The Many Faces of Error Disclosure: A Common Set of Elements and a Definition

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BACKGROUND: Patients want to know when errors happen in their care. Professional associations, ethicists, and patient safety experts endorse disclosure of medical error to patients. Surveys of physicians show that they believe harmful errors should be disclosed to patients, yet errors are often not disclosed.

OBJECTIVE: To understand the discrepancy between patients' expectations and physicians' behavior concerning error disclosure.

DESIGN, SETTING, AND PARTICIPANTS: We conducted focus groups to determine what constitutes disclosure of medical error. Twenty focus groups, 4 at each of 5 academic centers, included 204 hospital administrators, physicians, residents, and nurses.

APPROACH: Qualitative analysis of the focus group transcripts with attention to examples of error disclosure by clinicians and hospital administrators.

RESULTS: Clinicians and administrators considered various forms of communication about errors to be error disclosure. Six elements of disclosure identified from focus group transcripts characterized disclosures ranging from Full disclosure (including admission of a mistake, discussion of the error, and a link from the error to harm) to Partial disclosures, which included deferral, misleading statements, and inadequate information to "connect the dots." Descriptions involving nondisclosure of harmful errors were uncommon.

CONCLUSIONS: Error disclosure may mean different things to clinicians than it does to patients. The various forms of communication deemed error disclosure by clinicians may explain the discrepancy between error disclosure beliefs and behaviors. We suggest a definition of error disclosure to inform practical policies and interventions.

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INTRODUCTION

> "When I use a word," Humpty Dumpty said, in rather a scornful tone, "it means just what I choose it to mean – neither more nor less."
> "The question is," said Alice, "whether you can make words mean so many different things."

– Lewis Carroll. *Alice's Adventures in Wonderland* and *Through the Looking Glass*."

Several studies demonstrate that patients desire disclosure from clinicians about all harmful medical errors.[1–7] Patients want to hear a clear explanation of the error that they can understand. They also expect an apology, a plan to prevent future errors, and a care (and perhaps a financial) plan for themselves.[2,8,9] Most physicians agree that errors causing harm should be disclosed to patients[2,4,6] However, research shows that sharing information about errors is uncommon in clinical settings, with roughly 1 in 4 errors being disclosed.[10–14] When disclosure does take place, patients' expectations are often not met.[15,16]

Disclosure of medical errors to patients and families is widely endorsed by medical professional associations, ethicists, and patient safety experts.[17–21] It is required by a growing number of state laws and hospital policies.[22] If error disclosure is a professional responsibility and if it is an important component of improving the fidelity of the medical care system, a better understanding of the obstacles to error disclosure is needed to guide and standardize practice. We sought to understand the discrepancy between patients' expectations and providers' behaviors by exploring the views and reported actions of health care providers and administrators at 5 academic medical centers in 1 university health care system.

METHODS

Design

We were interested in knowing how medical professionals would describe their approaches to disclosing medical errors. Because this behavior occurs infrequently[10–14,23–25] and because we wanted to stimulate discussion and hear a range of experiences, focus groups[26] were used to explore this topic.

Setting

Separate focus groups of residents, attending physicians, nurses, and hospital administrators were assembled at each of 5 academic medical centers. Each institution had a policy to disclose error to patients at the time the focus groups were conducted. Each medical center's institutional review board approved the study protocol.

Focus Group Participants

Participant types were not mixed within groups to minimize power imbalances and to increase the likelihood of candid discussions. The 20 focus groups included a mean of 10 participants (range of 6–14) and ran for 60 to 90 min.

Provider participants (nurses, attending physicians, and residents) were recruited from various specialties including internal medicine and its subspecialties, surgery and its specialties, anesthesia, family medicine, obstetrics and gynecology, pediatrics, psychiatry, and pathology. We solicited volunteers through e-mails and general announcements at each institution.

To facilitate attendance, we planned the administrators' focus groups during a regularly scheduled meeting. Administrator participants were the senior advisors for each medical center. Medical directors were excluded because they participated in the design of the project.

Focus Group Protocol

The protocol was designed to probe participants' ethical reasoning about error disclosure and the specific wording participants used to describe an error to patients and families. A semistructured focus group guide was designed to elicit beliefs, behaviors, and perceived barriers and facilitators to disclosure. The same protocol was used at each session, which began with a standard definition of medical error: "A commission or omission with potentially negative consequences for the patient that would have been judged wrong by skilled and knowledgeable peers at the time it occurred, independent of whether there were negative consequences".[27]

Next, we presented a hypothetical scenario of an error:

A 62-year-old diabetic patient with chronic renal insufficiency is admitted to the hospital with a new onset gastrointestinal bleed. He is made NPO (nothing by mouth) for endoscopy, but his medications were not held. Because of severe hypoglycemia the patient had a seizure, fell off his bed, and fractured his hip.

Participants were asked if there *should* be disclosure of the error. After some discussion, we asked concerning the scenario, "*Would* the provider disclose the error?" The discussion explored factors associated with whether disclosure would occur. In the provider groups, the moderator probed for the actual words a clinician would use to disclose the error in the scenario and the specific steps that he or she would take. Administrator groups were asked what they would expect to hear in a disclosure. Because of the nature of group discussion, some participants offered disclosure examples for the given scenario, whereas others did not. Often participants presented their own experiences with error and disclosure, which stimulated further group discussion.

Analysis

We used a systematic approach to qualitative analysis[28] in that we created a set of codes from themes noted in the text, and applied them systematically to a rereading of the full text to identify patterns. The patterns developed into a model of the elements comprising error disclosure.[29]

Each session was audiotaped and transcribed verbatim. Transcripts were reviewed with audiotapes to fill in missing or misunderstood sections. Unique identifiers and identifiable cases were removed. The software program Atlas ti (Scientific Software Development, Berlin) was used to organize the data and facilitate analysis.

An inductive content analysis was conducted to uncover themes in the text. This method fully grounds the analysis in the data and allows the "emergence" of categories without preconceptions of what will be found.[30] Using this approach enabled us to arrive at our main finding, which was unanticipated at the onset of the study: many of the health care professionals' descriptions lacked components previously identified by patients as desirable for error disclosure.[9]

Two investigators (SF, NW) reviewed all coded themes and resolved disagreements. We then reviewed all quotes about error disclosure in response to the hypothetical case or descriptions of real-life experiences and from these identified 6 elements of disclosure. Together the elements suggested a model of disclosure types (from No disclosure to Partial to Full) that increasingly approximated what the literature suggested patients expect. Two additional coders (MK, LH), who had observed some of the focus groups, then reviewed one third of the disclosures to check the trustworthiness of the identification of disclosure elements and the categorization of disclosure type. Further content analysis compared Partial with Full disclosures.

RESULTS

Fifty-five attending physicians, 50 residents, 45 nurses, and 54 administrators participated in the focus groups. Except for residents, the mean length of experience for all groups at each medical center was 12 years. The majority of respondents were White. Most attending physicians and administrators were male, whereas nurses and residents were more likely to be female. The 5 sites were similar in number of participants, age, gender, ethnicity, and duration of experience at the medical center (Table 1).

Table 1. Characteristics of Focus Group Study Sample

	Number	Age (Mean)	Male (%)	White (%)	Years at Medical Center (Mean)
Attending physician	55	47	75	77	12.5
Resident	50	29	42	62	2.8
Nurse	45	41	5	60	10
Administrator	54	53	57	94	12.2
Overall	204	43	45	73	9

Analysis of 117 descriptions yielded 6 elements of disclosure that characterized 5 types of disclosure. A disclosure that includes all 6 elements, presented below, matches the disclosure desired by patients.

1. **Admission**: Did the discloser admit to the patient that there was an error?
2. **Discuss the event**: Was the occurrence of the event containing the error discussed with the patient? Clearly or not?
3. **Link to proximate effect**: Did the discloser communicate to the patient the link between the error and its proximate effect in a way the patient could understand?
4. **Proximate effect**: Was the first effect of the error discussed with the patient?
5. **Link to harm**: If there was harm from the error, was the link between the error and any harm sustained by the patient communicated in a comprehensible fashion?
6. **Harm**: If there was harm from the error, was there communication concerning the harm?

Table 2 describes how these elements related to types of disclosure and provides examples of each. Thirty-two (27%) cases were identified as Full disclosures, 24 (21%) were Nondisclosures and 61 (52%) were Partial disclosures. Partial disclosure has 3 subtypes: "Connect-the-dots", "Mislead," and "Defer". Examples and discussion of each disclosure type follow.

Full Disclosure

Full disclosures contained the 6 identified elements, including the link between an error and either a proximate effect or harm. Whereas this category contained a range of qualifying language, there always was an explicit link between the error and the effect. Each of the following disclosure examples delivers the news that because of an error the patient in the scenario became hypoglycemic and then seized, falling out of bed and breaking a hip:

A resident described the error to the patient as follows:

> Your hip broke. The reason for that was that your sugar was so low and the reason that your sugar fell low was because you did not have any food and the medication was not withheld. It was an error and unfortunately you had a bad outcome.

A physician-administrator provided the following explanation:

> Your dad fell and broke his hip. It all appeared to occur as a result of a seizure. The seizure may have occurred as a result of a low blood sugar, and here's the facts for [and] against that. The low blood sugar appears to have resulted from, um, a failure to

Table 2. Elements of Disclosure and Disclosure Type

	Elements of disclosure						
Disclosure type	Admit error	Discuss event	Link to proximate effect	Proximate effect	Link to harm	Harm	Disclosure example in response to the focus group scenario*
Full disclosure	+	+	+	+	[+]	[+]	Because of an error on my part, you got your diabetic medications when you shouldn't have. I apologize for that. It caused you to have very low blood sugar, which caused you to have a seizure at which time you fell out of bed and broke your hip.
Partial disclosure							
Connect-the-dots	−	+	−	+	[−]	[+]	You had a seizure, you fell out of bed, and you broke your hip. It seems that your insulin dose lowered your blood sugar and you weren't getting food.
Mislead	−	+	Obfuscate	+	[Obfuscate]	[+]	You had a seizure. We think it was because of your low blood sugar and your diabetic condition.
Defer	−	+	Defer	+	[Defer]	[+]	We are not sure what caused your seizure at this time. It could be any number of things. We will have to look into it (yet, there is no intention to actually get back to the patient).
Non-disclosure	−	−	−	−	[−]	[−]	I am so sorry you had a seizure. Let's get you to surgery to repair your hip.

**The focus group scenario is described in the text.*
Brackets indicate that the element may not have been discussed because there was no harm caused by the error.
+ means the element was discussed;
− means the element was not discussed.

> discontinue the oral hypoglycemic and holding him NPO. And we're very sorry about that and we'll do anything to undo it.

Another physician plainly explained the events and referred to the error, creating a Full disclosure. In this example, the family member might have been left wondering who made the mistake and why it occurred, but enough information was transmitted to facilitate such questioning:

> Your family member had low blood sugar, which caused him to fall out of bed and the reason that occurred was they got a dose of insulin, which they probably should not have gotten.

Nondisclosure

All clinicians said that they would disclose the error in the scenario. All Nondisclosures described by participants were based on their personal experiences. For example, 1 physician described the following Emergency Department practice:

> ...it's probably once a month or more often we'll have some old person come in with a massive intracranial fatal hemorrhage, and the INR is 4 or 6 or 10. We don't tell them.

Another error was not reported to the patient but was disclosed to the institution:

> There was one case that we had, a guy who got two doses of Lovenox back to back. Nursing error. And he then had a...hemorrhage and went to the unit. Now, I filled out an incident report, but I didn't go running and talking to the patient's family about giving him two Lovenox doses.

Another physician relayed the following case in which there was no harm:

> I started an operation the other day to do a laparoscopic [procedure] and when I said, "Turn on the camera, please", it didn't function, nor did the insufflator. And it was a half hour before somebody could get a new stack in and find the connector to put the plug in. It was a systems problem. It cost about 20, 25 minutes of operating time for that patient. Everything went fine; the patient did well, okay. . . . I didn't disclose it to the patient.

If there was any discussion of the proximate event or harm in Nondisclosure cases, it occurred in isolation and unrelated to any mention of an error. In contrast, Full disclosures included elements revealing the error and its link to an effect, albeit at times mildly oblique. Partial disclosures contained an even weaker indication of error or the link between the error and the effect. Whereas a clinician would likely recognize the link between an error and its effect in the Partial disclosures we found, laypersons would not.

Partial Disclosure

Focus group participants most often described Partial disclosures. A Partial disclosure had most of the components of a Full disclosure but was deficient in 1 of 3 general ways: lack of a link between the error and the effect (Connect-the-dots), an obfuscation of whether the error constituted a mistake or was a natural part of the disease process or care (Mislead), or a deferral of interpretation of events without intent to reach closure (Defer). Participants described 24 Connect-the-dots, 26 Mislead and 12 Defer disclosures.

Connect-the-dots

A disclosure that described an error event and the effect of that event but did not link the event and the effect was considered a Connect-the-dots Partial disclosure. The discussion may have provided adequate information for a clinician to deduce the relationship between the error and the outcome, but the causal connection was not obvious and would likely be lost on a patient or family that was not clinically savvy. One physician described his approach to explaining the error in the scenario as follows:

> I think the way it should happen in real life is that the doctor would go in and start with what happened, "You had a seizure, you fell out of bed, you broke your hip." "Why is that?" "Well, it seems that your insulin dose lowered your blood sugar and you weren't getting food," and answer any questions that occur. That, I think, would be a full disclosure of the events without going in and wringing your hands.

Another participant in the focus group pointed out the weakness in this response:

> I think you have to be careful, though, that you don't leave the family to have to struggle, or the patient, to connect the dots. The one thing that was missing in your descriptive there was, "And we didn't feed you and we gave you your insulin dosage. And that's what we didn't do" . . . But the question after your description that someone would have to ask, "Well, why did my blood sugar drop? I've been getting my insulin at the proper time."

The concept of not disclosing an error up front but being willing to answer questions that emerged in the discussion was common. This was particularly true for "near miss" errors in which there was no evident harm, as illustrated in this example:

> But especially—if the patient, if there's nothing that happened, for instance, it happens all the

> time. His sodium goes down to one-nineteen okay? And nothing really happens okay? You're not going to go in there and tell the patient that your sodium went down to one-nineteen because we didn't do our whatever. Now, if the patient asks, "Hey, did my sodium go down to one-nineteen? Were there any times when my sodium went down to one-nineteen?" Then you tell the patient exactly what they want to know.

Mislead

A Mislead Partial disclosure treated error as if it were a clinical occurrence that might be related to the underlying condition or course of medical care. This type of explanation leaves the impression that the outcome relates to the natural history of disease or an expected complication of treatment, as is apparent in the following disclosure:

> "Yeah, we didn't get your Coumadin dose quite right, you're going to have to stay in the hospital a couple more days." Does that sound like an error? It sounds like we're titrating your medications, when the real story under it is, I didn't write for it for the last two days, that's why.

In the following Mislead Partial disclosure a participant responding to the focus group scenario suggests quite straightforwardly that the adverse event was related to nothing more than the patient's diabetes:

> "Look, we knew he was a diabetic. He usually took this level of drugs. We chose to give this, which in our experience usually works out. In this case, unfortunately, his sugar went too low, which caused a seizure. We're terribly sorry about it. And it resulted in a fracture." You tell the truth. But it's a contextual truth.

Some participants recognized the difference between a Mislead Partial disclosure and a Full disclosure. One physician stated:

> I would say that historically most physicians would not have [disclosed the error]. They would have said something like, "You had a seizure. We think it was because of your low blood sugar." There never would have been any mention of the fact that, "By the way, your blood sugar was low because you got your insulin dose and you were NPO."

Another physician's question illustrated this tension:

> ...should it be framed in the context of a mistake as opposed to saying that diabetics have wide swings in their blood sugar and it was just wider than expected and he had an injury because of that?

Defer

A disclosure that suggested other possibilities for an outcome when the source of the error was known or hedged the relationship of the error and the outcome by indicating that further investigation was needed was treated as a Defer Partial disclosure. It was a Partial disclosure *only* if there was no intention of further evaluation of the case or if there was no follow-up discussion to provide closure to the question of the link between the error and its effect. In the scenario presented, the seizure was clearly linked to severe hypoglycemia; any attempt to explain the injury citing other plausible causes was labeled deceptive.

One physician disclosed the scenario error this way:

> It would probably be more reasonable to say, "They fell out of bed and broke their hip—that we know for sure. And we're going to determine why they seized. There are any number of reasons why they seize and we're investigating it. And hopefully we can prevent a similar occurrence from happening in the future." It seems obvious that it was due to low blood sugar, but it may be or it may not be. They may have a seizure disorder to begin with, who knows?

Another physician suggested that there would be further investigation as a way to deflect the causal discussion:

> MD 1: . . . being forthright right at the get go and saying, "Look, this happened, we're going to investigate it and we'll get back to you once we have the facts." At least in my experience ... has been a more productive way.
> MD 2: But that's not admitting.
> MD 1: Right.

DISCUSSION

The original intent of this study was to understand whether and how clinicians would discuss medical errors. Most clinicians indicated that they would disclose an error to patients, but the qualitative analysis revealed that clinicians held a nuanced definition of "disclosure" that most often did not contain the elements desired by patients.[2–4,8,9] This difference creates a potential communication gap between clinicians and patients in the aftermath of a harmful error. To many clinicians, disclosure was not a straightforward description of what happened. Instead, under the rubric of disclosure, clinicians described various forms of discussion that would communicate different impressions of the nature of the mistake and its relationship to effects experienced by the patient. The difference between what clinicians say and what patients expect—all classified as "disclosure"—might explain some of the discrepancy between reported attitudes and actual error disclosure behavior.[4,12,31]

Error disclosure is an essential process to ensure that patients receive the information needed to make informed decisions about their care. Ethicists, professional organiza-

tions, and researchers align in support of open disclosure of errors. According to the American College of Physicians Ethics Manual, information "should be disclosed whenever it is considered material to the patient's understanding of his or her situation, possible treatments, and probable outcomes.... However uncomfortable for the clinician, information that is essential to and desired by the patient must be disclosed."[32] The American Medical Association's Council on Ethical and Judicial Affairs states that "the physician is ethically required to inform the patient of all the facts necessary to ensure understanding of what has occurred."[17] Yet, the data presented here show that clinicians and administrators describe a more complex view of disclosure that incorporates the competing interests of self-preservation and duty to the patient and institution. Interestingly, professional guidelines are not explicit on what disclosure entails, how repercussions are to be handled, or approaches to resolve ethical and legal tensions. Moreover, there is very little teaching done in medical training that focuses on this important issue. Based on the grounded analysis performed in this study, we propose the following definition of disclosure of a medical error:

> Error disclosure = Communication between a health care provider and a patient, family members, or the patient's proxy that acknowledges the occurrence of an error, discusses what happened, and describes the link between the error and outcomes in a manner that is meaningful to the patient.

Such definitions are needed to advance the field and to inform practical policies.

Our study is limited because of its small size and qualitative data analysis. As such, the frequencies of disclosure types cannot and should not be interpreted in quantitative terms. The focus group sample was composed of self-selected volunteers and was not representative of the participating medical centers. In addition, we studied only academic medical centers in one region, which may not reflect other areas. All of the authors have clinical experience with error and disclosure and may bring personal biases to the analysis. We have systematically tried to be aware of our biases and use them to our advantage rather than trying to eliminate them. The qualitative analysis uncovered an unexpected range of disclosure types, and our clinical experience lent an ability to hear the contingencies that necessitated such nuanced interpretations. Moreover, the clinician participants, knowing that the authors were clinicians and likely had similar experiences, may have been more open to discuss the sensitive topic. Lastly, this analysis does not yield insight into why nuances in disclosure behaviors exist.

Our analysis identified several areas in which the disclosures we studied failed to meet the standards of patients and professional organizations. Partial disclosure and Nondisclosure satisfies neither the patient's desires nor a clinician's professional responsibility, yet such disclosure types accounted for the majority of all the disclosures in our sample. The preponderance of Partial disclosures is similar to that found in a recent study with surgical teams.[33] Whereas these findings may underscore the fact that a gap exists, it is a credit to those who participated in the focus groups that they were willing to reveal their current thoughts and practices regarding error disclosure. Such candid discussion among a diverse set of health care professionals augurs well for the future. Our detailed description of error disclosure, built on a qualitative analysis, yielded 6 disclosure elements that could serve as criteria for clinicians and others to educate about and evaluate disclosures. These elements of disclosure might be used to create realistic guidelines for disclosure behaviors and inform practical interventions.

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