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A study to explore the perceptions of registered nursing staff towards the efficacy of clinical incident reporting in Ireland

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Clinical incident reporting identifies actual and potential risks to patient safety and then eliminates those risks through a system of procedural changes, policy enactment or changes in staff education. This constitutes the first study to explore perceptions of registered nursing staff towards efficacy of clinical incident reporting in Ireland since the launch of the national "STARSweb" incident reporting system in 2004. A survey of 210 nurses using open and closed questions was conducted across three separate acute hospitals in the Irish midlands region. While the majority of participants (90%) had submitted at least one clinical incident report, few received prompt feedback (12%) or prior appropriate training (30%) on this topic. A clear definition of what participants understood of the term "clinical incident" was not evident. However, fear of repercussion or disciplinary action from management was not considered an issue in terms of barriers to reporting. However it is evident that further training in clinical incident reporting is required and modifications to reporting systems at governance level within hospitals are necessary in supporting staff in their work. When considering effective management of clinical incident reporting, managers should ensure that staff nurses receive appropriate feedback and promote the importance of this feedback to enhance clinical incident reporting.

Key words: Incident reporting, near miss, risk management, adverse event, clinical, human error.

INTRODUCTION

Clinical incident reporting has an important role in the area of risk management in the healthcare setting with regard to inconsistencies that may exist within the routine organizational operations or patient care (Chappy, 2006). It should be applied to any situation where an undesired or unexpected outcome could be significant or a risk can be identified (Dunn, 2003; HSE, 2006). Healthcare workers, who strive to provide high quality patient care and continually promote improvements in the area of patient safety, can be further assisted by identifying factors and causes of clinical incidents that will promote effective management of such issues. Despite the fact the Irish Government launched the national clinical incident reporting system in 2004 (STARSWeb) that recorded 83,661 clinical events in 2008; no published study to date has focused on the perceptions of registered nursing staff towards the efficacy of clinical incident reporting.

Quality improvement measures assume that staff can recognise and report individual hospital events (Elnitsky et al., 1997), however many studies have revealed that healthcare staff might not submit a clinical incident form for many reasons. If the incident was perceived to cause no harm to the patient, then the error may go unreported (Osborne et al., 1999). Vincent et al. (1999) explored reasons for low incident reporting rates among 198 healthcare staff and identified fear that junior staff would be blamed (36%), no necessity to report (31%), increase workload (29%) and fears of litigation (23%) as the main reasons. Some staff felt that incident reporting made little contribution to the quality of care, while others believed

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that reporting was worthwhile and could benefit staff and patients.

Sari et al. (2007) reviewed patients' case notes (n = 1006 hospital admissions) and noted that only 324 patient safety incidents were reported while 270 incidents recorded on case notes went un-reported. The NHS Scotland (2006) revealed that under-reporting of clinical incidents was widespread in NHS Scotland and found that almost all managers with responsibility for the systems were aware of under-reporting and 69% of staff surveyed believed that incidents were not always reported.

Numerous researchers have revealed various psychological factors that may affect reporting of clinical incidents including feelings of anxiety, shame, guilt, depression and fears of retaliation or retribution (Chappy, 2006), issues of blame and punishment, loss of professional credibility (Meurier et al., 1998) and fear of litigation (Uribe et al., 2002). The NHS Scotland (2006) also revealed that 40% respondents believed that reporting an error or incident could be placed on their work records that would jeopardise future promotion and job security. The Canadian Institute for Health Information (2005) revealed that a culture of "blame and shame" was adopted by line managers, where individual accountability was the focus, as opposed to learning and prevention. Additionally fear of punitive action discouraged reporting and diminished the value of an incident reporting system (Canadian Institute for Health Information, 2005).

The International Council of Nurses (2007) also suggested that the 'blame and shame' culture in healthcare can be attributed to under-reporting. Within the organisational support structure the following team emerged in the literature that affected compliance or engagement with clinical incident reporting, namely a lack of appropriate feedback and perceived cultural norm; whistleblowers receiving little or no support from their institutions or professions; hesitancy regarding telling on someone else; time constraints; unsatisfactory processes, deficiencies in knowledge, beliefs about risk, lack of value in this process; who should report the incident; and extra workload (Uribe et al. 2002; Faunce and Bolsin, 2004; Sharma et al., 2005).

Therefore, the aim of this study was to explore staff nurses perceptions of clinical incident reporting. The research questions are: 1) What are the organizational factors that influence clinical incident reporting/non-reporting among staff nurses in the acute hospital setting; 2) Do socio/demographic variables affect the reporting or non-reporting of clinical incidents; and 3) What are staff nurses' perceptions of clinical incident reporting. Addressing this gap in the literature will help to improve patient care by exploring operational and practical factors perceived to be important and relevant by nurses working in the healthcare environment.

METHODS

A survey containing open and closed questions was distributed to staff nurses in three separate acute hospitals of similar size in the Irish midlands region. This survey was adapted from the work of Merchant and Gully (2005) who explored barriers (both intrinsic and extrinsic) that prevent health care professionals from to reporting a clinical incident in the Canadian context. The researcher adapted the social theoretical framework of Heider (1958) to underpin this study, which provided structure similar to previous published work that focused on evaluating people's own perceived behaviour of themselves and intuitive attempts to infer the causes of their behaviour (Smith et al., 2003; Gyekye and Salminen, 2006; Radhakrishna et al., 2007).

The survey was distributed to a convenient sample of 300 staff nurses working in three acute hospital sites in the midland region of Ireland that yielded a 70% response rate (n = 210); which was deemed representative of the total overall population (n = 750) across whole time equivalent posts. Inclusion criteria specified participants to be qualified staff nurses working in the acute hospital setting including both ward and specialist, e.g., operating theatre, accident and emergency, outpatient department.

Questions were incorporated to enable identification of the participant's background characteristics such as gender, age, number of years qualified and level of professional qualification. The remainder of the questions enabled exploration of team that emerged from the literature (Hannan, 2007). These included their perceptions of what is a clinical incident, their level of satisfaction with the organisational support structure governing incident reporting and any perceived barriers to effectively reporting on clinical incidents. Participants' own perceptions of clinical incident reporting were addressed using open-ended questions that enabled respondents' thinking and perceptions on questions to be grouped into team that captured the descriptive nature of study that also helped to clarify and support empirical data collected.

The researchers were also guided by a number of ethical principles including the Guidance to Nurses and Midwives regarding ethical conduct of Nursing and Midwifery research (An Bord Altranais, 2007). Prior to commencing the pilot study the principle investigator sought ethical approval from the Ethics Committee of each of clinical sites and permission was granted to access all three sites allowing data collection to commence.

A pilot study was conducted among 42 registered nurses to ascertain its reliability and validity of the adapted survey in the Irish context (Le Roux, 1996). These data were not included in the main study. Reliability was ascertained using test-retest which yielded a reliability coefficient of $r = 0.84$. Internal consistency was also measured to confirm reliability and yielded a Cronbachs $\alpha = 0.92$ (Cronbach, 1951). This pilot study also revealed apparent differences in layout and content of incident reporting processes from sample sites that guided the researchers to compare differences in reporting between hospitals (Fink, 2006; Coughlan et al., 2007).

Content validity was accomplished through expert review. The questionnaire was distributed by email to a panel of experts in the field consisting of two risk managers from the acute hospital settings in Ireland and a healthcare risk consultant. The researcher received constructive feedback, and adjustments were made accordingly. Face validity was achieved in the pilot study, whereby the participant's cognition levels, the perception of incident reporting were assessed and ability to complete the questionnaire in meaningful manner. It also addressed the clarity of the questions, ensuring that the words were comprehensible and had the meaning that was intended (Por, 2005).

Participant packs were distributed to all three clinical sites that included a cover letter (explaining the purpose of the study),

Table 1. Number of respondents that had received training on clinical incident reporting and who had submitted a clinical incident report.

Hospital	Respondents (total n = 210)		Number of respondents that had received training on clinical incident reporting				Number of respondent that had submitted an incident report			
			Yes		No		Yes		No	
	n	%	n	%	n	%	n	%	n	%
A	71	34	19	9	52	25	61	29	10	5
B	69	33	21	10	48	23	62	30	7	3
C	70	33	24	11	46	22	65	31	5	2
Total	210	100	64	30	146	70	188	90	22	10

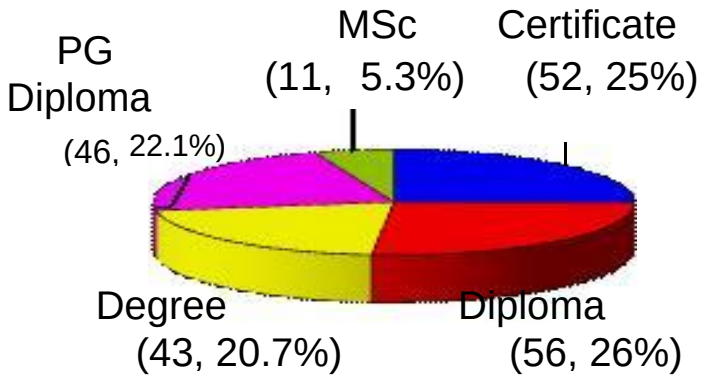

Figure 1. Qualifications of respondents who completed questionnaires (*n* = 208). Two participants chose not to answer these questions and are therefore not included in this figure (n=210).

assurances regarding anonymity, voluntary and confidential nature of responses, definitions of variables, and clear specific instructions for each section to aid the participant in completing the questionnaire. All questionnaire were self administered in an effort to reduce the "hawthorn effect/ willingness to please the researcher" and reduce the risk of bias in findings, therefore participants could fill out the questionnaires at their own convenience in an environment that they were comfortable in, without the researcher been present. After considering the initial high response or submission rate, the return boxes were left for two weeks to cater for remaining respondents returning their questionnaires. Volunteer nurses collected completed coded questionnaires from each hospital.

Data was analysed using the Statistics Package for the Social Sciences (SPSS ® version 17); descriptive statistics were used describing the demographic profile of the participants and the remaining data were expressed as the mean ± standard deviations (Pallant, 2007). In addition to inferential analysis of ratio and interval data using one-way ANOVA and Tukey's Honestly Significant Different test (HSD) post hoc test determined differences between respondents from each hospital. The use of these para-metric statistics was deemed appropriate due to the homogenous nature of the population sample and additional consultation from personal familiar with this form of analysis. Results were accepted as statistically significant at $p < 0.05$. Responses to qualitative open-ended questions were transcribed verbatim and content analysis of data was undertaken to search for team or recurring regularities as indicated by Creswell (2003). The thematic content analysis allowed the researcher to gain greater appreciation and understanding of participants' perceptions of clinical incident reporting.

RESULTS

Sample characteristics

A 70% (n = 210) response rate was attained (n = 210), with an even distribution of participants over the three clinical sites (Table 1). The average age of the respondents was 36.9 ± 7.2 years of age, with ages ranging from 21 to 61. Closer examination of demographic variables revealed similarities of population across all three clinical sites and is explored below. From the data collected from all three sites, 90% (n = 188) had filled out a clinical incident report (Table 1). Of these, 25 (12%) had filled out one clinical incident form, while the remainder (160, 76%) had filled out 2 or more forms. The majority (151, 72%) held undergraduate qualifications in nursing, while 46 (22.1%) and 11 (5.3%) respondents had postgraduate diplomas or an MSc in Nursing respectively (Figure 1). In terms of overall clarity of questions posed and ease of incident form completion, 57 (30.5%) participants found the incident form easy to fill out, 39 (20.9%) felt that it would be better if the incident form was restricted to tick boxes only, 5 (2.7%) felt that the forms would be easier and clearer if presented in text format only, 42 (23%) felt that the incident form incident form

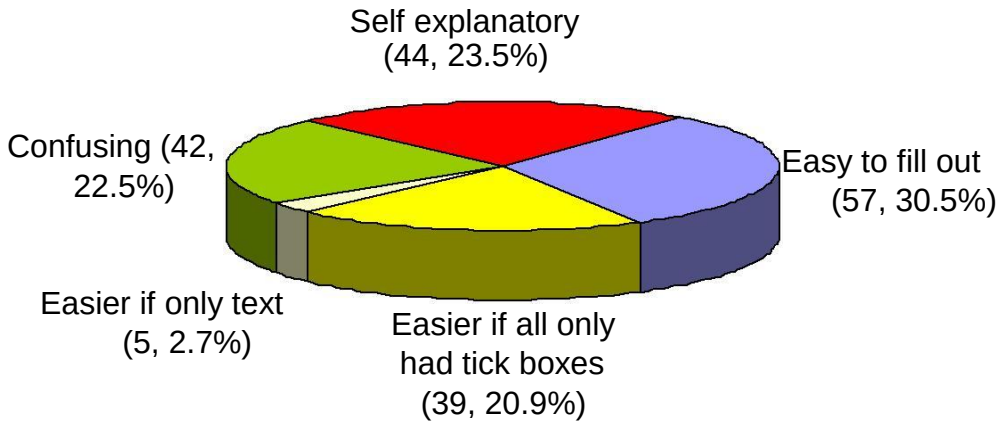

Figure 2. Participants views on clarity and suitability of design of questionnaire (*n* = 187). Twenty three participants chose not to answer these questions and are therefore not included in this figure (n = 210).

Table 2. Duration in years of participants qualified at 3 sample site.

Years qualified	Hospitals			
	Site A	Site B	Site C	Total
1- 5	10	4	3	17
6 - 10	18	14	14	46
11- 15	12	13	3	28
16- 20	15	21	3	39
21- 25	9	7	3	19
26-30	4	5	4	13
31- 35	1	2	0	3
36- 40	0	0	1	1
Total	69	66	31	166

were too confusing and complex, while 44 (23.5%) felt that they were self explanatory (Figure 2). Table 2 highlights duration of years qualified for participants from each site. The majority (202, 96%) were female and were 14 years qualified ranging from 1 to 40 years.

Organizational factors

While the majority (188, 90%) of nursing staff had submitted a clinical incident form only 64 (30%) had ever received prior training on clinical incident reporting (Table 1). The latter was a clear pattern evident at each clinical site. Of those that had submitted a report only 22 (12%) had received feedback from management. Despite lack of training, 111 (53%) participants modified the manner in which they undertook clinical practice as a consequence of completing a clinical incident form. One hundred and eighty-eight (90%) participants expressed an interest in attending a seminar on clinical incident reporting, while 22 (10%) did not desire this.

Data pertaining to organizational factors (30 statements) that may prevent clinical incident reporting were analysed using one way analysis of variance (ANOVA) and supported with post hoc analysis was conducted using Tukeys highest significant difference (HSD) and LSD. Only five statements revealed significant differences between sites whereby the Sig column indi-cated that the p-values were < 0.05. Of these statements, one related to intrinsic/personal factors, that is, “I don’t know what a clinical incident is” ($F(2, 203) = 3.3$, $p = 0.039$).

The remaining four statements were external issues, all of which related to the clinical incident form itself as illustrated in Table 3. The first and most significant of these included the statement: “The form is too confusing” ($F(2, 205) = 5.6$, $p = 0.004$), the next statement “the form is too long” ($F(2, 205) = 5.0$, $p = 0.007$), followed by the statement “there are too many check boxes” ($F(2, 201) = 5.1$, $p = 0.007$), whilst the final statement--also an external attribute--was: “Our incident forms are asking the wrong questions. ” ($F(2, 204) = 3.6$, $p = 0.030$). Further

Table 3. Results of One-Way ANOVA indicating differences between groups regarding factors that influence incident form completion

		Sum of squares	Df	Mean square	F	Sig.
I do not know what a clinical incident is	Between groups	10.445	2	5.222	3.288	.039
	Within groups	322.414	203	1.588		
	Total	332.859	205			
The form is too confusing	Between groups	34.680	2	17.340	5.556	.004
	Within groups	639.777	205	3.121		
	Total	674.457	207			
The form is too long	Between groups	27.601	2	13.801	5.013	.007
	Within groups	564.399	205	2.753		
	Total	592.000	207			
There are too many check boxes	Between groups	19.964	2	9.982	5.067	.007
	Within groups	395.972	201	1.970		
	Total	415.936	203			
Our incident forms are asking the wrong questions	Between groups	18.394	2	9.197	3.556	.030
	Within Groups	527.606	204	2.586		
	Total	546.000	206			

investigation using post-hoc tests were conducted to establish which specific means were different from which other ones in relation to the different sites.

As illustrated in Table 4 in each of these cases, the significant difference evident was between site C and the other two clinical sites indicating that the difficulty in reporting clinical incidence on that site may be linked to the form itself. Differences were considered significant at $p < 0.05$, the Tukey's Honestly Significant Difference test revealed that for the internal attribute, the first statement "I don't know what a clinical incident is", the significant difference ($p = 0.030$) was between site A ($M = 0.27$, $SD = 0.21$) and site C ($M = 0.55$, $SD = 0.22$). With the four other statements, which were external attributes, all of which related to the clinical incident form itself. The statement "The form is too confusing", was found to be significantly different between all three sites, where the significant difference between site B ($M = 0.95$, $SD = 0.3$) and site C ($M = - 0.73$, $SD = 0.29$) at $p=0.005$, and site C was significantly different compared to site A ($M = 0.21$, $SD = 0.30$) at $p = 0.036$, and to site B ($M = 0.95$, $SD = 0.3$) at $p = 0.036$.

The third statement "the form is too long" revealed that there was significant differences between sites B ($M = 0.18$, $SD = 0.28$) and site C ($M = 0.85$, $SD = 0.28$) ($p=0.008$), the fourth statement "there are too many check boxes" revealed the significant differences was between all three sites, site A ($M = 0.09$, $SD = 0.24$) and site C ($M = 0.70$, $SD = 0.24$) ($p=0.010$), and between site B ($M = - 0.12$, $SD = 0.24$) and C ($M = 0.70$, $SD = 0.24$) ($p = 0.033$) respectively. Finally, the statement " our incident forms are asking the wrong questions" revealed significant differences between site B ($M = 0.38$, $SD = 0.27$) and site C ($M = 0.73$, $SD = 0.27$) ($p=0.023$).

Individuals' perceptions of clinical incident reporting

Two open-ended questions were included in the survey to capture the participants own internal perceptions of clinical incident reporting. Written responses to these open ended questions were subjected to content analysis in which the data were organized into common team and categories as described previously by Strauss (1987).

In response to the question "What do you perceive a clinical incident to be?", 193 (92%) respondents gave at least one answer in which the following team emerged: an event or incident that causes harm to patient; staff or member of public; compromised standards of care; and anything that warrants reporting in the work environment. Fifty-one (20%) participants perceived a clinical incident to affect everyone, and not just the patient as exemplified with the response:

'An incident that may compromise the care of the patient, the safety of the patient, staff or visitors' (Respondent SC65). Forty-four (21%) partici-pants perceived a clinical incident as an event or incident that involved the patient alone as noted in the following responses: 'An accident that occurs at work or an accident that could have happened due to a mistake occurring but no harm came of it' (Respondent SC20); 'An event that was outside normal practice and had the

Table 4. Comparisons between hospitals regarding perceptions of key questions posed on clinical incident reporting using Tukey's HSD post hoc test.

Dependent variable (Question posed)	Comparison between hospitals		P value measured	Statistical difference at P< 0.05 level
I don't know what a clinical incident is	Site A	Site B	0.420	No
		Site C	0.030	Yes
	Site B	Site A	0.420	No
		Site C	0.408	No
	Site C	Site A	0.030	Yes
		Site B	0.408	No
Form is too confusing	Site A	Site B	0.769	No
		Site C	0.036	Yes
	Site B	Site A	0.769	No
		Site C	0.005	Yes
	Site C	Site A	0.036	Yes
		Site B	0.005	Yes
Form is too long	Site A	Site B	0.783	No
		Site C	0.052	No
	Site B	Site A	0.783	No
		Site C	0.008	Yes
	Site C	Site A	0.052	No
		Site B	0.008	Yes
Form has too many check boxes	Site A	Site B	0.916	No
		Site C	0.010	Yes
	Site B	Site A	0.916	No
		Site C	0.033	Yes
	Site C	Site A	0.010	Yes
		Site B	0.033	Yes
Incident form asks the wrong questions	Site A	Site B	0.329	No
		Site C	0.423	No
	Site B	Site A	0.329	No
		Site C	0.023	Yes
	Site C	Site A	0.423	No
		Site B	0.023	Yes

potential to be harmful to a patient' (Respondent SA50); and 'Something that may have been done or wrote incorrectly causing harm to the patient' (Respondent SA17).

Forty-four (20%) participants identified compromised standards of care as their perception of a clinical incident: 'I perceive a clinical incident to be any incident where patient care or standards of care are compromised lead to poor standards of care or adverse effects for patients or for staff' (Respondent SA6); and forty-three participants perceived a clinical incident as anything that warranted reporting, where the words 'anything' and 'something' were often used interchangeably (e.g, 'Something which happens different to the norm that was unexpected, unplanned and has undesirable consequences' Respondent SA21).

Upon answering the question: 'In what way has a clinical incident caused you to modify your clinical practice

practice?', five common team emerged out of 189 (90%) participants' responses. The first team related to being more aware or vigilant in clinical practice, e.g., 'Following clinical incidents I am now more aware of problems that may occur and discussing ways of preventing them from reoccurring' (Respondent SC3). The second team related to nursing practice and the patient: '[I] try to take time and care with each patient, be very careful at work regardless of how busy I am' (Respondent SC8). The third commonly occurring team was reporting:

Consulting other members of the nursing team in relation to issues I am unsure of, and researching the issue in question to obtain best practice' (Respondent SB34). The forth commonly occurring team related to documentation and issues relating to checking of medication and administration as reflected in these statements: 'Checking all medication with a qualified member of staff' (SA3) and 'Increased vigilance in maintaining nursing documentation including the recording of vital signs' (Respondent SC29). The fifth emerging team related to the use of equipment and the work environment: 'To be vigilant in checking equipment before use and reporting faults' (Respondent SA32).

Seventeen (9%) respondents made a least one negative comment, with particular emphasis on the lack of feedback from management that was commonly identified by all: 'They are left sitting in the office for months. I feel sometimes that it is a waste of time' (Respondent SA36). Others were straight to the point stating: 'It hasn't' (Respondent SC28) or 'In no way at all' (Respondent SB55). Nine (5%) of respondents made a least one positive comment, such as: 'Drug errors are clinical incidents and as a result of incident which has been reported, new drug guidelines have been introduced and staff have been educated on these new changes' (Responded SB22).

DISCUSSION

Our findings documented staff willingness to engage with clinical incident reporting in all three sites. This was in contrast to the dearth of feedback and appropriate training on incident reporting in which, 90% (n = 189) of participants submitted one or more clinical incident forms with only 10 % (n = 22) receiving management feedback. Similar findings reported in other studies such as Sharma et al. (2005) and NHS Scotland Study (2006) revealed that only 12 and 50% of reporters received feedback, respectively. Our findings also agreed with the studies of Evans et al. (2006) who reported that two-thirds of their respondents believed that lack of feedback was the greatest deterrent to reporting. The need for prompt and meaningful feedback is of paramount importance, as failure to furnish this to staff may discourage future submission of clinical incident reports that may impact negatively on developments in clinical practice and management.

Despite, the lack of training and feedback, 59% (n = 111) of participants stated that they had modified their clinical practice due to filling out and submitting a clinical incident report. This clearly demonstrates that the process of completing and submitting a clinical incident report can cause staff to alter work practices. It is evident from this study that there is a clear need for training in clinical incident reporting and associated risk management, a finding that was also corroborated by other researchers (McElhinney and Heffernan, 2003).

However, insufficient time and heavy workload were also frequently cited as perceived barriers to effective clinical incident reporting in this study. There was also a degree of uncertainty evident among respondents as to what constituted as a clinical incident in this study, exhibited by marked variation in response to the open end-question 'our incident forms are asking the wrong questions'. This present study did not identify cultural issues such as fear of repercussion, fear of disciplinary action or fear of litigation as barriers to reporting, which suggests that respondents had a strong desire to learn and to report incidents irrespective of whether or not appropriate training and feedback were provided by management. Further exploration through open-ended questions revealed the following recurring teams: the importance of reporting; documentation and issues relating to checking of medication; and equipment failures; and working environment.

A 70% (n = 210) response rate in this study enhanced the generalisability of its findings. However a number of key demographic findings needed to be considered and in some instances this was not possible due to sample size i.e. a small number of men (n = 5) or 2.3% of the participants in this study and it was therefore not possible to take gender differences into account. Despite these limitations, many of the results in this study have been substantiated by international contemporary discourse in this area.

In conclusion, clinical incident reporting is an important area of patient care, which reflects inconsistencies may exist within the routine organizational operations or patient care. Healthcare workers strive to provide high quality patient healthcare and continually commit to promote improvements in the area of patient safety that can be further assisted by identifying factors and causes of clinical incidents, which will promote effective management of such issues. This study identified current trends and barriers to effective clinical incident reporting in the Irish healthcare setting.

In particular, this study identified lack of feedback as an issue in incident reporting process at all three hospital sites in Irish midlands. Fear of reprisal by management was not identified as a barrier to reporting. Dissemination of findings from this study will enhance the knowledge

base of staff nurses and their organisations by identifying gaps that exist in training, policy and governance support structures underpinning effective incident reporting. Addressing findings from this study will not only augment developments in clinical practice and organizational management, but this will also ultimately enhance and improve patient care, which was a fundamental and over-arching reason for carrying out this study. Enacting such changes through amendments in organizational policy and management will also support and motivate staff in their work environment, as well as provide staff with up-dated knowledge and skills necessary to promote the prevention and control of potential clinical incidents or near misses that will impact positively on patient health and quality of life.

In terms of implications for clinical practice, appropriate training and prompt feedback should be provided to all staff on clinical incident reporting and risk management. Management should review and improve existing governance support systems to facilitate reporting of adverse events or near-misses. Although such changes are likely to result in increase reporting of clinical incidents, addressing these issues will ultimately impact positively on patient health and clinical practice.

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