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Communication Study

# Disclosing medical errors to patients: Effects of nonverbal involvement

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ABSTRACT

*Objective:* The purpose of this study was to test causal effects of physicians' nonverbal involvement on medical error disclosure outcomes.
*Methods:* 216 hospital outpatients were randomly assigned to two experimental treatment groups. The first group watched a video vignette of a verbally effective and nonverbally involved error disclosure. The second group was exposed to a verbally effective but nonverbally uninvolved error disclosure. All patients responded to seven outcome measures.
*Results:* Patients in the nonverbally uninvolved error disclosure treatment group perceived the physician's apology as less sincere and remorseful compared to patients in the involved disclosure group. They also rated the implications of the error as more severe, were more likely to ascribe fault to the physician, and indicated a higher intent to change doctors after the disclosure.
*Conclusion:* The results of this study imply that nonverbal involvement during medical error disclosures facilitates more accurate patient understanding and assessment of the medical error and its consequences on their health and quality of life.
*Practice implications:* In the context of disclosing medical errors, nonverbal involvement increases the likelihood that physicians will be able to continue caring for their patient. Thus, providers are advised to consider adopting this communication skill into their medical practice.


## 1. Introduction

At least 1.3 million patients are injured in the United States every year by adverse events in their medical care. This count exceeds the combined number of injuries and deaths that result from motor and air crashes, suicides, falls, poisonings, and drownings [1]. More than two thirds of such incidents result from preventable human error [2], making medical errors the eighth most common cause of death in the United States [3]. Studies in Switzerland [4], Australia [5], the United Kingdom [6], and Denmark [7] have found similar results, implying that medical errors are an worldwide problem [8].

In recent years, the health care environment has experienced a movement toward promoting transparency regarding critical events. For example, the Joint Commission on Accreditation of Healthcare Organizations [9] now requires hospitals to disclose all unanticipated outcomes to patients. Along the same lines, the National Quality Forum [10] recently passed "safe practice" guidelines for health care professionals, recommending physicians to disclose factual information about critical events, express regret, offer an apology if appropriate, and encouraging health care institutions to implement an organizational disclosure support system. At least 34 U.S. states now mandate the disclosure of critical events or rely on "apology laws" that encourage health providers to apologize to their patients without having to face litigation [11].

Despite these public efforts, physicians often choose not to disclose errors to their patients [12–15]. In fact, errors are only disclosed in less than a third of all cases [16], and such disclosures often fail to meet patients' expectations [17]. Less than half of all physicians provide complete details of what happened, apologize to their patients, and discuss how future repetitions of an error will be prevented [17,18]. The reasons for this disclosure gap are manifold. Studies show that physicians want to disclose errors to their patients [12,16,17], but disclosure is uncommon because of inadequate system support [19] and physicians' lack of skills and training in how to conduct these difficult conversations [20]. This dilemma implies that effective error disclosures are a matter of communication competence, calling for an empirical research agenda that lays out the criteria of skillful disclosure as a heuristic foundation for future research and practice.

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First attempts to conceptualize and operationalize effective error disclosure have empirically validated a set of verbal statements physicians should communicate to their patients. The findings of these studies reveal that patients prefer an explicit statement that there was an error, even if it was minor [12,21–23]. Patients also expect details about what went wrong and why, specific implications for their medical care, and a sincere apology that recognizes their suffering [24]. Furthermore, patients would like to be informed how the health care team will learn from the error and prevent similar events from happening again to other patients in the future [12].

The combined effort that generated these criteria is impressive, but the implications of the studies are limited for several reasons. First, a recent investigation [18] only partially validated the criteria of effective error disclosure [25], suggesting that further empirical validations and possibly extensions of the disclosure standards might be necessary. Furthermore, most of the study designs that yielded the criteria predominantly relied on patient samples, used correlational rather than causal data, and failed to integrate any theoretical frameworks. Finally, despite a common recognition in the communication literature that interpretations of emotional messages [26], evaluations medical performance, and patient satisfaction [27] are predominantly associated with physicians' nonverbal cues, most error disclosure studies to this date have solely examined the verbal disclosure contents. Based on the existing literature in communication science, it can be speculated that patients will most likely rely on their physician's nonverbal behaviors during a disclosure in making inferences about the error, its implications for their health, the physicians' clinical competence, and their future medical care. Following this contention, an exclusive research focus on verbal disclosure messages would yield an incomprehensive set of error disclosure skills.

In an attempt to fill to this void, the current study sets out to test the causal effects of physician nonverbal involvement on the effectiveness of error disclosures and patients' subsequent behavioral intentions. While holding the effectiveness of the verbal message constant, it examines effects of physician nonverbal involvement on the extent to which patients perceive that the physician (1) apologized, (2) apologized sincerely, (3) expressed remorse, (4) and attempted to explain the error. Furthermore, it assesses the degree to which physician nonverbal involvement will influence patients' (5) perceptions of the severity of the error's implications, (6) fault attributions, and (7) intentions to change physicians.

## 2. Methods

### 2.1. Sample and procedures

A written transcript of a hypothetical error disclosure to a standardized patient from a previous study [18] was optimized to meet all criteria of effective error disclosures [25]. Two professional actors were hired and trained to create two 4-minute video vignettes of this disclosure. The videos were filmed in a hospital room with the patient lying in bed and the physician disclosing that a surgical sponge was retained in the patient's abdomen. The nonverbal behaviors of the disclosing physician actor were controlled in each vignette reflecting opposite ends of Guerrero's [28] ratings of nonverbal involvement, which comprise nonverbal displays of (1) immediacy (i.e., appropriate touch, proxemic distancing, forward lean, body orientation, prolonged gaze), (2) expressiveness (i.e., kinesic and vocal animation), (3) altercentrism (i.e., attentiveness and interest, affirmative head nods), (4) smooth interaction management (i.e., speech fluency, response latencies, turn-taking and interruptions), (5) composure (i.e., vocal and bodily relaxation, lack of random movement), and (6) positive affect (i.e., appropriate smiling, facial and vocal pleasantness). The final video vignettes were uploaded into an online survey for data collection.

Thirty physicians at a large Southeastern teaching hospital distributed the study announcements to their outpatients at the end of their medical consultations over a period of two months. Volunteering patients submitted a registration form into a physical drop box that was deposited at the nurses' station. The principal investigator collected the forms and randomly assigned the volunteers to the two experimental conditions: (1) a verbally effective and nonverbally involved error disclosure, and (2) a verbally effective and nonverbally uninvolved error disclosure. Each participant received an email with the respective survey link. Upon entering the survey, they were asked to imagine that they are the patient in an upcoming error disclosure and exposed to their treatment condition. After the treatment, all patients responded to the same post-test measures. Upon completion of the survey, participants were mailed a $10 coffee card for their participation. The software IBM SPSS statistics 19.0 was used for the data analysis. Analyses of variance were conducted to test for potential treatment effects on the seven outcome variables. In addition, post hoc analyses were run to evaluate the potential influence of various patient predispositions on the predicted treatment outcomes.

### 2.2. Measures

Respondents were asked to indicate on a 5-point Likert scale the extent to which they perceived the following effectiveness criteria present in the physician's disclosure: (1) presence of an apology (i.e., "The physician apologized for the error"), (2) sincerity of the apology (i.e., "The physician's apology was sincere"), (3) physician's remorse (i.e., "The physician expressed genuine remorse"), and (4) explanation of the error (i.e., "The physician attempted to explain the error"). In addition, they were asked to rate the (5) severity of the error (i.e., "The implications of this incident for the patient are severe"), (6) fault attributions (i.e., "The doctor in this case was at fault"), and (7) intentions to switch doctors (i.e., "If I was the patient, I would probably change physicians").

### 2.3. Manipulation check items

Additional items were included in the online survey to cross-validated the verbal and nonverbal messages in each treatment group. Specifically, patients were asked to indicate the degree to which they perceived that an error has occurred and the degree to which the error caused harm to the patient. Items to cross-validate the nonverbal manipulation tested patients' perceptions of the physician's involvement, coldness, rapport, and composure.

## 3. Results

### 3.1. Respondent demographics

The sample for this study included 216 patients (15% male, 85% female) with a mean age of 45 years (range 18–80, $SD = 14.45$). Almost half of the sample (42%) had once worked in a doctor's office, hospital, or pharmacy. A majority of the patients (84%) held a 2-year college degree or higher. About 36% of the patients reported that they had experienced a medical error, 21% indicated that they had been harmed by a medical error, 9% responded that they had filed a complaint, and 1% had pursued a medical malpractice suit against a doctor or health care provider.