**A COMPARATIVE REVIEW OF PATIENT AND PROVIDER PERSPECTIVES ON APOLOGY IN ADVERSE EVENT DISCLOSURE**

by

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**ABSTRACT**

**Background:** Adverse health events are estimated to be the third leading cause of injury in the US. Both patients and physicians experience pronounced psychological distress in the wake of adverse events. Traditionally, physicians and institutions have revealed little, if any, information to patients, as a protective measure against malpractice claims. This practice often signals the end of the physician-patient relationship and leaves both parties feeling guilty, afraid, and alone.

Proactive adverse event disclosure is an emerging best practice. The Agency for Healthcare Research and Quality (AHRQ) regards apology a necessary component of disclosure and 36 states have enacted laws excluding words of apology from admissible evidence of malpractice liability, but only about 11% of injured patients receive one. Evidence from psychology, communication, and other fields, suggests apology is a constructive coping mechanism.

This essay will provide a patient and provider-centric introduction to adverse event research and policy. It will then present a rapid review of descriptive and empirical studies on patient and provider perspectives on apology, with the goal of shedding light on disconnects, to inform future research, policy, and interventions. This essay has public health significance because it is the first literature review to focus exclusively on descriptive and empirical studies on US patient and physician perspectives on apology in adverse event disclosure.

**Methods:** A PubMed literature search was conducted using the search terms medical error, apology, and disclosure. Selections were limited to peer-reviewed, empirical studies relevant to patient and provider perspectives on apology for adverse events occurring in adult populations in US inpatient or equivalent hospitals. Articles on obstetric errors were excluded because they produce an incomparable psychological response.

**Results:** The search returned 16 studies. Patient studies primarily tested the association between apology and psychological, physician-patient, and intent to sue outcomes. Physician articles primarily focused on intent and ability to deliver an apology.

**Conclusion:** Current research is sparse and limited in generalizability but some themes emerged. Apology is strongly associated with improved intrapersonal and interpersonal patient outcomes. Apology is not strongly associated with intent to sue. Semantics are a primary concern for physicians because they fear admitting fault will drive the patient to file a malpractice claim. However, research suggests that expressions of empathy and nonverbal cues are more meaningful to patient outcomes, including intent to sue. More research is needed in all areas but qualitative analyses of physician experiences with apology are especially lacking.

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preface

From June 2012 to August 2014, I travelled a good bit of the state of Pennsylvania discussing section 1332 of the Affordable Care Act, which – effective January 1, 2017 – allows states to apply for federal waivers to “pursue innovative strategies for providing residents with access to high quality, affordable health insurance” (CMS.gov). My job was to promote a single payer system, but I got rather attached to asking any and every Pennsylvania resident what their ideal healthcare system might look like.

I have no formal record of the responses (unfortunately) but, there was always a physician in the crowd who would say something to the effect of: “We need tort reform!” So, I decided to spend my last semester of graduate school learning how the medical malpractice system works and researching a few options for reform… for the physicians. What I learned, is that the status quo around adverse events is damaging and unfair for both physicians and patients. I hope I have done both perspectives justice here and that Communication and Resolution Programs are just the beginning of a new paradigm.

I sincerely want to thank the BCHS faculty, and especially Dr. Elizabeth Felter, for taking me in, for being voices of sound logic, and for never giving up. I want to thank Dr. Julie Donohue for helping me start this essay, Dr. Howard Degenholtz for helping me finish it, Dr. Elizabeth Felter for persistently making sure that it made sense, and Richard Boothman who, not only shaped the content, but the entire program that inspired it. It has been a true honor to work with all of you. So much so that I literally never wanted it to end. Alas…

*“To err is human; to forgive, divine.”*– Alexander Pope

definitions

**Adverse Event** - An injury resulting from a medical intervention, rather than the underlying condition of the patient (Kohn, Corrigan, & Donaldson, 2000, p. 210)

**Serious Event** – An adverse event that results in death or an unanticipated injury requiring additional health care services (Medical Care Availability and Reduction of Error Act of 2002).

**Medical Error** – The failure of a planned action to be completed as intended or use of a wrong plan to achieve an aim, including failures in practice, products, procedures, and/or systems(Kohn, et al., 2000, p. 210)

**Preventable Adverse Event** – An adverse event resulting from medical error (Kohn, et al., 2000, p. 4)

**Negligent Adverse Event –** A preventable adverse event in which provider action or inaction does not meet the reasonably expected standard of care (Kohn, et al., 2000, p. 28)

**Patient Safety** – The establishment of operational systems and processes that minimize the likelihood of errors (Kohn, et al., 2000, p. 211)

**Hospital** – A facility licensed as a hospital by the state in which it is located which provides equipment and services primarily for care to persons who have been admitted for at least one overnight stay who require treatment for injury, illness, disability (Medical Care Availability and Reduction of Error Act of 2002). In PA, such facilities are licensed by the PA Department of Health in accordance with 101 Pa. Code § 101.56 (101 Pa. Code § 101.56)

**Institution –** For the purposes of this essay, this term will be used to describe the collective culture of the administrators and risk managers of a hospital

**System** – The set of interdependent elements, both human and nonhuman, interacting within an institution to achieve a common aim (Kohn, et al., 2000, p. 211)

**Physician** – A medical physician or surgeon licensed by the PA State Board of Medicine, or the equivalent body in another state, and employed full-time by, or working under an exclusive contract with, an institution in the state of licensure (Medical Care Availability and Reduction of Error Act of 2002).

**Provider** – An employee, independent contractor, licensee or other individual authorized to provide services in a medical facility (Medical Care Availability and Reduction of Error Act of 2002). This may include, but not be limited to, a physician

**Patient** – An individual who receives health care services from a provider. As it pertains to expectations for, participation in, and/or valuations of medical error proceedings (legal or non, including hypothetical), the definition of “patient” will be inclusive of any adult family member(s) who participate alongside, or in place of, the patient, unless a distinction is made otherwise (Medical Care Availability and Reduction of Error Act of 2002)

# Introduction

At the turn of the millennia, the IOM report, *To Err is Human*…, dramatically increased awareness of the high prevalence of adverse events and brought patient safety – the reduction of medical error (preventable adverse events) – to the forefront of the health care and policy agenda (Runciman & Merry, 2014). A 2015 report by the Institute for Healthcare Improvement showed some improvement but stated, “all healthcare stakeholders should recommit to and prioritize patient safety and ***the goal of eliminating harm to patients.***” (Berwick & Shojania, 2015, p. 2).

While *reduction* of preventable adverse events is a constructive goal, healthcare is a complex, dynamic, and inherently high-risk system – which renders the *elimination* of adverse events virtually impossible (Sohn, 2013). Despite significant patient safety efforts, harm remains extremely prevalent (Harrison, et al., 2015; Lyu, et al., 2017). Recognition of the prevalence of adverse events necessitates not only efforts to prevent harm from occurring, but also efforts to mitigate harms as they occur (Sohn, 2013; Vincent & Amalberti, 2016).

 Often disregarded by patient safety literature is the fact that ***most of the harms*** reported by patients ***are psychological*** (Harrison, et al., 2015). Physicians, too, experience psychological trauma in the wake of adverse events (Sirriyeh, et al., 2010). Absence of a meaningful physician-patient conversation can lead to more pronounced distress (Sirriyeh, et al., 2010; Harrison, et al., 2015), leaving both parties feeling guilty, afraid, and alone (Delbanco & Bell, 2007).

Historically, these conversations have been marred by the practice of “deny and defend,” which institutions promote to protect physicians from malpractice claims (Sirriyeh, 2010; Harrison, 2015). Ironically, evidence suggests that the physician-patient communication breakdowns that result from deny and defend are a primary reason patients file claims (Vincent, et al., 1994; Vincent & Coulter, 2002; Boothman & Hoyler, 2013). Communication and Resolution Programs (CRP) are emerging as an institution-based strategy(Sirriyeh, 2010) for proactively disclosing adverse events to patients and working with them to meet these needs (Moore, 2017). While a vast improvement, some may still be falling short of this goal.

Last year, the Agency for Healthcare Research and Quality (AHRQ) released a Communication and Optimal Resolution (CANDOR) toolkit to help physicians and institutions through the disclosure process. The toolkit notes that one important part of disclosure that is often forgotten is apology (CANDOR, 2017). Numerous studies note apology is a lingering gap between the response patients desire and the response patients receive (O’Connor, et al., 2010; Hyman, et al., 2010; Brandom, et al., 2011; Souter & Gallagher, 2012; etc.).

This essay presents a rapid review of descriptive and empirical studies on patient and provider perspectives on apology in medical error disclosure. First, this essay will quantify the adverse event problem; summarize the physician, system, and patient factors that contribute; and discuss the psychological impact. This essay will then provide background to the medical malpractice system, current efforts for reform, and the expected outcomes of prioritizing apology in these efforts. The rapid review will present patient and provider perspectives, broken down by attitudes (hypothetical/prospective views) and experiences (actual/retrospective views). This essay will conclude with a social-ecological framework of the physician-perceived barriers; a discussion on the institutional and policy implications of current findings; and suggestions for future research.

# Public Health Problem

## Adverse Events

### Prevalence

*To Err is Human* estimated that 516,000 to 721,000 preventable adverse events occur in US hospitals each year(Kohn, et al., 2000) . Increased awareness and reporting have since led to more refined estimates, which suggest the incidence is much higher. According to recent reports, approximately 4 million preventable adverse events occur each year (Battles, Reback, & Azam, 2016; Makary, & Daniel, 2016) – about 1 preventable event per every 10 hospital admissions (Helo & Moulton, 2010). Compared to the CDC’s latest analysis of the ten leading causes of nonfatal injury, preventable adverse events are third(cdc.gov, 2015).

Though estimates have improved, the true breadth of the adverse event problem has not been determined. Incidence reports rely on medical records, which vary in nature and hinge on the judgement of providers, so important events might often be missed or misconstrued (Makary, & Daniel, 2016). In addition, the distinction between preventable and non-preventable adverse events is nuanced by evolving standards of care and limited understanding of the dynamics between the human and system factors that contribute to medical error (Vincent & Amalberti, 2016).

### Contributing Factors

#### Research Perspective

Equipment/Other

(20-40%)

Non-preventable - No Medical Error (56%)

Preventable - Medical Error (44%)

Human Error

 (60-80%)

Adverse Events

Incompetence/

Malevolence (some)

Human/System Factors

(Many)

Figure 1: Map of Estimated Adverse Event Cause Distribution

An *adverse event*, generally, is defined as any injury resulting from a medical intervention, rather than an underlying condition of the patient (Kohn, et al., 2000, p. 210). Not all adverse events are medical errors. Medical errors involve the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim. The subset of *adverse events* that are *caused by medical errors* are considered “preventable” (Kohn, et al., 2000, p. 4). A recent report by the AHRQ estimated that somewhere around 44% of adverse events are preventable – or caused by a medical error (Battles, et al., 2016).

Several factors contribute to medical error, including failures in practice, products, procedures, and/or systems (thus, *not all medical errors are human*)(Kohn, et al., 2000, p. 210). *To Err is Human* estimated that 60-80% of all medical errors were caused by human failures, while the rest were primarily attributed to equipment failures (Kohn, et al., 2000).

Historically, human error has been attributed to negligent doctors (Kohn, et al., 2000; Sohn, 2013). *To Err is Human* defined negligent adverse events as “adverse events in which provider action or inaction does not meet the reasonably expected standard of care” – the same definition used by our justice system (Kohn, et al., 2000, p. 28) – but this definition portrays negligence in a deceptively broad manner. Care that deviates from the standard does not necessarily stem from incompetence, ill-intent, or neglect. It is now believed that most human errors stem from a combination of human and system factors (Kohn, et al., 2000; Battles, et al., 2016). This school of thought primarily originated from two thought-leaders: James Reason and Lucian Leape (Kohn, et al., 2000).

Reason posited that human errors result directly from human action or inaction (active errors), but several latent (system) factors contribute. Latent failures are caused by organizational issues such as overwork, poor training, inadequate equipment, etc. Reason likened the organizational structures that are latent in our healthcare institutions to the “holes” in Swiss cheese (Reason, 1990).

Leape elaborated several human factors that can contribute to human error, such as: fatigue, sleep loss, illness, boredom, frustration, fear, anxiety, anger, stress, memory bias, lack of knowledge, misinterpretation, etc. But, like Reason, he noted that external factors, such as overwork, personal life, visual stimuli, workspace design, frustrations with management, etc. can compound the likelihood that human factors will lead to error (Leape, 1994).

With respect to these schools of thought, *To Err is Human* stressed the need to design better systems and processes to control for as many external factors as possible and reduce latent failures. The report suggested that health systems work to standardize procedures; improve communication and coordination; and build recovery and backup opportunities into processes (Kohn, et al. 2000).

#### Patient Perspective

According to one small study, patients have a similarly balanced view of the factors that contribute to adverse events. Etchegaray, et al. (2016) conducted interviews with 72 patients from across Texas that had experienced completely different adverse events to determine whether they could identify one or more contributing factors. According to the patients, staff qualifications and knowledge (79%); safety policies and procedures (74%); communication (64%); and human factors (46%) were the most important contributing factors.

The patients reported learning these contributing factors through personal observation (32%), personal reasoning (11%), personal research (7%), medical records (6%), or *their physician (5%)*. Communication and human factors were the two factors that were most frequently learned through personal observation only. The communication factors observed by patients included physicians not listening to their concerns, failing to answer their questions, or ineffectively exchanging information with other providers. The ‘human factors’ observed by patients included overwork, excessive workload, stress, sleep deprivation, and working while ill (Etchegaray, et al. 2016) – all of which would be characterized as system factors by Leape and Reason.

According to a systematic view on patient experiences with adverse events, the degree of trust and rapport established in the physician-patient relationship can influence patient perceptions of adverse events and whether they believe the physician was at fault (Harrison, et al., 2015).

#### Physician Perspective

Physicians recognize that system factors contribute, but tend to hold themselves accountable for medical errors. Fabri & Zayas-Castro (2008) analyzed 9,830 surgical error reports (submitted by surgeons) and found that surgical technique (63.5%), judgement errors (29.6%), inattention to detail (29.3%), and incomplete understanding (22.7%) were the most important contributing factors. The researchers concluded that human error is a greater factor than system (2%) or communication error (2%), but did not consider that latent (Reason, 1990)/external (Leape, 1994) factors, such as lack of training and poor equipment, might have contributed.

In another study, physicians were presented with a list of possible causes. Only two were thought by more than half of the physicians to be primary factors: (1) understaffing of nurses and (2) overwork, stress, and fatigue. These were followed by communication failures (39%), insurance influence (39%), complexity of medical care (38%), insufficient time with patients (37%), poor training (28%), poor handwriting (21%), poor supervision (16%), and uncaring (15%) (Blendon, et al., 2002). While most of these causes are latent/external factors, more than half of the physicians (55%) selected “mistakes by individual health professionals” as the more important reason for medical errors, while only 43% selected “mistakes by institutions” as the more important reason (Blendon, et al., 2002).

In line with the findings of Blendon, et al., (2002), at least two systematic reviews on the causes of medical error have noted that stress plays an underemphasized role. An established, but often overlooked, tenet of stress research is that thought processes and attention narrow as stress and arousal escalate (Sexton, et al., 2000; Kalra, 2004). This physiological response to stress may be the core of the indiscernible human-system interactions that lead to medical error.

### Psychological Effects

#### The Patient

Regardless of the cause, it is important to recognize that, by definition, every adverse event results in harm to a patient. Physical harms can range from minor injuries to paralysis, which may result in more medical bills and/or lost wages. Often disregarded, is that patients report psychological harms occur more frequently and more incessantly than physical or financial harms. Almost all (96%) patients that experience an adverse event report psychological harms, while only 58% report physical symptoms and only 37% report uncompensated financial loss. In fact, 70% of the harms reported by patients are psychological (Harrison, et al., 2015).

 Receiving medical care puts patients in a state of extreme vulnerability. They put a significant amount of trust in physicians to have their best interests at heart (Vincent & Coulter, 2002; Lazare & Levy, 2011; Harrison, et al., 2015). If something goes wrong, they are often acutely aware (Weissman, et al., 2008). When feelings of vulnerability and powerlessness are compounded by unanticipated injury, the psychological effect is profound. Immediately, patients are frightened and experience an array of conflicting feelings about those involved, especially if those involved stop providing sufficient answers or support (Vincent & Coulter, 2002; Harrison, et al., 2015).

In the wake, patients report feeling anger, frustration, belittlement, and loss of trust in their physician. They also report that these and other psychological symptoms outlast physical symptoms (Harrison, et al., 2015). Through a collection of patient interviews, Bell, et al., (2007) established three themes to characterize how most patients feel after an adverse event: guilty, afraid, and alone. They feel guilty about what they could have done differently, fearful of retribution for vocalizing concerns, and isolated by lack of empathy.

As time progresses, patients experience varying degrees of anxiety, flashbacks, emotional numbing, mood disturbances, and insomnia, depending on the nature and severity of the event. Chronic pain, disability, and disturbances in work and family life also make patients especially vulnerable to chronic depression. Physicians and institutions can mitigate chronic trauma by acknowledging the injury and addressing the patients’ needs and concerns – thus, reducing the compounding effects of anger and isolation (Vincent & Coulter, 2002).

#### The Second Victim

Physicians are just as susceptible to psychological trauma from adverse events that harm patients. The AHRQ, the Center for Patient Safety, the Joint Commission on Patient Safety (Scott, et al., 2010), and other leading health organizations now recognize physicians as the “second victims” of adverse (Helo & Moulton, 2017).

Physicians, generally, are characterized by a profound sense of duty to their patients and honor to their profession. They feel personally responsible for the outcomes their patients experience and do not take this responsibility lightly. When an error occurs, they feel as though they have failed their patient, their profession, and themselves (Helo & Moulton, 2017). The psychological experience that physicians have after a medical error has been likened to post-traumatic stress disorder (PTSD) (Grissinger, 2014).

Immediately following an error, physicians feel guilt, anger, and shame (Bell, et al., 2010; Grissinger, 2014). They are also fearful of the implications for their patient, their reputation, and a potential lawsuit (Bell, et al., 2010). Panic, horror, and apprehension can give rise to physical symptoms such as muscle tension, increased blood pressure and heart rate, rapid breathing, loss of appetite, and difficulty concentrating (Grissinger, 2014).

While the error is being reviewed, fear of losing their job, their reputation, and being sued intensifies (Grissinger, 2014). There is a severe lack of institutional support for physicians going through these experiences (Grissinger, 2014), so a sense of isolation is also extremely common (Sirriyeh, et al., 2010). Fear and apprehension can ebb into anxiety, depression, self-doubt, and hypervigilance. Physicians report insomnia, flashbacks, damaged self-perception, and even thoughts of suicide (Sirriyeh, et al., 2010; Grissinger, 2014). During this time, it is also common for physicians to feel a strong need to make amends (Grissinger, 2014).

PTSD symptoms are even more pronounced in physicians who go through malpractice lawsuits. An overwhelming majority (95%) report strong emotional and/or physical symptoms, including depressed mood, inner conflict, frustration, and anger. Half of physicians experience insomnia and some even report the onset or exacerbation of physical ailments. These symptoms persist long after the case is tried, even if they win (Helo & Moulton, 2017).

Many physicians begin detrimentally erring on the side of caution following a lawsuit – ordering unnecessary tests and avoiding high-risk procedures or patients (i.e. practicing defensive medicine). If physicians lack a healthy coping mechanism or support for dealing with distress they may engage in escape/avoidance behaviors such as distancing, alcohol, and/or drugs (Helo & Moulton, 2017). Malpractice lawsuits are also associated with choosing early retirement (Wei, 2007). However, Sirriyeh, et al. (2010) found that physicians that engaged in communication and retained a good relationship with their patient following a medical error experienced better emotional outcomes.

# Approaches to the Problem

## The Medical Malpractice System

For two centuries, the litigation system has served as the primary recourse for patients who do not feel that their need for honesty, understanding, accountability, and/or compensation for adverse events has been met (Sloan, 2008; Kessler, 2011; Bilimoria, et al., 2017). Medical malpractice law is a form of tort, or personal injury, law (Brennan, 2004). Malpractice claims are tried in state courts, which are regulated, and thus vary greatly, by each state (Kessler, 2011).

The purported objectives of litigation are: (1) to compensate patients injured by negligence and (2) to deter providers from being negligent (Sloan, 2008; Kessler, 2011; Bilimoria, et al., 2017). Legally, negligence is defined as, “medical treatment that does not adhere to the expected standard of care” (Brennan, 2004, p. 1). In theory, the plaintiff (patient) should prevail if they prove that the defendant (physician) did not adhere to the expected standard of care and this neglect caused them injury (Brennan, 2004).

 However, substantive literature has demonstrated that litigation is ineffective at achieving these objectives. Only 2-3% of patients injured by negligence access the system (Bilimoria, et al., 2017); 80% of the patients that access the system were injured by care that adhered to the expected standard (Boothman, et al., 2009); and litigation is not an effective deterrent for negligence (Sloan, 2008; Kessler, 2011). In addition, patients that have accessed the system rarely feel that they have received adequate compensation or closure (Sohn, 2013).

Malpractice claims data suggests that communication following an adverse event, rather than the nature of the care received, may be the most important factor in a patient’s decision to file a lawsuit. Patients primarily file lawsuits because they want an honest explanation about what happened to them, an apology, and assurances that the same event will never happen to anyone else (Vincent, et al., 1994; Vincent & Coulter, 2002; Boothman & Hoyler, 2013). While only 20% of malpractice claims involve provider negligence (Boothman, et al., 2009), nearly all involve a breakdown in the physician-patient relationship (Boothman & Hoyler, 2013).

This breakdown, ironically, occurs because physicians fear that telling patients an adverse event has occurred will drive them to file a malpractice claim. This paradigm of “deny and defend” is deeply entrenched in the cultures of most healthcare institutions (Boothman, et al., 2009; Welch, 2011; Boothman & Hoyler, 2013; Mello, et al., 2013; Prothero & Morse, 2017). Deny and defend nearly always signals the end of meaningful physician-patient communication and the end of the physician-patient relationship (Kohn, et al. 2000; Liebman & Hyman, 2004; Studdert, 2007; Pelt & Faldmo, 2008; Quinn & Eichler, 2008; Balcerzak, 2008; Hyman, et al. 2010; Iedema, 2011; Mello, et al., 2013).

### First Generation Malpractice Reform

Though litigation fails to achieve its objectives and damages physician-patient relationships, most reform efforts have sought to reduce the cost-burden of the system for physicians (Kessler, 2011; Stamm, 2016). These reforms, enacted by state-level policy changes from the mid-1980s to present, are now recognized as ‘the first generation’ of malpractice reform (Stamm, et al., 2016). In various combinations and to various extents, these reforms included:

**Caps on economic damages –** limited compensation for hospital bills, lost wages, etc.

**Caps on noneconomic damages –** limited compensation for pain, suffering, etc.

**Abolition of punitive damages –** prohibited of compensations exceeding economic and noneconomic damages, previously imposed as punishment

**Caps on contingent (attorney) fees –** limited compensation for attorneys

**Collateral source (or collateral offset) rules –** pardoned physicians from paying covering hospital bills, etc. that were paid by insurance, etc., rather than the patient

**Joint and several liability limits –** pardon physicians from paying full damage amounts when more than one provider is at fault

**Reduction of statute of limitations –** imposed deadlines on time-to-file from event date

**Frivolous-suit penalties –** imposed penalties on patients for frivolous suits

**Expert requirements –** required testifying medical experts be of same specialty

While some first generation reforms – namely damage caps – effectively reduced physician costs, none have been associated with improved patient outcomes and none have been evaluated for their impact on deny and defend (Kachalia & Mello, 2010).

## A New Approach

An emerging wave of malpractice reforms has been driven by institutions seeking a more patient-centered and/or cost-effective alternative to the litigation (Stamm, et al., 2016). Institutions have implemented various programs to facilitate out-of-court settlement, either directly following an event (Boothman, et al., 2009) or in response to a complaint or claim (Liebman & Hyman, 2004). These programs generally do not require the patients who participate to waive their right to sue if they are dissatisfied with the outcome (Mello & Gallagher, 2010; Pelt & Faladmo, 2008). Some examples of these programs include:

**Reimbursement Programs** – in which institutions reimburse patients for out-of-pocket expenses and lost wages, generally up to a predetermined limit, without investigating whether the care was negligent (Mello & Gallagher, 2010)

**Voluntary Mediation** – in which institutions proactively (after an adverse event occurs) or reactively (after the patient files a claim) seek to get the patient and physician to agree to discuss the claim with an impartial mediator (generally an attorney), who facilitates a discussion between the two parties until a compensation agreement is reached (Balcerzak & Leonhardt, 2008).

But the most widely implemented institutional reform has been **Communication and Resolution Programs (CRP)** (Gallagher & Mello, 2010; Stamm, et al., 2016) – also referred to as disclosure-and-offer programs (Gallagher & Mello, 2010).

CRP was pioneered by the Veterans Administration (VA) and the University of Michigan Health System (UMHS) (Pelt & Faladmo, 2008). The UMHS program, which has served as the model (Fadling, 2017), is designed primarily to facilitate proactive investigation of all adverse events. The intent is to identify what went wrong and inform a proactive discussion with patients about what occurred and how it will be prevented in the future (Boothman, et al., 2009).

Every adverse event is investigated by risk management (RM) consultants – who have backgrounds as healthcare providers – to determine whether it classifies as a medical error. These determinations are reviewed by a RM committee. Once a determination is made, the physician(s) and member(s) of the RM team disclose and explain the event to the patient and, if they wish, their lawyer. If the RM consultant and committee determine that reasonable standards of care were not met (i.e. the adverse event was a medical error), the patient is offered an apology and compensation. If the patient disagrees with the nature of the error or compensation offered, they may file a lawsuit (Kraman & Hamm, 1999; Boothman, et al., 2009; Moore, et al., 2017).

Both the VA and UMHS have demonstrated that proactively working with patients to meet their needs after an adverse event can improve patient and physician satisfaction, cultivate improved patient outcomes – including maintenance of the physician-patient relationship (AHRQ, 2017) – and reduce the frequency and cost of compensation payouts (Fraser, 2001; Kachalia, et al., 2010). CRP is growing and expected to play a primary role in the future of malpractice reform (Moore, et al., 2017).

### Apology Laws

In response to the concerns of CRP and other programs, 36 states have enacted apology laws. Apology laws exclude words of apology from admissible evidence of liability (Ho & Liu, 2010), providing a safe haven for the physicians who use them. Only 6 states have extended this protection to include admissions of fault (Mastroianni, et al., 2010) Pennsylvania enacted an apology law in 2013 but it does not protect admissions of fault (2013 § 79).

Mastroianni, et al. (2010) argued that excluding admissions of fault from state protections undermines the value of apology laws. They stressed the importance of considering research on physician anxiety and patient needs and noted that acceptance of responsibility was emblematic of the point of disclosure. While this may be true, it is possible that, conversely, the benefits of an apology undermine the need for apology laws.

The University of Michigan Health System began offering full apologies to patients, when warranted (Boothman, 2009), without the safety net of apology laws (Bell, et al., 2012). Despite admitting fault when they feel standards of care have not been met, UMHS has achieved improved patient and physician satisfaction and decreased the frequency and cost of compensation payouts (total payouts made for both proactively resolved and litigated cases) (Kachalia, et al., 2010).

### Patient-Provider Response Gap

Despite facilitative apology laws, the AHRQ’s Communication and Optimal Resolution (CANDOR) Toolkit emphasized that apologies – an important element of disclosure – are often forgotten. (CANDOR, 2016). Several researchers have noted that the infrequency of apology is a gap between the disclosure patients desire and the disclosure they receive (O’Connor, et al., 2010; Hyman, et al., 2010; Brandom, et al., 2011; Souter & Gallagher, 2012).

Both the articles and the toolkit suggest including apologies in all disclosures. However, several programs only include apologies “when necessary” (i.e. when the standard of care was not met) (Boothman, et al., 2009; Mello, et al., 2014) or omit them altogether (Painter, et al., 2015; Saf, 2015; Falding, 2017). As a result – only about 11% of adverse event patients receive an apology (Heaton, 2016; Lyu, 2017), even though 98% of patients say they would desire one (Liebman & Hyman, 2004; Robbenholt, 2008; Pelt & Faldmo, 2008).

The objectives of the next sections are to: (1) introduce the definitions, types, and expected outcomes of apology and (2) present a rapid review of US patient and physician perspectives on the use of apology for adverse events, broken down by attitudes (hypothetical/prospective views) and experiences (actual/retrospective views).

# Apology: Introduction

## Definition

An apology is a “statement given by one that has injured another that acknowledges an error and its consequence; takes responsibility; and communicates regret for having caused harm” (Robbenholt, 2008, p. 1). Ideally, an apology should also include a promise to ensure the event never occurs again (Robbenholt, 2008). The components of an effective apology are often presented using *The Four R’s Model*:

Table 1: The Four R's Model of Apology

|  |  |
| --- | --- |
| **Recognition** | An acknowledgement of the error |
| **Responsibility** | An acknowledgement of responsibility (fault) for the error |
| **Regret** | A sincere expression of remorse |
| **Remedy** | Discussion of how damage will be repaired and prevented in the future |

(Modified from Robbenholt, 2008)

Apologies differ from other expressions of sympathy and remorse because they infer that the person delivering them feels a sense of responsibility. Physicians often fear that apologies will give patients leverage to file a malpractice claim (Robbenholt, 2003; Dahan, et al., 2017). In attempt to deflect lawsuits, physicians often omit parts of an apology or refrain from explicitly stating one altogether (Dahan, et al., 2017), especially if review of the event has determined they were not at fault (Boothman, et al., 2009). While the four R’s are often presented as the gold standard, several different types of apology have been recognized:

Figure 2: The Four Types of Apology

A general apology is merely an expression of regret or sorrow that harm has occurred, while an explicit apology contains the words “I am sorry” (White, et al., 2011). Explicit apologies can take two forms: partial or full. A partial apology is characterized by the absence of an admission of fault, while a full apology includes an admission of fault. A simple example of a partial apology is the statement: “I am sorry this happened to you.” A simple example of a full apology is the statement: “I am sorry I have caused you harm” (Gallagher, et al., 2006).

 In an international systematic review of all empirical, review, and perspective articles, Prothero & Morse (2017) concluded functional apologies must be timely and include all four R’s. They also noted several types of “token apologies” believed to increase feelings of anger, betrayal, and distrust in the patient. These include apologies offered by the institution, apologies that defer blame onto the victim or other influences, and apologies that appear insincere.

## Expected outcomes

There are a number of review and perspective articles that promote the use of apology, citing legal, ethical, psychological, and communication literature, as well as a handful of empirical studies conducted in the US and abroad.

Lazare (2006), who is renowned for his research on apology in various contexts, suggests apology can be a healing process, for physicians and patients, that is mediated by several psychological mechanisms. Apologies level patients and physicians by creating a sense of shared values and suffering. It is expected that this sense of shared values and suffering can make patients feel cared for, eliminate their sense of powerlessness, validate their sense that something went wrong, assure them that the event was not their fault, and assure them the event will not happen to anyone else – thus potentially mitigating patient distress.

In physicians, it is expected that leveling can create a sense of humility, restoring their dignity and self-respect (Lazare, 2006). Physicians who can identify their role in the event (whether they were at fault or not) and pursue practical coping strategies for managing their emotional response experience less psychological distress and are less likely to develop chronic anxiety, depression, or other PTSD-related symptoms (Sirriyeh, 2010; Grissinger, 2014). It is expected that the process of apologizing can act as an effective mechanism for both establishing fault and coping – and, thus, potentially mitigating physician distress (Lazare, 2006).

Apologies can restore the patients’ trust, integrity, and faith in the physician (Shipman, 2010), which may facilitate maintenance of the physician-patient-relationship. Restoring the damaged relationship can also diminish a physician’s feelings of guilt, shame, and fear – thus potentially mitigating physician distress (Prothero & Morse, 2017).

Research also suggests that patients who experience an adverse event primarily desire three things: an apology, an explanation, and an assurance that the event will not happen again. These elements may be more critical than compensation to a patient’s desire to sue. Three expected benefits of apology are (1) satisfying the patients desire for an apology, (2) assuring the patient that the event will never happen again (Prothero & Morse, 2017), and (3) leveling the power dynamic between the physician and patient to facilitate a constructive conversation about what happened (Vincent, et al., 1994; Vincent & Coulter, 2002; Boothman & Hoyler, 2013). In addition to compensation, an expected benefit of apology is that it might decrease the patient’s intent to sue.

While these objectives have been purported, this is the first review to focus exclusively on whether they been demonstrated.

# Apology: Rapid Review

## Methods

A PubMed literature search was conducted on October 7, 2017. The search was guided by Barb Folb, a Public Health Informationist at the University of Pittsburgh’s Falk Library. With her help, the search terms medical error, apology, and disclosure were selected. Search terms such as adverse events, forgiveness, and words related to communication and resolution programs were tested but omitted due to duplicity or lack of results.

The search returned 62 full-text articles. All abstracts were scanned for descriptive and empirical studies published within the last 15 years, relevant to the perspectives of physicians/residents and patients on disclosure of serious adverse events to adults occurring in US inpatient or equivalent hospitals that did not result in death. Articles on medication/drug and anesthesia error were included. Articles on obstetric errors were excluded because they produce an incomparable psychological response.

Articles that were not in English or did not pertain to the US were excluded to control for policy and culture differences. Articles on non-hospital settings, non-physician providers, obstetric errors, large-scale errors, unrelated communications topics, and grey literature were excluded; as well as articles on other aspects of disclosure, such as error reporting or compensation.

The search produced 15 articles. The citations and similar articles – as identified by PubMed – of all inclusions were scanned for further inclusions. One additional article was found.

## Results

Sixteen articles met the inclusion criteria. Seven of the included studies were patient-centered (4 patient samples, 2 community samples). Seven of the studies were physician-centered (4 physician samples, 3 resident samples). There were also two studies that assessed both.

Of the nine patient studies, six analyzed attitudes (hypothetical/prospective views) and three analyzed experiences (actual/retrospective views). The total sample size of the retrospective studies was 81. Of the nine physician studies, five analyzed attitudes (hypothetical/prospective views), three analyzed experiences (actual/retrospective views), and one analyzed physician-perceived barriers. The total sample size of the retrospective studies was 159.

The characteristics and findings of the included articles are presented in the appendix.

## Theoretical Framework

The physicians-perceived barriers, as reported in the included physician studies, were documented and categorized using the social-ecological model. The social-ecological model considers individual behavior in the context of their social, cultural, and political environment. The model is ideal for understanding physician-perceptions of the barriers to apology because, as introduced throughout this essay, these barriers relate to at least three factors at various proximities from the physician: psychological distress, institutional policies/cultures, and state-level policies.

# Findings

## Patient Studies

### Attitudes

There were five studies that explored patient attitudes towards different types of apology by randomly assigning participants to hypothetical disclosure scenarios (vignettes). Participants reviewed the scenario and completed surveys on their feelings, perceptions, and intentions. The primary measures were intrapersonal outcomes (psychological distress), interpersonal outcomes (satisfaction, trust, fault attribution, forgiveness, intent to switch doctors), and contextual outcomes (intent to sue). There was also one study that broadly explored patient attitudes through semi-structured patient and physician-patient focus groups (Gallagher, et al., 2003).

 Three themes emerged from these studies: (1) apologies have the potential to positively influence intrapersonal, interpersonal, and contextual outcomes (Mazor, et al., 2006; Wu, et al., 2009; Hannawa, 2013; Nazione & Pace, 2015; Hannawa, et al., 2016); (2) an apology may not have to contain an admission of fault to be effective (Gallagher, et al., 2003; Wu, et al., 2009; Hannawa, 2013; Hannawa et al., 2016); and (3) apologies may not be of particular benefit if they do not contain expressions of empathy and nonverbal cues (Hannawa, 2013; Hannawa et al., 2016).

Participants in the focus group study suggested that patients desire an apology after a medical error and that an apology that is honest and compassionate can mitigate negative emotions (Gallagher, et al., 2003). There were two vignette studies that validated this claim. Both reported that full apology (including acceptance of responsibility) was more strongly associated with positive intrapersonal and interpersonal outcomes than partial (Wu, et al., 2009) or no apology (Wu, et al., 2009) (Mazor, et al., 2006).

Neither of the above studies found a significant association between full apology and contextual outcomes (intent to sue). One found only a slight (non-significant) association (Wu, et al., 2009) and one found that the association was strong when the error was minor, but not when it was severe (Mazor, et al., 2006). Considering the context, this finding can be viewed negatively (full apologies are not effective at preventing malpractice lawsuits) or positively (admitting fault does not make a patient more likely to sue).

An interesting note about Wu, et al. (2009) is that two different types of partial apology (apology but no admission of fault and admission of fault but no apology) were tested but they were presented together as “partial apology (incomplete apology or responsibility)” in the results. The study concluded that full apologies were more strongly associated with intrapersonal and interpersonal outcomes than partial apologies but there is no way to tell if this was attributed to the absence of an apology or absence of an admission of fault.

This is noteworthy because three studies suggested that establishing fault may not be of benefit or detriment. One study found no significant difference in fault attribution between participants that reviewed scenarios that contained admissions of fault and scenarios that did not (Nazione, et al., 2009). Two studies found that fault attribution was not strongly associated with intrapersonal, interpersonal, or contextual outcomes (Hannawa, 2013) (Hannawa et al., 2016). Further, when one of the focus group participants recited an ideal apology, expressions of sympathy, expressions of remorse, and explanations about what would be done to prevent future incidences were included but an admission of fault was not (Gallagher, et al., 2003).

Four of the studies suggested that the content of an apology may not be as important as the delivery. Wu, et al. (2009) concluded that patient *perception* of what a physician said was more strongly associated with positive outcomes than what was actually said. Nazione & Pace (2015) suggested that expressions of empathy may be a stronger predictor of intrapersonal, interpersonal, or contextual outcomes than apology alone. In two studies, Hannawa (2013, 2016) displayed that nonverbal cues – such as such as body lean, eye contact, attentiveness, and head nods – significantly changed participants’ perceptions of the physician and their apology.

### Experiences

Only three studies analyzed actual patient experiences. These studies primarily focused on the presence and timing of an apology, rather than the details. In the largest patient experience study, Mazor, et al. (2011) interviewed 78 patients who experienced adverse events in their cancer care. The patients that received an apology positively referenced it, though there were several that received an apology that stated they would not return to the physician. Those who did not receive an apology referenced the omission with expressions of anger or unhappiness.

In opposition of a finding from the attitude studies, a few participants in Mazor, et al. (2009) noted they valued when the physician assumed responsibility for the error, adding that assuming responsibility is an important part of learning. This point was echoed in a case study with a 62-year old woman who experienced a wrong-site surgery. She noted that she received a clear apology with an admission of guilt from her doctor and found both reassuring. She also mentioned that she did not get to talk to the fellow who had mismarked the site and referred to it as, “a real missed opportunity for [both her and the fellow]” (Gallagher, 2009, p. 1).

In another case study, two patients received full disclosure that included an apology. In one instance, the patient died but the disclosure and apology were delivered immediately. In another instance, the patient had a positive outcome but the disclosure was not activated immediately. In the first case study, physicians and administrators reconciled with the family and earned their gratitude. In the second case study, physicians and administrators were not able to overcome the consequences of the delay or reestablish the patient’s trust. While the details of the disclosure and apology were not explored, the study noted that timing was an important factor in the difference between the two outcomes (Helmchen, et al., 2011).

## Physician Studies

### Attitudes

There were four studies, two cross-sectional surveys (Gallagher, 2006; White, et al., 2011) and two hypothetical disclosure assessments (Chan, et al., 2005; Raper, et al., 2014), that explored physician/resident attitudes towards apology. These studies primarily examined physician intent and ability to deliver an apology. In one survey of 1,233 internal medicine physicians at the Washington School of Medicine were presented a hypothetical error scenario. Almost all (94%) said they would offer an apology. Though 81% felt the physician was responsible, only 33% said they would admit fault, while 61% said they would offer a partial apology. Intent to offer a full apology varied slightly between the physicians presented with a scenario that involved an obvious error (37%) and those presented with a less obvious error (28%) (Gallagher, 2006).

In a second survey, residents were even more likely (98%) to say that they would offer some form of apology, though 52% said they would offer a partial apology and only 46% said they would offer a full apology. Residents’ apology intentions did not vary by how apparent the error was but did increase in instances where the physician was at fault. Residents at higher levels were less likely to offer a full apology (White, et al., 2011).

Two studies presented physicians with hypothetical error scenarios and asked them to disclose the errors to hypothetical patients. In one study, 30 physicians disclosed two different hypothetical error scenarios to two different, randomly assigned, standardized patients (trained to portray patients). They were assessed primarily on presence of the 4 R’s of apology by both the study administrators and the standardized patients (Chan, et al., 2005).

In this study, 47% of the physicians offered an apology, but many emphasized details about the error and did not express empathy or admit fault. Both the study administrators and standardized patients scored the physicians highest on ability to explain medical facts about errors, followed by honesty and truthfulness. Both scored the physicians lowest on discussions of plans to prevent future medical error and empathy (Chan, et al., 2005).

In another disclosure assessment, 12 residents viewed an educational video and slide deck before disclosing a wrong-site surgery to a standardized patient. The residents were scored over ten domains of physician-patient communication by both the course faculty and the standardized patients. Course faculty scored the residents significantly higher than the standardized patients on five measures: responsiveness to questions, acknowledgement of responsibility for the role in the incident, address of extra-clinical issues, communication at patient level, and clear message. Course faculty and standardized patients assigned similar scores for the remaining domains (Raper, et al, 2014).

In this study, 25% of the residents made an admission of liability, though this was perceived negatively by Raper, et al. (2014), who stated:

Apologies, or statements like ‘it was a mistake,’ are not a good idea. Although there is certainly ethical support in some circles for “I am sorry” as a possible way to decrease the number and size of settlements in malpractice cases, or to help with the healing of patients who have experienced an adverse event, the law is not so forgiving. Therefore, it is critical for physicians who are disclosing bad outcomes to know how to conduct themselves. An apology is a statement of remorse, regret, and responsibility and essentially proves a case for medical negligence. The residents were told that general expressions of empathy or support are about as far as they should go. (p. 121)

### Physician Experiences

There were four studies that analyzed physician experiences with medical error disclosure (Kronman, et al., 2011; Chan, et al., 2005; Plews-Ogan, et al., 2016). One cross-sectional survey of 99 residents examined the relationship between organizational patient safety culture and disclosure/apology; asking physicians to recall their response to their worst medical error. According to the survey, 31% residents apologized to the patient but only 17% admitted there was an error. Though few residents offered disclosures or apologies, the two were both positively associated with patient safety culture (Kronman, et al., 2011).

In a commentary on a 62-year old woman who experienced a wrong-site surgery to remove a cancerous lesion, physician Thomas Gallagher noted that most physicians have not had disclosure training and are rarely held accountable for disclosing errors, let alone doing so appropriately. He also noted that clinicians tend to focus on the clinical details of the event and the injury and neglect patients’ emotional needs (Gallagher, 2009). Lack of training has, perhaps, led to a lack of awareness of the positive benefits disclosure can have on patients. Physicians who participated in focus groups noted that discussing the error with the patient gave them solace but they feared the discussion would negatively impact the patient (Gallagher, 2009).

Another study used a mixed-methods design (wisdom scale and retrospective interviews) to measure the association between 61 physicians’ scores on a three-dimension wisdom scale and whether they disclosed and apologized for their last medical error. Physicians scoring high on the wisdom scale (wisdom exemplars: cognitive, compassionate, reflective; displaying willingness to understand the complexity, ambiguity, and uncertainty) were twice as likely to report disclosing and apologizing for their last medical error (Plews-Ogan, et al., 2016).

Exemplars reported that apology was critical to healing the relationship with their patient after the medical error. They noted that apology helped them deal openly with the event and that being able to talk about the event is what helped them the most. They also admitted that it was extremely difficult to face the shame of their error and the anger and grief of their patient but tied their decision to admit fault and apologize to morality and humanity. Some exemplars relayed anecdotes about initially angry and upset patients that they eventually shared touching moments of forgiveness with (Plews-Ogan, et al., 2016).

Of the physicians that participated, 73.8% were scored as wisdom exemplars. Exemplars were demographically similar nonexemplars and both groups reported that they had not received training. Though, several of the exemplars mentioned notable mentors that had guided their views on the importance of apology (Plews-Ogan, et al., 2016).

### Physician-Perceived Barriers

One final physician study assessed physician-perceived barriers to the use of apology in medical error disclosure. The findings from this study, along with barriers mentioned throughout the other physician studies are below, stratified from the social-ecological perspective of the physician:

Table 2: Barriers to Apology, by Social-Ecological Framework Level

|  |  |
| --- | --- |
| Social-Ecological Framework (SEF) Level | Factors Affecting Apology |
| Individual1 | * Fear of malpractice lawsuit1,2,3,4,5
* Feelings of shame and embarrasment1,4
* Anxiety, depression,2 sense of inadequacy2,4
* Lack of confidence/experience1,4
* Resistance to change1
* Loss of empathy2
 |
| Interpersonal2 | * Fear of showing emotion being perceived as unprofessional2
* Fear of erosion of patient trust/do more harm than good3
 |
| Community3 | * Lack of support (perceived or actual)4,5
* Potential for loss of reputation3
* Cultural/social norms and hierarchical pressure2
* Lack of communication role models2
* Absence of patient safety culture6
 |
| Institutional4 | * Insufficient tools and training1,4,5
* Low tolerance/Punitive\* culture1
* Lack of structural support1,3,5
* Job overload/burnout2
* Institutional pressure to choose words carefully3,4
 |
| Policy5 | * Presence and extent of apology laws1
* The National Practitioner Data Bank1
* Physicians held personally liable3
 |

1 Individual SEF level includes personal factors, such as psychological/emotional states.

2 Interpersonal SEF level includes relationships between people and peer influence.

3 Community SEF level includes social networks and social norms in the community.

4 Institutional SEF level includes rules, regulations, structures, and norms of institutions.

5 Policy SEF level includes local, state, and federal policies.

\* Punitive culture: culture of blame/punishment for errors8

Bell, et al. 2012

White, et al. 2011

Gallagher, 2009

Raper, et al., 2014

Gallagher, 2003

(Kronman, et al., 2011)

# Discussion

There are numerous human, system, and inherent factors that contribute to adverse events. Less than half are caused by medical error. Adverse events that are medical errors stem from a nuanced combination of human and system factors, many of which are probably mediated by the high-stress nature of healthcare delivery and the way healthcare institutions operate. While research on patient and physician views on the contributing factors is sparse, it suggests that patients recognize the interplay between these two factors while physicians hold themselves unduly accountable.

Most healthcare institutions have perpetuated cultures where adverse events are denied, physicians and providers are silenced, and neither the physicians nor the patients gain an established sense of what exactly went wrong and why. A large percentage of patients that file malpractice claims were injured by care that met the expected standard; which suggests that even when no medical error was present, patients are not receiving sufficient answers about medical injuries. In one of the few studies on patient perspectives on the causes of adverse events, only 5% of the patients had learned the cause from their physician.

Instead, standards of care are left for interpretation by an inherently adversarial system. The sole function of the litigation system – as it pertains to healthcare – is to determine whether or not a physician – who may or may not have made a mistake that may or may not have been caused by being overworked, overburdened, and tired – is at fault for imposing injury on a patient. While it is said that another function of the system is to compensate injured patients, patient compensation hinges solely on the determination made about the provider’s role in the error.

There is a disconnect somewhere between the system-approach to patient safety popularized by *To Err is Human* and the way research, policy, and conversations/training on adverse events and adverse event disclosures are framed. This disconnect is equally pervasive throughout the articles included in this rapid review, and articles on apology in general. There is much ado about physician fault in apology literature. Many articles grapple with whether or not apologies should include admissions of fault, whether physicians intend to include admissions of fault, and how patients might benefit if the physician admits fault.

Broadly, the research suggests that admissions of fault should be included in apologies, patients benefit if the physician admits fault, and physicians are inherently and/or taught to be afraid of admitting fault. Two of the studies included in this rapid review are commonly used to advocate for including admissions of fault in all apologies. Both of these studies concluded that admissions of fault were associated with positive intrapersonal and interpersonal outcomes in the patients who hypothetically received them.

However, both studies presented error scenarios in which fault could be seen visibly. A missing link in this essay, and research on apology, thus far, may be that what patients truly value is honesty. And beyond that, an apology that is conveyed *honestly*. This was demonstrated in the three studies where expressions of empathy and nonverbal cues were strongly associated with positive intrapersonal and interpersonal outcomes, as well as decreased intent to sue.

 Physicians, generally, are characterized by a profound sense of duty to their patients and honor to their profession. They feel personally responsible for the outcomes their patients experience and do not take this responsibility lightly. When an error occurs, they feel as though they have failed their patient, their profession, and themselves. They are also fearful of the implications for their patient, their reputation, and a potential lawsuit.

The persistent themes from the physician perspective were that physicians have a profound fear of malpractice claims and have little training and support for responding to adverse events. These articles did not distinguish if the source of this fear was experience, observation, or the general culture of medical education and medical institutions. Either way, the perceived necessity of “choosing words carefully” was evident.

Four of the patient studies included in this review suggest that choosing words carefully may not be as imperative to avoiding malpractice as physicians believe. In two of the studies, patients observed hypothetical error scenarios in which fault was clearly visible, yet an admission of fault was not positively or negatively associated with intent to sue. There were also two studies that found that fault attribution was not strongly associated with intent to sue.

Still, one of the physician studies depicted a training course where physicians were taught that words like, “it was a mistake,” are not a good idea. The pressure that physicians and institutions place on themselves to “choose their words carefully” is so profound that one of the physician studies was named after it. This title provided a stark, and telling, contrast to one of the patient studies, which was titled: “It’s not what you say, it is how you say it.” Perhaps this pressure to deliver apologies meticulously is what is standing in the way of delivering apologies effectively.

Research on actual patient and physician experiences is sparse, but the evidence suggests that patients who receive an apology will remember the gesture and patients who do not receive an apology will be angered by the omission. In addition, physicians who offer apologies recall that the gesture helped them deal openly with the event and catalyzed their healing. Institutions and states should work to facilitate these gestures… for both the patients and the physicians.

# Conclusion

## Policy Implications

### Institutional

The Joint Commission on the Accreditation of Hospital Organizations and many states now require hospitals or physicians to disclose adverse events to patients. In addition, the American Medical Association and the American College of Physicians recognize that disclosure is an ethical standard. (Robbenholt, 2008). These organizations have not made statements about apology (Heaton, et al., 2016), but the disclosure checklist established by the AHRQ in its CANDOR toolkit instructs physicians (or institutions) to: “say you are sorry for the adverse event in a sincere manner early in the conversation” (CANDOR, 2016, module 5).

The findings in this review suggest that physicians hold themselves unduly accountable for adverse events. If a physician feels like they were at fault, but they are pressured not to admit it, their disclosure may come across as insincere. Helping physicians rationalize the human and system factors that caused the event may be a more productive way to prepare them for apologizing than telling them what not to say. Taking ownership over which standards of care were met or not met can contribute to the efficacy of apologies, specifically, and the improvement of patient safety, generally.

### State

There are 36 states that have passed ‘apology laws,’ which exclude words of apology from admissible evidence of liability, but only 6 states that have extended these protections to admissions of fault. Ho & Liu (2010) argue that apology laws were passed in the hopes that they would allow doctors to communicate with patients more effectively, thus reducing confusion and anger (p. 3). Even though evidence from this review suggests that the most effective way for doctors to communicate with patients is to be honest, fear of malpractice claims remains the most significant physician-perceived barrier to offering apologies.

## Limitations

The most significant limitation to this essay is that it focused exclusively on apology and did not consider other elements of effective disclosure programs, such as compensation. Even patients who receive a satisfactory apology may not be deterred from seeking compensation. And apologizing may not always override the need to compensate patients for substandard care. These dynamics are explored elsewhere in disclosure literature.

The findings and conclusions of this essay also have several limitations. First, the rapid review only incorporated articles where apology was a main theme – identified by inclusion of the word “apology” in the abstract. An extended review could benefit from scanning the breadth of literature on error disclosure and error disclosure programs, generally, for further anecdotes or evidence regarding applications of apology.

Another limitation is that most of the included studies rely on hypothetical surveys. Hypothetical surveys have limited validity because they often provoke response bias and one never truly knows how they will react to a real-world scenario, especially one as nuanced and emotionally-charged as medical error. Also, there are very few studies on this topic so most of the instruments have not been validated by outcomes or previous research.

The generalizability of most of the included studies is limited as well. Almost all of the studies relied on convenience samples from single institutions or regions. Many also had extremely small sample sizes. Most of the patient survey respondents were well-educated women and a number of the studies disproportionally represented certain groups. Because of this, the findings presented here may not be representative of the US population.

## Suggestions for Further Research

There are a number of disconnects in adverse event and adverse event disclosure research that should be considered. Namely, the terms ‘adverse event’ and a ‘medical error’ are often used interchangeably, even though there is an established difference. Many adverse events are not the physician’s fault, yet numerous articles that suggest that apologies are not effective if they do not include admissions of fault. This may be why physicians do not find apology broadly applicable.

 Another disconnect here is that fault for medical error is often shared between the physician and the system. Should the physician admit fault when their mistake was a result of being overburdened and overstressed? Perhaps it is time to explore the institution’s role in sharing ownership and fault for errors.

To build on the findings of this review, more evidence is needed to demonstrate that the content of an apology is not as important to intrapersonal, interpersonal, and intent to sue outcomes as delivery. Specifically, evidence that this theme translates to real disclosure scenarios. An interesting pathway for exploration: does feeling pressured to choose words carefully hinder physicians from delivering effective apologies. Are expressions of empathy and nonverbal cues hindered? Studies included in this review provide a good foundation for exploring this association.

A foundation for patient expectations could be established by conducting interviews with patients to determine what they are looking for. In essence, building on the ideal apology offered by one of participants in Gallagher (2003). Most of the common understanding of what patients are looking for after an adverse event is derived from Vincent (1994). However, the participants in this study had all filed malpractice claims so they may not be representative of the entire patient population.

Another suggestion for future research is to conduct a large scale survey to explore whether there is an association between the approach institutions have adopted for responding to medical errors and physician experiences of second victim syndrome. When physicians are a part of the resolution process, do they feel less long-term distress from being involved in the event? This will signal whether details of these programs, such as apology and admission of fault, are worth exploring for their association with the recovery process.

To incentivize adoption of apology as a standard, further research should seek to place a psychological and/or actual cost on delivering an apology. My previous suggestion could facilitate in establishing psychological benefit. Ho & Liu (2010) provide a foundation for establishing the actual cost-benefit.

**APPENDIX A: CHARACTERISTICS OF INCLUDED STUDIES**

Table 3: Characteristics of Included Patient Studies

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Author, Date** | **Study Year(s)** | **Cohort** | **Design** | **Primary Measure(s)** |
| Hannawa, Shigemoto, & Little, 2016 | 2011 | 318 outpatients at Wake Forest Baptist Medical Center | Randomized factorial (vignette) surveys | **Patient Attitudes**Patients’ perceptions of the severity of the error, apology, etc. Anticipated forgiveness and non-forgiveness (operationalized by measures of avoidance and revenge) Likelihood of changing physicians, intent to seek legal advice |
| Nazione & Pace, 2015 | 2007-2009 | 419 students in communication courses at a Midwestern University  | Randomized factorial (vignette) surveys | **Patient Attitudes**Perceived severity, responsibility, anger, attitudesIntent to sue, intent to punish, money desired |
| Hannawa, 2014 | N/A | 216 outpatients from large southeastern teaching hospital  | Randomized factorial (vignette) surveys | **Patient Attitudes**Perceived effectiveness of verbal vs. nonverbal disclosure vignettePerceived presence of apology, sincerity of apology, physician remorse, physician explanation of error, severity of error, fault attributions and intent to switch doctors |
| Wu, et al., 2009 | 2004 | 200 volunteers from general community in Baltimore | Randomized factorial (vignette) surveys | **Patient Attitudes**Perception of physician handling of incident, evaluation of physician, viewer’s emotional response, trust in the physician, desire to have the physician as own doctor, inclination to refer a friend/family member to the physician, likelihood of suing |
| Gallagher, et al., 2003 | 2002 | 52 active health care users residing in St. Louis, MO | Focus Groups (6 patient groups, 3 physician-patient) | **Patient Attitudes**Patient perceptions of patient and physician attitudes toward medical error disclosure, whether physicians are disclosing the information patients desire, patient and physician emotional needs following an error, and whether these needs are currently being met |
| **Table 3 Continued** |
| **Author, Date** | **Study Year(s)** | **Cohort** | **Design** | **Primary Measure(s)** |
| Mazor, et al., 2006 | 2005 | 407 members of a large New England-based health plan  | Randomized factorial (vignette) surveys | **Patient Attitudes**Perception of error and physician responsibility for errorLikelihood of changing physicians, intent to suePatient satisfaction, physician trust |
| Mazor, et al., 2013 | 2013 | 78 patients who had filed grievances about their cancer treatment events | Retrospective, qualitative interviews | **Patient Experiences**Patients’ evaluations of responsiveness and sufficiency of physician-patient interactions following their treatment event |
| Helmchen, Richards, McDonald, 2011 | 2007 & 2009 | 2 middle-aged women who experienced similar adverse surgery events | Case Studies | **Patient Experiences**Nature, timing, and duration of successful remediation |
| Gallagher, 2009 | 2009 | 1 patient1 uninvolved physician | Case Study | **Patient Experience**Patient perception of error disclosure |

Table 4: Characteristics of Included Physician Studies

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Author, Date** | **Study Year(s)** | **Cohort** | **Design** | **Primary Measure(s)** |
| Gallagher, et al., 2006 | 2003-2004 | 2168 clinically active internal medicine physicians (WA) | Cross-sectional surveys | **Physician Attitudes, Perceived Barriers**Attitudes about patient safety concepts, malpractice, and disclosureAlso, randomly assigned apparent or less apparent error – asked what they would most likely say regarding an apology |
| White, et al., 2011 | 2003 | 758 medical trainees (488 students, 270 residents) | Randomized factorial (vignette) surveys | **Physician Attitudes, Perceived Barriers**Trainee intent to offer full, partial, or no disclosure/apology for error highly visible vs. not highly visible error |
| Gallagher, et al., 2003 | 2002 | 46 academic and community hospital physicians practicing in St. Louis, MO | Focus Groups (4 physician groups, 3 physician-patient) | **Physician Attitudes, Perceived Barriers**Physician perceptions of patient and physician attitudes toward medical error disclosure, whether physicians are disclosing the information patients desire, patient and physician emotional needs following an error, and whether these needs are currently being met |
| Raper, Resnick, & Morris, 2014 | N/A | 12 U of Pennsylvania residents  | Cross-Sectional analysis: simulated disclosures after disclosure course | **Physician Attitudes, Perceived Barriers**Ability to use effective communication strategies, engage in open-ended questioning, respond to emotions, convey sympathy, relay medical information, and convey commitment to well-being |
| Chan, et al., 2005 | 2003-2004 | 30 academic surgeons (U of Toronto and Washington U) | Randomized Control Trial  | **Physician Attitudes** Explanation of medical facts about error, honesty/truthfulness, empathy, discussion of plan for preventing future errors, and general communication skills demonstrated in disclosure of surgeon error vs. team error vs. error that is not highly visible  |
| **Table 4 Continued** |
| **Author, Date** | **Study Year(s)** | **Cohort** | **Design** | **Primary Measure(s)** |
| Kronman, Paasche-Orlow & Orlander, 2011 | 2005 | 97 medicine and surgery residents at Boston Medical Center | Cross-sectional surveys | **Physician Experiences**Analysis of residents’ accounts of worst medical error, including working environment and patient safety cultureSubscales: residents’ assessments of clinical team, residency program, and clinical unit |
| Plews-Ogan, 2016 | 2009-2011 | 61 physicians from three geographic regions | Mixed-methods design: (retrospective, interviews + wisdom scale) | **Physician Experiences**Ardelt’s Three Dimensions of Wisdom Scale (3D-WS) (cognitive, compassionate, reflective)Qualitative and quantitative (3D-WS score [wisdom exemplar or nonexemplar]) interview assessment  |
| Gallagher, 2009 | 2009 | 1 patient1 uninvolved physician | Case Study | **Physician Experience, Perceived Barriers**Uninvolved physician’s perception of error disclosure |
| Bell, et al., 2012 | N/A | 27 individuals (9 physicians) in leadership positions at organizations with CRP | Semi-Structured, retrospective interviews | **Perceived Barriers**Perceived implementation barriers |

**APPENDIX B: PRIMARY FINDINGS OF INCLUDED STUDIES**

Table 5: Primary Findings of Included Patient Studies

|  |  |
| --- | --- |
| **Author, Date** | **Primary Findings** |
| Hannawa, Shigemoto, & Little, 2016 | Empathy: positively associated with patient forgiveness, negatively associated with patient avoidance of the physician (also decreased desire for revenge)Rumination: negatively association with patient forgiveness, positively association with patient avoidance of physicianPatient perception of a sincere apology increased empathy Empathy and Rumination strongly predicted forgiveness; fault attribution did notNonverbal involvement associated with more favorable patient perceptions of error severity, physician sincerity, and blame. Also, lower empathy; higher rumination |
| Nazione & Pace, 2015 | The effects of apologizing on the outcome variables were non-significant after addition of empathy to multiple regression equation Empathy significantly associated with reduced anger/intent to sue, positive patient attitudes toward physician, and maintenance of patient-provider relationship |
| Hannawa, 2013 | Patients receiving nonverbally involved disclosure evaluated their situation less accurately, expressed more negative evaluations of the error, displayed higher fault attribution, and were more likely to change physicians |
| Wu, et al., 2009 | Full apology and acceptance of responsibility were associated with increased trust, increased patient satisfaction and decreased likelihood to change physicians. Not significantly associated with decreased propensity to suePatient *perception* of what is said more important than what is said |
| Mazor, et al., 2006 | Full apology and acceptance of responsibility were associated with increased trust, increased patient satisfaction and decreased likelihood to change physicians. Associated with decreased propensity to sue in some scenarios  |
| Mazor, et al., 2013 | Patients value apology, expressions of remorse, caring, and empathy, acknowledgement of responsibility (but apology may not heal relationship) Patients want physician to understand and convey what went wrong  |
| Helmchen, et al., 2011 | Full disclosure, including a forthright description and explanation of the error, and an apology can restore trust and facilitate remediationNo apology will be viewed as sincere without remediationGet there early, assure them you will stay late – follow through on your pledge |
| Gallagher, 2009 | Patient felt reassured by recognition and apology; expressed preferences for information, emotional support, apology, and follow-up, still seeking compensation for pain, suffering, and time away from work |

Table 6: Primary Findings of Included Physician Studies

|  |  |
| --- | --- |
| **Author, Date** | **Primary Findings** |
| Gallagher, et al., 2006 | 94% would apologize (61% expression of regret [“I’m sorry about what happened”]; 33% explicit apology [“I’m so sorry you were harmed by this error”]) More would apologize if the error was more apparent (37% v. 28%)Surgeons chose explicit apology half as often as medical specialists (21% v. 41%)64% felt that medical errors are one of the most serious problems in healthcare 55% reported involvement in a serious errorPhysicians divided on whether medical errors are usually caused by failures of care delivery systems (50.4%) or failures of individuals (49.6%)  |
| Raper, et al., 2014 | 25% of the residents made full apologies Faculty scored residents “satisfactory” in 4/10 domains: responsiveness to questions, acknowledgment of responsibility, communication at patient learning level, and clear message (standardized patients scored residents significantly lower in all the above domains)6 domains for improvement identified: address of extra-clinical issues, response demeanor, nonverbal communication, allowance of adequate process time, acknowledgement of patient feelings, and outline of clear plan for follow-up |
| Chan, et al., 2005 | Surgeons used “error” or “mistake” in 57% of disclosure conversations, took responsibility in 65% of conversations, and offered a verbal apology in 47%.Surgeons acknowledged or validated patients' emotions in 55% of scenariosSurgeons scored highest on ability to explain medical facts; followed by honesty and truthfulnessSurgeons scored lowest on discussion of plan to prevent future error, followed by empathy  |
| White, et al., 2011 | 98% of trainees said they would offer some form of apology (Definitely: 43%, Probably: 46%; Only if asked by patient: 9%)52% would offer a general expression of regret, 46% would offer explicit apology Trainee inclination to apologize did not associated with visibility of error, but increased in instances where they were at fault Trainees at higher levels were less likely to use an explicit apology |
| Gallagher, et al., 2003 | Physicians want to apologize but fear liability -- agree errors should be disclosed but words should be chosen carefully Physicians feel upset, guilty, fearful of lawsuit, anxious about reputational repressionsPhysicians experience sleeplessness, difficulty concentrating, and anxietyPhysicians struggle to find support, discussing error with patient gives solace but they worry that relief comes at the price of the patient Physicians perceive forgiving themselves as most difficult challengeApologizing might be useful approach to resolving physician and patient distress  |
| **Table 6 Continued** |
| Kronman, et al., 2011 | 31% of the residents reported apologizing for their most significant errorFactors in the learning environments of clinical teams and residency programs are associated with error disclosure and apology  |
| Plews-Ogan, 2016 | Correlation between self-reported and interview 3D-WS scoresBehaviors of wisdom exemplars align with patients’ desires after medical error (acknowledge/explain mistake, apologize, describe plans to prevent recurrence)Physicians reported apology opened opportunity for patient and self-forgiveness |
| Gallagher, 2009 | Patient stated she felt reassured by recognition and apology Expressed preferences for information, emotional support, apology, and follow-upPatient still seeking compensation for pain, suffering, and time away from work |

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