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Attitudes of salaried and consulting physicians toward critical incident reporting systems

Abstract

Context: Physicians report their knowledge of incidents and near incidents substantially less frequently than nursing and non-medical personnel. While several barriers to the reporting of incidents into Critical Incident Reporting Systems (CIRS) by physicians have been identified, there are practically no data on the extent to which physician's attitudes towards financial factors contribute to their underreporting.

Objective: To determine whether the attitudes of physicians toward financial consequences of event reporting play a role in the underreporting by physicians.

Design, setting and participants: This survey was performed in Switzerland in 2009/2010. Following an initial evaluation and tests of reliability and validity, 234 questionnaires were sent by mail to 171 consulting physicians and 63 salaried physicians at two Swiss hospitals. After the questionnaires were returned, the results were coded and evaluated.

Main outcome measure: Physician responses to questionnaire items, correlations between physician responses to questionnaire items and physician subgroup comparisons for questionnaire items.

Results: The overall response rate was 45.2 %, corresponding to 106 completed questionnaires from 74 consulting physicians and 32 salaried physicians. 46 % of the respondents considered themselves to have good knowledge of CIRS. 50 % of respondents agreed that legal consequences are possible for physicians and 38 % agreed that criminal prosecution is possible. 16 % of respondents considered financial gain for physicians possible and 32 % considered financial losses possible. 33 % of respondents considered it possible that physicians end their working relationship with the hospital or clinic if, in their view, CIRS implementation is dissatisfactory. 83 % agreed that the introduction of CIRS is a good idea.

Conclusions: Physicians are concerned about potential financial consequences of event reporting and this concern may pose an additional barrier to the reporting of events in CIRS by physicians. Salaried physicians are more likely to associate the introduction of a CIRS with financial gain for physicians.

Keywords: hospital, critical incident reporting system(CIRS)

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Introduction

Hospital critical incident reporting systems (CIRS) play an increasingly important role in quality and risk management in health care. Through anonymous entries into CIRS, physicians, nurses and non-medical personnel can report incidents or near incidents that lead to or nearly lead to patient injury. The aim of introducing these systems is to reduce the number of liability risks while improving the quality of care and increasing revenue. Since quality management is one of the key indicators for hospital ratings, CIRS can also influence the amount of quality-based reimbursement to hospitals. The willingness to report incidents is not the same for all groups of hospital personnel. Several studies have shown that physicians report their knowledge of incidents and near incidents substantially less frequently than nursing and non-medical personnel.[1–3] Tuttle et al.[4] demonstrated, for example, that 73 % of the entries into an electronic reporting system were made by nursing staff, compared to only 2 % that were entered by physicians.

Despite their observed low reporting frequency, physicians report a fundamental interest in and support for CIRS.[5–7] Experienced physicians reported incidents more readily than those less experienced[7] and young physicians want to report incidents, but are inadequately schooled in the use of the reporting systems.[8] Known barriers to entry into CIRS include: a lack of information about the purpose of CIRS; a lack of anonymity, especially for small reporting groups; concerns about inner-organizational sanctions;[1] fears of criminal prosecution or civil litigation and associated penalties; the additional work-load; the time required to make an entry[7] and the lack of feedback.[5,9] Perhaps surprisingly, there are practically no data on the extent to which physician's attitudes towards financial factors contribute to their underreporting. The primary objective of this survey was to determine whether the attitudes of physicians toward financial consequences of event reporting also play a roll in the underreporting by physicians. In addition to salaried medical doctors, many hospitals also include accredited, independent consulting physicians. A distinguishing characteristic between these two types of physician could be their level of commitment to the hospital, which is possibly higher for salaried compared with consulting physicians. However, information regarding the differences between salaried and consultant physicians with respect to their attitudes toward CIRS is lacking. An additional objective of the survey was therefore to determine if salaried and consultant physicians have different attitudes toward CIRS.

Methods

Survey overview

This survey was performed in Switzerland in 2009/2010. A questionnaire (Figure 1) was developed and sent out by mail to all physicians at two Swiss hospitals. After the questionnaires were returned, the results were coded and evaluated.

Please answer the following questions and indicate whether you agree or disagree with the following statements:

1. I work as a(n):
○ Salaried physician
○ Consulting physician

2. I consider myself knowledgeable of CIRS:
○ yes
○ no

3. I have experience with CIRS:
○ yes
○ no

4. If you already have experience with CIRS (if not, please continue to question 5),

   I would describe my experience with CIRS as:
○ very good
○ rather good
○ rather bad
○ very bad

5. I know that the introduction of the CIRS in Basel city hospitals is commissioned by the cantonal health department:
○ yes
○ no

6. I am aware that CIRS guarantees the anonymity of individuals who make entries into the system as well as individuals reported on:
○ yes
○ no

7. I think that in principle, anonymity will be preserved when using CIRS:
○ strongly agree
○ agree somewhat
○ disagree somewhat
○ strongly disagree

8. I think that anonymity will be preserved when using CIRS even in small hospitals:
○ strongly agree
○ agree somewhat
○ disagree somewhat
○ strongly disagree

9. I think it is possible that the anonymity of reporting in CIRS could be undermined:
○ strongly agree
○ agree somewhat
○ disagree somewhat
○ strongly disagree

10. I agree with the following statement: "Errors belong to the hospital."
○ strongly agree
○ agree somewhat
○ disagree somewhat
○ strongly disagree

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Figure 1 Continued...

11. If there are many entries into the system and CIRS is used successfully, the reputation and the "rating" of the hospital could improve:
- strongly agree
- agree somewhat
- disagree somewhat
- strongly disagree

12. If there are many entries into the system and CIRS is used successfully, the reputation and the "rating" of the hospital could worsen:
- strongly agree
- agree somewhat
- disagree somewhat
- strongly disagree

13. I consider legal consequences for physicians possible:
- strongly agree
- agree somewhat
- disagree somewhat
- strongly disagree

14. I consider criminal prosecution of doctors possible:
- strongly agree
- agree somewhat
- disagree somewhat
- strongly disagree

15. I consider financial benefits for doctors possible:
- strongly agree
- agree somewhat
- disagree somewhat
- strongly disagree

16. I think financial losses for doctors for possible:
- strongly agree
- agree somewhat
- disagree somewhat
- strongly disagree

17. There will be doctors who discontinue their relationship with the Hospital / with the clinic if a CIRS is introduced:
- strongly agree
- agree somewhat
- disagree somewhat
- strongly disagree

18. There will be doctors who discontinue their relationship with the Hospital / with the clinic if, in their view, implementation of CIRS is dissatisfactory:
- strongly agree
- agree somewhat
- disagree somewhat
- strongly disagree

19. I think introduction of a CIRS in the hospital / clinic is a good idea:
- strongly agree
- agree somewhat
- disagree somewhat
- strongly disagree

Figure 1 The questionnaire.

Survey instrument

Development of the questionnaire included several phases.[10] Validity of the questionnaire was evaluated using the "expert validity" method.[10] Two experts, one a consulting physician (President of the Swiss Association of Consulting Physicians) and the other a salaried physician (previously a CIRS officer) determined that the questionnaire was valid.

The questionnaire included items addressing three attitudes related to the objectives of the survey: attitudes toward anonymity, legal consequences and financial consequences. Attitudes already known from the literature to contribute to physician underreporting were not addressed by the questionnaire. The individual items included in the questionnaire were all closed-ended, i.e. could be answered with "yes", "no", "agree", "disagree", etc.

Statistical evaluation

Data was entered into SPSS analytical software (SPSS inc.; Chicago, IL) for processing. Criteria to be evaluated included: the percentage of questionnaire recipients that responded, the relative frequency of the responses, correlations, and subgroup analyses, i.e., comparison of salaried and consulting physicians. Comparisons of nominal data with nominal data were evaluated using the Pearson chi-square Test. Comparisons of ordinal with nominal data and comparisons of ordinal with ordinal data were evaluated using the Kruskal-Wallis ordinal rank sum test. The level of significance was set at $p<0.05$.

Results

234 questionnaires were sent to 63 salaried physicians and 171 consulting physicians. The overall response rate was 45.2 %, corresponding to 106 completed and returned questionnaires from 32 salaried physicians (50.0 %) and 74 consulting physicians (41.8 %).

The distribution of responses is shown in Table 1 and Figure 2. Almost one-half (46 %) of the respondents considered themselves to have good knowledge of CIRS. About one-half of the respondents considered it possible ("agree somewhat" or "strongly agree") that anonymity could be undermined when reporting in CIRS. Fifty percent of respondents agreed that legal consequences are possible for physicians and more than one-third (38 %) agreed that criminal prosecution is possible. Less than one-quarter (16 %) of respondents considered financial gain for physicians possible and about one-third (32 %) considered financial losses possible. One-third (33 %) of respondents considered it possible that physicians will end their working relationship with the hospital or clinic if, in their view, CIRS implementation is dissatisfactory. Finally, a large majority of respondents (83 %) agreed that the introduction of CIRS is a good idea.\

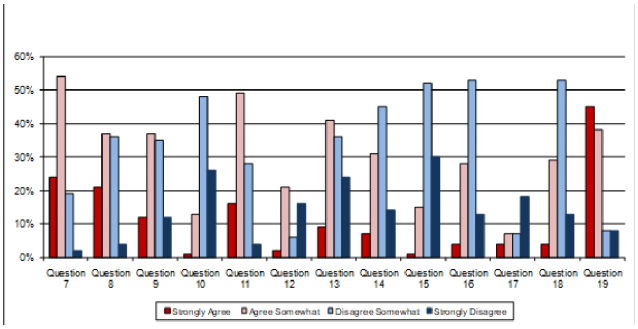

Figure 2 Distribution of responses for questions 7–19.

Table 1 Distribution of responses

Question	Response distribution			
1	Salaried physician	30%		
	Consulting physician	70%		
2	Yes	46%		
	no	47%		
3	Yes	31%		
	no	67%		
4	very good	4%	rather bad	4%
	rather good	22%	very bad	2%
5	Yes	65%		
	no	33%		
6	Yes	90%		
	no	10%		
7	strongly agree	24%	disagree somewhat	19%
	agree somewhat	54%	strongly disagree	2%
8	strongly agree	21%	disagree somewhat	36%
	agree somewhat	37%	strongly disagree	4%
9	strongly agree	12%	disagree somewhat	35%
	agree somewhat	37%	strongly disagree	12%
10	strongly agree	1%	disagree somewhat	48%
	agree somewhat	13%	strongly disagree	26%
11	strongly agree	16%	disagree somewhat	28%
	agree somewhat	49%	strongly disagree	4%
12	strongly agree	2%	disagree somewhat	60%
	agree somewhat	21%	strongly disagree	16%
13	strongly agree	9%	disagree somewhat	36%
	agree somewhat	41%	strongly disagree	12%
14	strongly agree	7%	disagree somewhat	45%
	agree somewhat	31%	strongly disagree	14%
15	strongly agree	1%	disagree somewhat	52%
	agree somewhat	15%	strongly disagree	30%
16	strongly agreeagree somewhat	4% 28%	disagree somewhat strongly disagree	53% 13%
17	strongly agree	4%	disagree somewhat	70%
	agree somewhat	7%	strongly disagree	18%
18	strongly agree	4%	disagree somewhat	53%
	agree somewhat	29%	strongly disagree	13%
19	strongly agree	45%	disagree somewhat	8%
	agree somewhat	38%	strongly disagree	8%

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Multiple correlations with significance values of $p<0.05$ were identified. Respondents who considered criminal prosecution of physicians possible did not consider themselves knowledgeable of CIRS. Respondents who agreed that there will be physicians who discontinue their working relationship with the hospital if CIRS is introduced also considered legal consequences, criminal prosecution and financial losses for physicians possible. Those respondents who agreed that there will be physicians who discontinue their working relationship with the hospital if CIRS implementation is dissatisfactory also considered legal consequences, criminal prosecution and financial losses for physicians possible. Those respondents who considered financial losses for physicians possible did not agree that introduction of CIRS is a good idea.

Knowledge of CIRS was correlated with few reservations regarding fundamental anonymity, and with little concern regarding criminal prosecution. Respondents who considered criminal prosecution and financial losses for physicians possible and who considered anonymity not preserved in small hospitals, did not consider the introduction of CIRS to be a good idea.

Subgroup analysis

Three items were identified for which a significant difference ($p<0.05$) between the responses of salaried and consulting physicians was evident. Compared to consulting physicians, more salaried physicians considered themselves to be knowledgeable of CIRS and more salaried physicians considered themselves to have experience with CIRS. In addition, salaried physicians were more likely to consider financial gain for physicians possible. Statistically significant relationships between questionnaire items were also identified for the physician subgroups and included consulting physicians who considered financial losses possible also had no experience with CIRS. Salaried physicians who considered introduction of CIRS to be a good idea did not consider financial losses for physicians possible.

Comment

The results of this survey suggest that physicians are of the opinion that the introduction of CIRS could lead to financial consequences for them. One-third of respondents considered financial losses for physicians possible, while considerably fewer physicians considered financial gain possible. More than 50 % of responding physicians considered questionable guarantees of anonymity and legal consequences as barriers to reporting. In comparison, the percentage of physicians that considered financial consequences to be a barrier to reporting was considerably lower (32 %). Concerns regarding financial consequences appear to be associated with a readiness of physicians to discontinue their working relationship with the hospital.

Furthermore, salaried physicians were more likely to consider financial gain for physicians possible. Interestingly, this view was correlated with a higher level of self-judged experience with CIRS, which was much more frequent among the salaried physicians. There is no mention in the literature of a connection between CIRS and financial losses. However, one-third of the respondents in this survey indicated that financial losses for physicians are possible. One possible explanation for this observation is the view that, in the event that many entries are made into the system, the reputation and/or rating of the hospital could be compromised, which could lead to financial consequences for the hospital and its employees. Another possible reason is the view of respondents that entries could be back-tracked, and that this could have adverse consequences, including: loss of their job (salaried physicians) or discontinuation of their contract (consulting physicians), organizational changes and financial consequences.

Physicians' views on the financial consequences of a CIRS introduction are directly related to the level of experience they have with CIRS. Hence, the more experience physicians accumulate with CIRS, the more likely they are to view CIRS in a positive light. Three-quarters of respondents considered anonymity preserved when making an entry in CIRS. Despite that, 40% thought that anonymity will not be preserved in smaller hospitals, which, in turn, explains why 49% of respondents thought that CIRS could be used without preservation of anonymity. Nevertheless, these figures reveal an underlying inconsistency in the views of the physicians.

One-half of the respondents had the view that CIRS makes legal consequences more probable. One-third held the view that even criminal prosecution is possible. Thus, it can be concluded that the respondents viewed the danger of exposing themselves to increased risk through the use of CIRS as significant. The majority (83 %) of respondents agreed that introduction of CIRS is a good idea. However, this broad level of support must be discussed in light of the considerable reservations voiced by physicians concerning the preservation of anonymous reporting and the legal and economic consequences of the system. For example, the results indicate that physicians' concerns regarding financial consequences could manifest in a readiness to discontinue the working relationship with the hospital. Furthermore, one-third of respondents indicated that there will be physicians who end their working relationship with the hospital if CIRS implementation is unsatisfactory.

According to Ajzen's theory of planned behavior, such attitudes could dictate intended behavior and thereby prevent real cooperation upon introduction of the system. In that case, a lack of honesty, or at the least, a lack of consistency in reporting must be cited. [10] An alternative possibility is that individual physician's feel an inclination to conform to what they think is the "normal" societal view despite their personal reservations. The results of this survey confirm the barriers to CIRS by physicians reported in the literature – concerns regarding anonymity and possible legal consequences, including the possibility of criminal prosecution. One limitation of the survey was the small sizes of the subgroups, An additional limitation was the use of a survey tool that had not been previously used, which may make it more difficult to compare the results of this survey with those of previous analyses. However, this was unavoidable since a novel survey tool was required to address our objectives. Further, the items included in the questionnaire were closed-ended, i.e. could be answered with "yes", "no", "agree", "disagree", etc. Other concerns, e.g. lack of feedback and additional work load, were not addressed by this survey.

Key message

In conclusion, this survey adds to previous literature by demonstrating that physicians are concerned about potential financial consequences of event reporting and that this concern may pose an additional barrier to the reporting of events in CIRS by physicians. In addition, we could show that salaried and consultant physicians differ in their attitude toward CIRS with regard to personal financial consequences; salaried physicians are more likely to associate the introduction of a CIRS with financial gain for physicians. The insight gathered from the results of this survey should facilitate an effective implementation of CIRS that considers the views and concerns of both salaried and consultant physicians.

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None.

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Conflicts of interest

The author declares that there are no conflicts of interest.

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