2017).

Ideally, managers should educate staff about incident investigations and encourage them to participate and open discussions about patient safety issues. (Alqubaisi et al., 2016, Howell et al., 2016, Macrame, 2016) In practice, however, staff are rarely invited to investigate incident reports or feel that they do not have enough time to do so. Despite these problems with feedback-giving, health care professionals believe that incident reporting has a positive effect on safety. (Anderson et al., 2013, Moeller, Rasmussen, & Nielsen, 2016) By holding regular meetings, managers can give staff opportunities to discuss their opinions about patient care (Doody & Doody, 2012). During unit meetings, discussions about patient safety incidents are generally not held in any formal or structured fashion, and recommendations or analyses of incidents' causes are rarely documented (Anderson & Kodate, 2015). The lack of a structured discussion format can also lead to considerable variation in the policies used to handle patient safety errors with patients as and when they occur (Sahlström, Partanen, Rathert, & Turunen, 2016).

A manager's role is to bridge the gap between an organization and its constituent units. They must ensure that the organization's culture and values extend across all its units and all aspects of patient care (Merrill, 2015), but where necessary the manager must also exercise judgement to ensure that patient safety is prioritized over other organizational goals (Anderson & Kodate, 2015). Managers' attitudes toward incident reporting and support for patient safety questions can significantly affect staff attitudes to incident reporting (Hung, Chu, Lee, & Hsiao, 2016, Richter, Scheck McAlearney, & Pennell, 2015).

The patient safety incident reporting system that is currently used in Finland (HaiPro) was mainly developed in 2006, and pilot organizations started using it for reporting in May 2007. (Ministry of Social Affairs and Health, Finland, 2008). Today, HaiPro is used by more than 200 different organizations across Finland (Awanic Ltd, 2018).The aim of this study was to identify trends in incident reporting using HaiPro and to determine how frequently reports lead to recommendations or changes in patient care? There is not this kind of studies done before.

The following research questions were addressed:

1) How many incident reports were made between 2011 and 2016?

2) How many of these reports led to recommendations for improving patient safety?

3) Which aspects of patient safety do the recommendations relate to?

Methods:

Design and data collection

A retrospective register study was performed using data collected from a web-based incident reporting database (HaiPro) for a social- and health care organization in Finland. The organization provides services for over 130 000 citizen for all ages of the nine municipalities area including outpatient care, hospital services, oral healthcare, mental healthcare, substance abuse services, laboratory and imaging examination services, rehabilitation services, family services, social services for adults, and special services for disabled and elderly people. Altogether there is around hundred service points including one central hospital with 290 beds in 2011 and 277 beds in 2015, rehabilitation center with 127/88 beds, nursery homes with 868/888 beds and eleven health and welfare centers. There were 4000 employees in 2011 and 4180 in 2015. Incident reports from all these fields were included.

A quantitative analysis was performed using statistics on incident reports made between January 2011 and December 2015. The organization began using HaiPro in January 2010. During 2010, the organization's staff received extensive education on the theory of incident reporting, patient safety, and the HaiPro-system itself. They then began using the system; 2011 was the first year in which incident reporting was adopted throughout the organization.

Reports are anonymous and all professionals in the organization can report patient safety incidents including near misses using HaiPro. There is not any information about patients in reports. Managers in every unit are required to deal with reports and classify them. Managers should focus what has happened and what is the first step when process starts to get wrong by asking why? for several times. They must also

suggest measures to ensure such incidents do not happen again. Having suggested these measures, they can choose one or more of the following actions to be taken: 1) “to be informed about event”, 2) “to be referred to higher level for decision”, 3) “design of development measure for”. Managers can choose more than one category. In addition, the HaiPro-system sets that managers are supposed to write recommendations for developing or alternatively, to explain why no such recommendations are needed. These recommendations were analysed qualitatively and quantitatively, and classified into various categories. STROBE checklist was applied in the preparation of the paper (See Supplementary File 1).

Data analysis

The data were analysed statistically using SPSS 24.0 for Windows. Quantitative statistics are presented as percentages and frequencies. Further analyses were performed using the tools built into the HaiPro system.

Ethical considerations

Ethical approval for the study was granted by the University Committee on Research Ethics (2/2011). Permission for the study was obtained from the study organization. No names of patients or health care professionals were included in the reports, and the results are reported in a way that makes it impossible to identify the units from which the incident reports originate.

Results:

In total, 16 019 incident reports were analysed. The number of incidents reported has increased every year but amount of written recommendations has decreased instead. 4,1 % of all reports has lead to written recommendation in 2011 and 2012 and a little bit under 4 % in 2013. 2014 and 2015 has remained under 2 % when there is written recommendation based on incident reports. 12,7 % incident reports from 2011 was waiting analyzing while 2015 it was 14,9 % (figure 1).

Figure 1.

The three most common incident categories were accidents such as falls (n=6127, 38,2 %), medication-related incidents (n=5575, 34,8%), and communication problems (n=1547, 9,7%).

Figure 2.

The HaiPro data indicate that on 2761 occasions (corresponding to 17.2% of the analysed reports), the relevant managers provided no response to the item requiring them to suggest actions to ensure that “such incidents would not happen again”. The most common reason for non-response to this item (given in 2475 cases, or 15.5% of the total) was that the corresponding reports had not yet been analysed (see Figure 1). Thus, on 286 occasions (1.8% of the total), managers had analysed a report but not then thought about what actions could be taken to prevent such incidents from occurring in future.

Managers has choose “to be informed about the event” mostly (64,5 % of all reports). In 195 (1,2 %) cases report has “to be referred to higher level for decision”. In 856 of the studied cases (5.3% of the 16019 reports), the manager recommended that a plan should be developed to prevent the reported issue from reoccurring. In 544 of these cases, “develop a plan” was the only category selected by the manager. The corresponding reports were categorized according to their contents. 118 (21,7 %) were classified as having “no recommendation for development”, or “missing” in the statistical analysis. These reports featured no recommendations in their free text sections, or recommendations that could not be acted upon meaningfully, such as “talk about this in team meeting” or “forward to another unit or person”. The remaining reports (n= 426, corresponding to 78,3% of those reports for which recommendations were made, or 2,7% of all reports) featured more detailed recommendations, which were categorized into one of the following seven categories: 1) education (n=24, 5,6%), 2) introduction and information (n=42, 9,9%), 3) introduction to work (n=9, 2,1%), 4) patient (n=105, 24,6%), 5) guidelines (n=186, 43,7%), 6) instruments and IT-programmes (n=43, 10,1%), and 7) environment (n=17, 4,0%). For further details, see Table 1.

Table 1.

Education-related recommendations included suggestions for things such as team meetings with consultants or MAPA (Management of Actual or Potential Aggression) training. Introduction and information-related recommendations included suggestions for things like new or updated introductions and checklists for specific actions such as medication processes or procedures for discharging patients from a unit.

Introduction to work recommendations relate to the process of introducing new staff to the unit and introducing existing staff to new guidelines, tools, and instruments. Many accidents such as falls were reported, which is one reason why there were many recommendations relating to patient care. These included recommendations for strength and balance training, or acquiring better rollators or other mobility aids for specific patients. The most common types of recommendations related to guidelines. However, many of the suggested guidelines already existed at the organizational level, and should in principle have already been implemented in all the organization's units (for example, a guideline stating that one should double-check the dose and medicine before dosing a patient). Recommendations relating to instruments and IT-programs included suggestions for program updates and the acquisition of new instruments and tools. Environment-related recommendations concerned aspects of the physical environment such as furniture.

Discussion:

Discussion of the results

As noted above, the number of incident reports generated by the organization has increased every year since the introduction of HaiPro system. A problem, however, is the lack of analysis and subsequent action resulting from these reports. Thus manager should pay more attention to analysing incident reports. In addition, there is a clear need for much more visible action to promote patient safety based on the reports that are filed. Staff may see that reporting incidents is worthless if there is no visible action or they get no feedback about incident reports. This suggests that there may be an undue organizational focus on the quantity of reports rather than the

reporting process as a whole. Managers must encourage staff to report incidents, but they should also remember their own important roles, which include giving feedback and encouraging staff to develop actions within their units to improve patient safety. Focusing on the quantity of reports may cause the same kinds of reports to be repeatedly submitted, and the number of reports may increase to the point that managers do not have enough time to deal with them all; as such, their openness to discussion about reporting may decline.

The most reported incidents were patient accidents as falls. In organization's area over 30 % of citizens are over 60 years so this result is obvious. Problem is that recommendations and analyses tend to focus on human behaviours rather than root causes of incidents. (Anderson et al., 2013, Mitchell et al., 2016). This effect is especially evident when considering patient-related recommendations, most of which relate to falls: there are many recommendations concerning the patients' physical environments and mobility aids, but relatively few concerning factors that cause falls or tools for pre-emptively identifying fall risks. As noted by Stavropoulou et al (2015), incident reporting systems have little impact on patient safety in relation to falls. Secondly, it is not easy to measure because there is no detailed information about patient demographics. The reporting system has evolved in these years and now when staff report about falls there has to be chosen if risk analyses for falls has been done. In the future that helps with analyzing if risk analysis has been done as guided and has that lead any action.

The other recommendations based on incident reports encountered in this study were broadly similar to those discussed in earlier publications, relating to issues such as staff education, checklists, and guidelines (Anderson et al., 2013, Stavropoulou et al., 2015).

Our results also suggest a need to further consider guideline-related recommendations: several of the recommendations related to practices that should have already been adopted within the relevant units. The fact that such recommendations are made nonetheless has implications for the organization's safety culture: it indicates that while guidelines exist, they have not been implemented by managers for some reason. Organization should create some system how to control guidelines implementation which are made in common. For example there is a guideline how patients should be identified. Still medication to wrong patient has been reported and mangers have written as a recommendation that "remind staff to identify patient as instructions have been given".

Finally, there is clearly a problem when it comes to using incident reports to spur action to improve patient safety: only a very small proportion of reports result in any change within a unit or action by health care professionals. Only 2.7% of the reported incidents considered in this work resulted in written recommendations. One may however ask how many of these recommendations are actually implemented in practice. Wrigstad et al. (2014) discovered that majority of recommendation is implemented in micro level and there is only few recommendations which action is taken to organization level. Truthfully, there is not so many recommendation and it is almost impossible to investigate the effectiveness of them.

As in many healthcare organizations, all incident reports in the studied organization are sent to the manager of the relevant unit (Macrame, 2016), who is required to deal with them. The resulting recommendations may be documented in memos of team meetings where staff discuss the incidents rather than in the incident reporting system, although Anderson et al. (2015) found that in many cases the causes of incidents and recommendations are not documented at all. This non-documentation

makes it difficult for safety teams to make staff and managers aware of new recommendations, guidelines and modes of action based on patient safety incidents at the organization level. It is possible that a widespread belief that incident reports would be evaluated at the organization level could improve these practices (Macrame, 2016, Stavropoulou et al., 2015). However, it remains important to ensure that recommendations are properly written up so that staff working in units can be properly informed about them.

Given the steadily increasing number of incident reports filed within the studied organization, it seems that a culture of reporting has become well-established. However, it would be useful to assess the quality of the reports because a tendency to “report it all” can create problems if many incident reports that are filed do not provide information about important risks to patient safety (Macrame, 2016). The gradual decrease in the number of recommendations over time suggests that similar reports are being filed repeatedly, and that managers have neither the time nor the inclination to analyse them in detail. It is also difficult to evaluate effectiveness of incident reporting when definition of reportable events is not clear (Stavropoulou et al., 2015).

Strengths and limitations of this work

This study has some limitations that derive from the limitations of the HaiPro system and others that derive from the way in which managers were required to analyse incident reports. The HaiPro system permits managers to select multiple categories when defining “actions to be taken to ensure that this incident never happens again”. This study only considered reports for which “plan a recommendation for

development" was the only action category selected by the manager. However, it is possible that some managers may have selected some other category when drafting their responses by then written a development plan in the free text area of the response form. Secondly, some managers wrote several recommendations in the free text area. In these cases, we considered only the first recommendation. Because there were only a small number of such cases, they are unlikely to have significantly affected the results.

The number of incidents reported has increased monotonically year on year since the HaiPro system was introduced. There were two cases with particularly large year-on-year increases: 2012 to 2013 and 2014 to 2015. In September of 2012, the organization started issuing regular reminders to staff, notifying them that all falls should be reported, and in 2015 one Finnish municipality merged its health- and social care services with the organization." These changes may partly explain differences in variables such as the number of unanalysed reports (Figure 2). A major strength of this study is that the author knows the organization well and is familiar with the various changes and interventions that have been made in relation to incident reporting. Another strength is the use of a rather large sample, which increases the validity and utility of the results.

Conclusions:

There is not so many recommendations made based on incident reports. However problem is also that it is impossible to find out if recommendation is implemented and yet if it had been effective. Managers get major amount incident reports. It could be

good to discuss if it is necessary to report near misses where process stops before patient, like it has been planned, for example medication double-check.

In summary there should be 1) a definition what kind of events should be reported, 2) a definition for how serious events managers has to make a recommendation, 3) control that recommendations are implemented.

Relevance to clinical practice:

The unit manager is ultimately responsible for patient safety within their unit, so it should be the manager's duty to designate the responsible person and to ensure that he or she has the necessary resources for the task. Finally, recommendations for improving patient safety should be written up in a more consistent fashion and made available at both the organizational and unit levels. It could be beneficial to print out the reports that are filed in each unit and make them available to staff so that colleagues with the time and inclination to do so can write up their own ideas for preventing similar errors in future. This would also avoid situations in which staff are required to consider incident reports without preparation during unit meetings, saving time and enabling more reports to be analysed per unit time. When recommendations are idealized, an individual responsible for their implementation should be designated and an implementation timetable should be defined.

References:

AbuAlRub, F.R., Al-Akour A.N., & Alatari H.N. (2015). Perceptions of reporting practices and barriers to reporting incidents among registered nurses and physicians in accredited and nonaccredited Jordanian hospitals. *Journal of Clinical Nursing, 24, 2973-2982.* doi:10.1111.jocn.12934

Alqubaisi, M., Tonna, A., Strath, A., & Stewart, D. (2016). Exploring behavioural determinants relating to health professional reporting of medication errors: A qualitative study using the theoretical domains framework. *European Journal of Clinical Pharmacology, 72, 887-895.* doi:10.1007/s00228-016-2054-9

Anderson, J., Kodate, N., Walters, R., & Dodds, A. (2013). Can incident reporting improve safety? healthcare practitioners' views of the effectiveness of incident reporting. *International Journal for Quality in Health Care, 25, 141-150.* doi:10.1093/intqhc/mzs081

Anderson, J.E., & Kodate, N. (2015). Learning from patient safety incidents in incident review meetings: Organisational factors and indicators of analytic process effectiveness. *Safety Science, 80, 105-114.* doi.10.1016/j.ssci.2015.07.012

Awanic Ltd. (2018). Reporting system for safety incidents in health care organizations. Retrieved from http://awanic.com/haipro/eng/ 5.2.2018.

Doody, O., & Doody, C. M. (2012). Transformational leadership in nursing practice. *British Journal of Nursing, 21, 1212-1218.* doi:10.12968/bjon.2012.21.20.1212

Howell, A. M., Burns, E. M., Hull, L., Mayer, E., Sevdalis, N., & Darzi, A. (2016). International recommendations for national patient safety incident reporting

systems: An expert delphi consensus-building process. *BMJ Quality & Safety.* doi:10.1136/bmjqs-2015-004456

Howell, A., Burns, E. M., Bouras, G., Donaldson, L. J., Athanasiou, T., & Darzi, A. (2015). Can patient safety incident reports be used to compare hospital safety? results from a quantitative analysis of the English national reporting and learning system data. *PLoS ONE, 10, 1-15.* doi:10.1371/journal.pone.0144107

Hung, C., Chu, T., Lee, B., & Hsiao, C. (2016). Nurses' attitude and intention of medication administration error reporting. *Journal of Clinical Nursing, 25, 445-453.* doi:10.1111/jocn.13071

Kohn, L. T., Corrigan, J., & Donaldson, M. S. (cop. 2000). *To err is human: Building a safer health system.* Washington, D.C: National Academy Press.

Kvist, T., Mäntynen, R., Turunen, H., Partanen, P., Miettinen, M., Wolf, G. A., & Vehviläinen-Julkunen, K. (2013). How magnetic are finnish hospitals measured by transformational leadership and empirical quality outcomes? *Journal of Nursing Management, 21, 152-164.* doi:10.1111/j.1365-2834.2012.01456.

Lee, E. (2017). Reporting of medication administration errors by nurses in South Korean hospitals. *International Journal for Quality in Health Care, 29, 728-734.* doi: https://doi-org.ezproxy.uef.fi:2443/10.1093/intqhc/mzx096

Macrame, C. (2016). The problem with incident reporting. *BMJ Quality and Safety, 25, 71-75.* doi:10.1136/bmjqs-2015-004732

Merrill, K. C. (2015). Leadership style and patient safety: Implications for nurse managers. *Journal of Nursing Administration, 45, 319-324.* doi:10.1097/NNA.0000000000000207

Ministry of Social Affairs and Health, Finland. Health, social services and regional government reform. Retrieved from http://alueuudistus.fi/en/social-welfare-and-health-care-reform/about-the-reform 1.2.2018.

Ministry of Social Affairs and Health, Finland. (2008). Introduction of a reporting system for dangerous situations in health care.

Mitchell, I., Schuster, A., Smith, K., & Pronovost, P. & Wu, A. (2016). Patient safety incident reporting: A qualitative study of thoughts and perceptions of experts 15 years after 'To err is human'. *BMJ Quality and Safety, 25, 92-99.* doi:10.1136/bmjqs-2015-004405

Moeller, A., Rasmussen, K., & & Nielsen, K. (2016). Learning and feedback from the Danish patient safety incident reporting system can be improved. *Danish Medical Journal, 63.*

NHS Improvement, UK. (2018). NRLS national patient safety incident reports: commentary. Retrieved from https://improvement.nhs.uk/documents/2543/NAPSIR_commentary_FINAL_data_to_December_2017.pdf

Okafor, N. G., Doshi, P. B., Miller, S. K., McCarthy, J. J., Hoot, N. R., Darger, B. F & Chathampally, Y. G. (2015). Voluntary medical incident reporting tool to improve physician reporting of medical errors in an emergency department. *The Western Journal of Emergency Medicine, 16, 1073-1078.* doi:10.5811/westjem.2015.8.27390.

Richter, J., Scheck McAlearney, A., & Pennell, M. (2015). Evaluating the effect of safety culture on error reporting: A comparison of managerial and staff perspectives. *American Journal of Medical Quality, 30, 550-558.* doi:10.1177/1062860614544469

Sahlström, M., Partanen, P., Rathert, C., & Turunen, H. (2016). Patient participation in patient safety still missing: Patient safety experts' views. *Int J Nurs Pract, 22, 461.* doi:10.1111/ijn.12476

Stavropoulou, C., Doherty, C., & Tosey, P. (2015). How effective are incident-reporting systems for improving patient safety? A systematic literature review. *Milbank Quarterly, 93, 826-866.* doi:10.1111/1468-0009.12166

Wrigstad, J., Bergström, J., & Gustaafson, P. (2014). Mind the gap between recommendation and implementation –principles and lessons in the aftermath of incident investigations: a semi-quantitative and qualitative study of factors leading to the successful implementation of recommendations. *BMJ Open, 4.* doi: 10.1136/bmjopen-2014-005326

Table 1. Written categorized recommendations (%, n)

Year	Education	Introduction and information	Introduction to work	Patient	Guidelines	Instruments and IT-programmes	Environment	All
2011	5,7 (4)	5,7 (4)	1,4 (1)	14,3 (10)	61,4 (43)	11,4 (8)	0,0 (0)	100 (70)
2012	3,1 (3)	7,3 (7)	1,0 (1)	35,4 (34)	41,7 (40)	10,4 (10)	1,0 (1)	100 (96)
2013	10,8 (13)	16,7 (20)	2,5 (3)	20,0 (24)	35,8 (43)	7,5 (9)	6,7 (8)	100 (120)
2014	2,6 (2)	6,6 (5)	3,9 (3)	22,4 (17)	48,7 (37)	11,8 (9)	3,9 (3)	100 (76)
2015	3,1 (2)	9,4 (6)	1,6 (1)	31,3 (20)	35,9 (23)	10,9 (7)	7,8 (5)	100 (64)
All	5,6 (24)	9,9 (42)	2,1 (9)	24,6 (105)	43,7 (186)	10,1 (43)	4,0 (17)	100 (426)

Figure 1. Number of incident reports

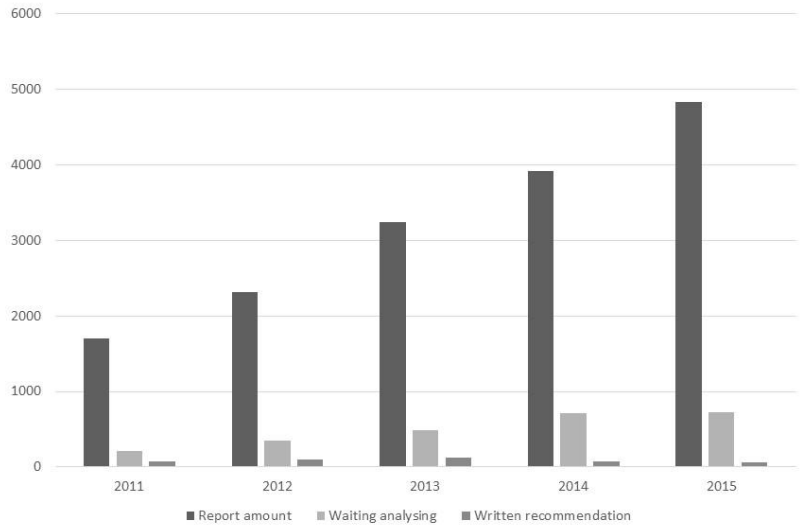

Figure 2. Incident categories