Perceived barriers of Reporting Incidents Online Among Internal Medicine Physicians

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Abstract

Background: Incident reporting systems (IRS) facilitate incidents' reporting and tracking, and help in identifying gaps in health care (HC). Learnings from incident reports (IR) are extremely valuable. This study aimed to assess physician's knowledge and experience with an online IRS in a large tertiary academic institution and to identify barriers of reporting incidents.

Methods: A 21-questions electronic online survey was sent to physicians working in the Internal Medicine Department of Hamad Medical Corporation.

Results: A total of 115 physicians (76% trainees and 24% attending faculty) responded to the survey, 59% of them were aware of the availability of IRS at HMC. However, only 29% knew how to submit an online IR, and 20% have ever submitted an IR. The survey revealed that of 46% and 63% of participants are less likely to submit an IR when they or their colleague, respectively, commit an error. The main barriers of reporting incidents were, unawareness about the IRS (36%), inability to access it (26%), the perception that IR does not result in a change (13%), Also, the concern or fear of retaliation (13%). When asked about solutions, 57% recommended training and awareness, and 22% recommended sharing learnings and actions from previous IR.

Conclusion: IRS is under-utilized by Internal Medicine physicians. The main barrier at the time of the survey is the lack of training and awareness. Promoting awareness and sharing previous learning and actions may improve the utilization of the IRS.

Background

Incident reporting systems (IRS) facilitate reporting and tracking of incidents, also help in identifying gaps in health care systems. Learning from the submitted incident reports can improve the Health and care of patients overall.(1)

Prior studies have shown that incidents are under-reported in the health care, the percentage of under-reporting goes up to 96%,(2–4) with physicians being the lowest incident reporters compared to other healthcare professionals namely nurses.(5–7)

Previous studies explored possible barriers of under-reporting with importantly learned lessons; (1–5,7,8) therefore, we planned this study to assess physician's knowledge and experience with the online incident reporting
system and to identify the perceived barriers of reporting incidents, with plans of developing interventions that
improve the utility and efficiency of IRS.

**Methods**

*Study setting and participants*

Hamad Medical Corporation (HMC), an academic health care setting accredited by both JCI and ACGME-I and
is affiliated with two medical colleges, Weill Cornell Medical College— Qatar and Qatar University college of
medicine. The Internal Medicine Department at HMC has a large residency program with residents undergoing
four years of training supervised by faculty coming from different countries and training backgrounds.

*Survey development*

A short questionnaire was developed based on literature review then reviewed by a panel of physicians working in the Internal Medicine Department and involved in corporate quality committees, and finally tested in a group of physicians. The questionnaire had 21 questions and underwent phases of validation; the readability level was of 9th grade.

*Survey content*

The survey included closed-ended questions with categorical outcomes, and also open-ended questions with a qualitative assessment. Central themes of questions were about the awareness, ability to access and use the IRS and previous experience with it, also cultural components related to reporting incidents about colleagues, exploring perceived barriers to using IRS and reporting incidents and seeking solutions to overcome the barriers if found.

*Survey Delivery*

The study team sent the survey in August 2018 to physicians (faculty and trainees) working under the Internal Medicine Department at HMC. Survey Monkey website was used to disseminate the survey to the staff with three planned email reminders done to enhance participation. The target response rate was determined a priori as 92 response or 40% (25–45% expected response rate which is common in studies targeting physicians).(2)

*Statistical Analysis*
We used primarily descriptive statistics with proportions and percentages to analyze the results, and Chi-square test to compare categorical outcomes between faculty and trainees in an exploratory manner.

**Results**

**Demographics**

Two hundred and thirty physicians received the survey, 122 (53%) responded to the survey, and 115 (50%) completed the survey. The survey filling time was about 4 minutes duration. Out of the 115 participants, 71% were males and 29% females; the majority were trainees (76%) defined by being a resident or a fellow under General Internal medicine training and 24% were faculty, and 94% were from the main tertiary hospital (HGH) and 6% were from secondary care hospitals.

**Awareness and experience with IRS**

Among all participants, 41% were not aware of the availability of incident reporting system (IRS), and 71% did not know how to submit an online incident report (IR). When asked about whether they have ever submitted an incident report only 20% did so. However, only 16% have submitted an IR in the last year, and none has submitted more than 3 IR. Interestingly, 84%, 66%, and 70% think that IRS is useful, transparent, and efficient, respectively (Table 1).

**Incident reporting Culture**

We asked whether physicians would likely report an IR that involves self or a colleague. Interestingly, 46% would not file an IR if they were involved and a larger fraction, 63%, would not file an IR if a colleague was involved.

**Perceived barriers to incidents reporting**

The survey asked participants to choose the most critical barrier to the failure of reporting incidents. The main barriers were unawareness of the IRS in 36%, inability to access IRS or insufficient knowledge about the access (26%), a perception that submitting an IR will not result in any change in the system (13%), concern of fear of retaliation to one's self or colleague (13%), high workload (11%) or believing that IR was not essential (2%). The majority of responses highlighted a lack of training, fear of blame, and perceived lack of anonymity (Table 2).

**Enhancing Incident reporting**

The survey asked participants to identify one effective intervention that improves the utilization of the IRS. 57% of participants recommended training and awareness, 22% recommended sharing learnings and actions from previous IR with the clinical staff, and 21% recommended shortening the process of IRS. Overall, 83% would attend an IRS training course, 57% of them prefer an online course, and 43% prefer
attending an onsite course. Online courses were selected more often by faculty than trainees (85% versus 43%, p = 0.000, Table 1).

Promoting blame-free culture

When asked for other suggestions (Table 2), participants stressed out safe reporting environment, non-punitive actions that target sharing learnings from mistakes, the importance of role modeling by seniors and hospital leaders; also, raising awareness about the positive aspects of reporting and its importance to improve patient care. Some suggested participating in regular incident reports review committees, and finally, some stressed the need for constant feedback provision (Table 2).

Discussion

Incidents in the health care system are under-reported. (2–4,10–12) Nguyen and Deborah et al found that physician’s report significantly less when compared with nurses. (5,6) Additionally, the uncertainty or varying opinions as to what needs to be reported adds to the complexity of this process. (13)

In this study through a questionnaire, that included both open and closed-ended questions, we tried to identify the perceived barriers for reporting incidents online among a subset of physicians, who are the internists, and identify possible solutions to overcome these barriers.

Leading results from our study; 41% of physicians are not aware of the availability of the IRS, 71% don’t know how to submit an IRS, strikingly 80% have never ever submitted an IR report, suggesting a lack of awareness and under-reporting, a notable number 63% of physicians are less likely to report when their colleague commits an error.

Main barriers for under-reporting are unawareness about the availability and assumed complexity of the submission process. Participants think that training and awareness, sharing learnings and actions from previous incidents and making the process short might help in increasing the utilization of the IRS. We evaluated Participants’ comments about other barriers; it was evident that anonymity, confidentiality, and fear of retaliation were the most prominent concerns. Participants stressed the role of leadership and role modeling, also, maintaining anonymity, confidentiality, and reassurance about the non-punitive nature of these reports and promoting a safe environment for reporting.

These findings go with general findings from previously conducted similar studies suggesting that Internal medicine physicians are not different generally from other physicians in terms of reporting. (1–5,8,9,11) Our study sheds light on the barriers of incident reporting; we think that this will constitute a platform and baseline for future improvement initiatives.

To our knowledge this is the first study in Qatar exploring this topic and one of few in the region, (9,11) our study has a good number of trainees and our setting is diverse; moreover, our findings aligned with findings from other similar studies. (1–5,9,10) With that in mind, we think that our study finding can be used in similar settings. We also agree with Nguyen et al. who suggested that reporting incidents training
be part of undergraduate curriculum,(5,7) as the change of culture more natural when implemented at an earlier stage of the medical career.

**Limitations**

The study is done in the middle east. So, our population may be unique, however given the diversity of our staff and the alignment of our study results with international studies makes this a less of a concern for results generalizability. Also, our study didn't include other health care professionals to have a broader picture of the difference in reporting between health care professionals.

**Conclusions**

Internal medicine physicians underutilize incident reporting system. Lack of awareness and training, insecurity and fear of blame or retaliation are the main barriers for reporting incidents. Training, orientation, promoting a safe no-blame, non-punitive, culture, sharing learnings and providing feedback are all means of improving the utilization of the IRS. Hospital leaders should be involved in any effort to improve the incident reporting.

**Abbreviations**

*HMC:* Hamad Medical Corporation  
*HGH:* Hamad general hospital  
*IR:* Incident reports  
*IRS:* Incident reporting system  
*HCS:* Health care systems  
*JCI:* Joint commission International  
*ACGME-I:* Accreditation Council for Graduate Medical Education–International  
*OVA:* Occurrence, Variance and Accident  
*PDSA:* Plan Do Study Act  
*IRB:* Institutional Review Board

**Declarations**

*Ethics approval and consent to participate*
No appreciated need for formal ethical approval as it was a part of a quality improvement initiative.

Our study was reviewed and approved by the Internal medicine department focus group involving the division chief and chairman at HGH (Hamad General Hospital). It was agreed that an email script was attached with the survey including information about the study and consent to participate. Agreeing to participate after reading the email script was considered sufficient as a consent, the participations was voluntary. Consent to publish the data was taken. Data anonymity assured and maintained.

**Competing interests**

The authors declare that they have no competing interests

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**Authors’ contribution:**

MFHM, AE, and AA conceived the idea. MFHM created drafted the first questionnaires that was reviewed by IY, AE, AE, AA and expert panel. After approval of the questionnaire IY disseminated the questionnaire to the target population. MFHM analyzed the results and drafted the tables and the manuscript. Manuscript was reviewed by AE, IY. The revised manuscript was sent to all authors. All authors revised the manuscript and approved the final version for publication.

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Tables

Table 1: Participants’ responses to survey questions by groups.

Page 8/10
| Question                                                                 | Faculty (consultants n=27, n (%)) | Trainees (fellows n=10 and residents n=78, n (%)) | P value |
|-------------------------------------------------------------------------|-----------------------------------|--------------------------------------------------|---------|
| Are you aware of the availability of incident reporting system in our hospital? | Yes 16 (59%) No 11 (41%) | Yes 52 (59%) No 36 (41%) | 0.98    |
| Do you know how to submit an incident report on the system?             | Yes 9 (33%) No 18 (67%) | Yes 24 (27%) No 64 (73%) | 0.54    |
| Have you ever used the reporting system to submit an incident report?   | Yes 8 (30%) No 19 (70%) | Yes 15 (17%) No 73 (83%) | 0.15    |
| How many times did you use the reporting system to submit an incident report in the last year? | Zero times 21 (78%) 1-3 times 6 (22%) | Zero times 75 (85%) 1-3 times 13 (15%) | 0.36    |
| In your own opinion, is the reporting system useful?                    | Yes 21 (78%) No 6 (22%) | Yes 75 (85%) No 13 (15%) | 0.36    |
| In your opinion, is the reporting system transparent?                   | Yes 18 (67%) No 9 (33%) | Yes 58 (66%) No 30 (34%) | 0.94    |
| In your opinion, is the reporting system Efficient?                     | Yes 17 (63%) No 10 (37%) | Yes 63 (72%) No 25 (28%) | 0.39    |
| How likely are you to submit an incident report, when you commit an error? | Likely 16 (59%) Less likely 11 (41%) | Likely 46 (52%) Less likely 42 (48%) | 0.52    |
| How likely are you to submit an incident report when your colleague/ friend commits an error? | Likely 14 (52%) Less likely 13 (48%) | Likely 28 (32%) Less likely 60 (68%) | 0.058   |
| If the Department of Internal Medicine arranged an incident reporting training course would you be interested in attending it? | Yes 25 (93%) No 2 (7%) | Yes 71 (81%) No 17 (19%) | 0.14    |
| If yes, would you prefer online or onsite course?                       | Online 23 (85%) Onsite 4 (15%) | Online 43 (49%) Onsite 45 (51%) | 0.00*   |

*No participant used reporting system more than 3 times; hence other options were not presented in this table.
+This result is hypothesis generating and is not confirmatory.

Table 2: Examples of participants’ responses to open-ended questions.

| Question                                                                 | Participants’ comments                                                                                                                                                                                                 |
|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Are there any other barriers?                                           | “The process should be blame free.”  
|                                                                         | “The perception that someone will be harmed by reporting makes one do it in very few circumstances only.”  
|                                                                         | “Do not know how to use it. Usually, it results in reactionary steps that make the system worse without considering balancing measures.”  
|                                                                         | “Complicated system.”  
|                                                                         | “Long process.”  
|                                                                         | “No feedback on actions taken for reported incidents.”  |
| Any other suggestions to improve the utilization of the reporting system? | “Developing safe environment for reporting.”  
|                                                                         | “Reassure the staff that it is mainly to improve the system and not intended to punish or harm any member of the staff.”  
|                                                                         | “Reassurance about anonymity should be done; perhaps the team should meet with us to tell us about the process and taken actions.”  
|                                                                         | “Make it more transparent, tell us who has access to the information and whom he/she is sharing it with.”  
|                                                                         | “Sharing previously learned actions in an anonymous blame-free manner.”  
|                                                                         | “Being part of incident report review committees.”  |
| How can we actively promote a blame-free culture of reporting errors?    | “Results should be shared without naming or blaming any individual.”  
|                                                                         | “to emphasize that the role of IRS is to detect and reduce errors and not to blame individuals.”  
|                                                                         | “To educate the staff that OVA (refers to IRS) is not a platform for complaints, I have seen some staff threatening other staff that they will write OVA against them, so all should understand that its target is to improve the system.”  
|                                                                         | “Protect people who report, minimize routine reporting of daily issues, share the lessons learned.”  
|                                                                         | “Discussing, giving feedback, training.”  
|                                                                         | “It comes from the top of the pyramid; trainees should feel safe and supported.”  
|                                                                         | “It starts with the leadership; they should encourage juniors to be vigilant and feel free to raise concerns whenever they arise.”  |