Medical Research Archives

ESMED
European Society of Medicine

OPEN ACCESS

Published: February 28, 2023

Citation: Lecraw R. F., 2023. CANDOR - A Patient Safety, Medical Liability, and Healthcare Professional Wellness Program, Medical Research Archives, [online] 11(2). https://doi.org/10.18103/mra.v11i2.3434

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DOI: https://doi.org/10.18103/mra.v11i2.3434

ISSN: 2375-1924

RESEARCH ARTICLE

CANDOR - A Patient Safety, Medical Liability, and Healthcare Professional Wellness Program

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ABSTRACT

The Communication and Optimal Resolution (CANDOR) program, a patient safety, medicolegal, and healthcare professional wellness program, has been implemented or in the process of being implemented in over 800 US hospitals. The program was designed to help patients suffering from unexpected adverse outcomes and healthcare professionals whose patients experience injury while under their care. The CANDOR program's basic premise emphasizes honesty in medical error situations. It aims to prevent the recurrence of medical errors. Studies have found that, compared to the common US practice known as "Deny, Delay, and Defend," using CANDOR not only benefits current and future patients but can improve the well-being of healthcare professionals. This paper therefore aimed to describe CANDOR and evidence regarding its effects on patients and the healthcare professional's well-being at hospitals that implemented it in comparison to their previous practice of "Deny, Delay, and Defend." This paper describes methods used by CANDOR teams, which include physicians, attorneys, patient advocates, and health policy leaders, in their successful endeavor to persuade hospital leaders to implement it, in essence to change the hospital's culture from a culture of opaqueness regarding medical errors and their consequences to a culture embracing transparency. This paper also describes obstacles the teams faced in their endeavor to implement CANDOR at their institution and how they surmounted the obstacles.

Introduction

In 1999, the Institute of Medicine published the white paper, "To Err is Human." The authors estimated that in the US, 100,000 people died as a result of medical error each year.[1] This was the impetus for the safety movement in the US. 18 years later Makary et al reported that the IOM report not only underestimated the annual deaths attributable to medical error, but little improvement had been made in improving patient safety. He and his colleagues estimated that 250,000 people died annually due to medical error.[2] Due to the high incidence of medical error resulting in injury and death of patients in the US healthcare delivery system, patient safety experts designed CANDOR as a program to improve patient safety and prevent recurrence of medical errors by being transparent to their patients, colleagues, and hospital leaders when an unexpected adverse outcome occurs. The CANDOR program is described later in this paper.

Healthcare professional (HCP) burnout is a contributing factor to the high incidence of medical errors Surveyed physicians reported more medical errors when they felt burned out.[3] Burnout symptoms include emotional exhaustion, depersonalization, and a low sense of personal accomplishment.[4] HCP burnout was known to be a problem before the COVID-19 pandemic. But due to the stressors of the pandemic, the incidence of HCP burnout has increased. Surveys of physicians and advanced practice clinicians showed a 45% incidence of burnout in 2019, before the pandemic. It increased to 60% by December 2021.[5]

A second serious negative consequence of HCP burnout is that it is associated with a high attrition rate.[6] Linzer et al found that the intent to leave increased from 24% in 2019 to more than 40% by the end of 2021.[5] This could cause a national shortage of the HCPs and reduce patients' access to necessary care. This situation could result in fewer HCPs being available to take care of an increasingly aging and ill population. Consequently, the remaining the HCP is being asked to do more work, a work situation that could increase the rate of medical errors. Many burnout experts believe that the professional environment and work culture form the major sources of HCP burnout.[7]

US public health officials say HCP burnout is a public health crisis.[7] The US Bureau of Labor Statistics has indicated that there could be a need for 1.1 million new nurses at the end of 2022.[8] The Surgeon General's report titled "Addressing Healthcare Workforce Burnout" was released in 2021.[9] As reported by Oliviero and Hart, the US Surgeon General, Vivek Murthy, said that they predict a shortage of three million essential low-wage workers in the next five years. The Surgeon General stated that burnout is a contributing factor to the shortage of HCPs and low-wage workers. The US Federal government has prioritized the need for researchers to determine methods that will decrease HCP burnout. They hypothesize that decreasing burnout will increase HCP and low-wage worker retention rate resulting in improved access to care.[10]

This paper therefore aims to describe a patient safety, medical liability, and HCP wellness program known as the

Communication and Optimal Resolution (CANDOR) program. The paper discusses why burnout and patient safety experts believe the CANDOR program not only improves patient care but can mitigate burnout and improve HCP well-being resulting in improved patient care and access to care. This paper also discusses the methods used by CANDOR teams that have successfully persuaded hospitals to implement the program, how they surmounted the obstacles to implement the program, and reasons for certain other teams' less success in this regard.

This paper is based on a presentation made by the author at the 2022 European Society of Medicine General Assembly. It is not an in-depth review of CANDOR. The author hopes that healthcare professionals and hospital leaders will investigate CANDOR and the research that investigated the impact of CANDOR further. The author's aspiration is that this readership will become CANDOR advocates and consequently collaborate with others to implement it at their medical facilities by using some of the resources supplied in this paper.

CANDOR, Burnout, Healthcare Professional Well-Being, and Patient Safety

CANDOR was designed for use by hospitals when patients experience an unexpected adverse outcome. CANDOR includes explanations of the reasons underlying bad outcomes to patients and their families, apologies for medical errors, discussions of ways to prevent any future recurrences of errors, and proactive compensation strategies. All hospitals participating in the program are required to create a reporting system and strongly encourage their HCP to report any witnessed medical errors and unexpected adverse outcomes with no fear of censure for the HCP reporting the event.[11] They are encouraged to work toward the goal of correcting system or personnel error. CANDOR thus encourages hospital leaders to view medical errors as learning opportunities in order to prevent any recurrence of errors. This strategy contradicts the "blame and shame" culture frequently used by many healthcare institutions.[12] With the "blame and shame" culture, many healthcare professionals (HCPs) are often reluctant to admit an error because they fear being censured.

CANDOR also requires the establishment of a peer support group to counsel the HCP whose patients have experienced an unexpected adverse outcome. CANDOR's change in culture from "blame and shame" to an opportunity to learn from the error so it will not recur, and peer support offered to the HCP of injured patients contributes to HCP feeling more supported by senior hospital leadership.[13] Believing that leadership supports the HCP is a key factor in mitigating burnout symptoms. A survey of anesthesiologists found that anesthesiologists who did not perceive support from their hospital leadership experienced over six times a higher incidence of burnout symptoms compared to anesthesiologists who felt supported by their leadership.[14]

Researchers have investigated CANDOR's impact in several US hospital settings in comparison to the commonly used

practice that medical liability experts call "Deny, Delay, and Defend" (DDD).[11,13,15] DDD refers to advice often given by attorneys to their physician clients: that is, not to talk to their patients, colleagues, or hospital leaders about the event, especially if they committed an error. Physicians are thus advised to not admit any errors. However, if hospital leaders are not informed about any error occurrences, they will be unable to correct the system or personnel error that may have contributed to the bad outcome. This, in turn, could lead to the recurrence of that particular medical error. Studies have found that CANDOR decreases litigation incidence, decreases defense costs, and shortens time spent in resolving a case when compared to using DDD.[11,15] There is evidence that CANDOR can improve patient safety by dramatically increasing the reporting of witnessed medical error to hospital leadership so corrections in systems and personnel error can be made. [13,15] One study gave examples of changes in their healthcare system that were made after notification of the medical error.[16] Researchers have found evidence that the CANDOR program can decrease the stress the HCP experiences resulting in mitigating the incidence and severity of their burnout while meeting the needs of patients who are suffering from adverse outcomes.[11] As of the writing of this paper, the CANDOR program has been implemented or is in the process of being implemented in over 800 United States hospitals. (Personal communication, T McDonald, 7 November 2022).

Many physicians consider medical liability claims to be the most stressful event in their professional career.[17] Physicians fear that if they admit error they will be sued more frequently. In the US, a self-employed physician is required to report any compensation due to written request for money to the National Practitioner Data Bank (NPDB).[18] Almost half of US physicians are self-employed.[19] Physicians fear that increased reporting to the NPDB will negatively impact their career.[20] For these reasons, many physicians are reluctant to admit error and use the CANDOR program. Studies have found that compared to using DDD, CANDOR decreasing the incidence of claims filed which is reassuring to physicians.[11,15] Since CANDOR also decreases time spent in resolving a case between the healthcare professional and patient and offers peer support to the HCP of patients who have suffered an unexpected adverse outcome, many burnout experts believe that CANDOR can reduce the degree of HCP stress after their patient suffers a bad outcome and create a resultant decrease in the severity and incidence of burnout. The Collaborative for Accountability and Improvement's website gives a more detailed description about the CANDOR program and list studies that investigated the impact of CANDOR at hospitals when compared to DDD. (Table 2)

The CANDOR program represents a change in US medical culture from the currently common practice of DDD; from opaqueness when a medical error occurs to transparency. Without a concerted and collaborative effort by local and national CANDOR advocates, it can take decades for hospitals to change their culture, if they do it at all. Nevertheless, CANDOR teams, which

include physicians, attorneys, patient advocates, and health policy leaders, have succeeded in their endeavor to get over 800 hospitals to decide to implement CANDOR. One CANDOR team accomplished their goals of persuading Baystate Medical Center and Beth Israel Deaconess Healthcare System to adopt CANDOR.[21] A Dignity Health System (DH) CANDOR team succeeded in their endeavor to persuade DH leaders to train their HCP to use CANDOR.[22] In 2019, DH merged with Catholic Health Initiatives to become CommonSpirit Health. Two CANDOR teams were unsuccessful in their efforts to persuade six Washington State hospitals and ambulatory surgery centers and five New York City Hospitals' Surgery Departments to implement CANDOR despite making significant efforts and expending the necessary financial resources.[23] This paper will discuss the reasons why some teams succeeded, while other teams believed they failed; it will also discuss the obstacles they all faced in their endeavors to persuade hospital managements to implement CANDOR. The successful techniques used by teams to get widespread adoption of a new program have been described by diffusion of implementation scientist. The basic principles of DOI and how teams used DOI are described in the next section.

Diffusion of Innovation Science

Since the 1920s, social scientists have investigated what factors underlie the wider adoption of any given innovation. Everett Rogers wrote a landmark text, "Diffusion of Innovation," which was first published in 1962. It is now in its 5th edition.[24] Scientists have determined that the most important factor that ensures the wider adoption of any given practice is a strong belief among the relevant individuals and their peers that the practice will benefit their lives. Such leading factors are listed in Table 1 using a similar table published in Journal of Patient Safety and Risk Management.[22]

Table 1

1. Perceived benefit to individuals and their peers
2. Practice aligns with the norms and values of the individual and peer group
3. Method is available for peer leaders to communicate the costs and benefits of the practice to peers
4. Mechanism to modify the practice to the group's local environment
5. Ability to try out the new practice and receive feedback about its effects
6. External support is available to help individuals adopt the innovation
7. Ease of adoption

Reasons for Success

The successful CANDOR teams first determined the targeted physicians' concerns about using CANDOR. Such physicians' main concern was a fear that admittance of any errors would lead to worse liability outcomes, especially increase litigation and reporting to the NPDB. The approached physicians were concerned that increased reporting to the NPDB would cause them reputational damage and negatively affect their careers. The CANDOR teams therefore described various studies that demonstrated its improved liability outcomes (especially with regard to decreased litigation incidence and reports to the NPDB).

These teams identified well-respected leaders of each group that was impacted by CANDOR, who could be depended upon to promote the new policy to their colleagues. Physicians, nurses, hospital leaders, risk management experts, and patient safety leaders were solicited to educate their peers on the benefits of CANDOR. The CANDOR teams educated these promoters on the evidence regarding CANDOR's impact and its advantages, especially compared to DDD. They frequently supplied these promoters with a one-page, easy-to-read handout to give to their peers. Figure 1 presents one example of a one-page handout given to hospital leaders and physicians that concisely explains CANDOR. Team members were available to answer any questions from the promoters or their peers.

Figure 1

Improving Patient Care and Healthcare Professional Well-Being

- Medial error is a leading cause of death in the United States
- Healthcare professional burnout is associated with increased medical error and increased attrition rate resulting in a national shortage of healthcare professionals.
- An overwhelming source of healthcare professional burnout is their professional environment and work culture.
- Therefore, the American Medical Association endorsed CANDOR in 2017 as a program to improve patient safety and healthcare professional wellness.

CANDOR Program

The hospital leadership must establish a psychologically safe (e.g., anonymous) reporting system to encourage healthcare professionals to disclose any unexpected adverse outcomes and medical errors they witness, without fear of retaliation.

The leadership must organize teams to investigate the unexpected adverse outcome and consider suggestions for improvement.

As a demonstration of accountability, the leadership must periodically communicate about any ongoing investigations with their staff and patients who experienced bad outcomes.

The leadership must communicate the findings of the investigation and any needed changes to healthcare workers, patients, and patients' families.

The leadership must organize a peer support program for healthcare workers whose patients suffered an unexpected adverse outcome.

The Collaboration for Accountability and Improvement (CAI) was established in 2015.[25] The CAI aims to implement CANDOR in all US hospitals and other countries. The CAI leadership includes patient advocates, researchers, healthcare attorneys, physicians, hospitals, and medical liability insurance carrier leaders. The Center for Patient and Professional Advocacy (CPPA) was established in 2003.[26] This organization aims to improve patient care. Both organizations offer various resources for people who want information about CANDOR. These organizations also have members who are available to help HCPs in their endeavor to persuade their medical facility to implement CANDOR. Both CAI and CPPA can direct CANDOR advocates to teams that can educate and train hospital leaders in implementing the program at their hospitals. The American Medical Association has a website and contact information that is intended to help HCPs improve the well-being of their fellow hospital staff.[27] (See Table 2).

Table 2

Patient Safety and HCW Well-Being National Organization	Website
Vanderbilt Center for Patient and Professional Advocacy	vumc.org/patient-professional-advocacy
Collaborative for Accountability and Improvement	http://communicationandresolution.org
American Medical Association	Practice.Transformation@ama-assn.org

Reasons for Failure

Mello and colleagues stated that the main factor underlying the New York City and Washington teams' lack of success in implementing all the necessary components of CANDOR was the lack of physicians' and hospital leaderships' support. Additionally, they were unable to enlist a physician to promote CRP to their peers.[28] Thus, hospital leadership and physician support were found to be the critical factors for ensuring successful CANDOR implementation.

Obstacles

As listed in Table 1, ease of adoption is one factor that can increase the speed and success of the widespread adoption of a new practice. All the teams faced this obstacle: that is, CANDOR is not an easily implementable program, considering the change that has occurred in medical culture—a move from opaqueness to transparency. Many physicians' perception is that by telling the truth to patients when they committed an error, it will increase malpractice claims against them. Another obstacle is that CANDOR is labor-intensive and can be costly for a hospital to implement it. Since it is a change in medical culture, it can take 3-5 years to be fully implemented and used by all medical staff.

Training teams were formed to help hospitals implement CANDOR. These teams taught hospital leaderships how to design a system that would enable HCPs to report any witnessed medical errors with no fear of censure. They also taught HCPs how to communicate with upset patients and families experiencing unexpected adverse outcomes. They trained leaderships to develop a peer support program for helping HCPs of patients suffering bad outcomes. The teams found that their efforts to implement CANDOR tended to be unsuccessful if there was a wide difference between the hospital's existing culture and CANDOR's culture of transparency or when senior hospital leaderships did not strongly support CANDOR. Subsequently, the implementing teams first performed a "gap" analysis to determine the differences between the institution's existing culture and CANDOR's culture. In cases where this gap was too large, a decision was made to not help the relevant hospital implement CANDOR. A decision was also made to not work with hospitals if the senior leaderships did not actively support the CANDOR program (Personal communication, G Hickson, 6 October 2020). The costs of the training team and the effort required by leadership for complete CANDOR implementation presented a third obstacle faced by teams in their efforts to successfully implement CANDOR in hospital settings. The teams showed studies that demonstrated CANDOR's potential to increase hospital HCP retention rates which would lower their cost of recruiting HCPs. The teams also showed leaders the evidence than CANDOR can decrease medical errors which facilitates decreased wasteful healthcare spending. The teams thus explained that CANDOR's implementation costs presented a good return on the hospital's investment.

Conclusion

Several studies have supported the conclusion that complete hospital implementation of CANDOR is beneficial for patients, future patients, and HCPs. Two CANDOR teams' successful promotion of changes in healthcare policy at the hospital level and two other teams' failure in this regard demonstrate that DOI principles can be successfully used for advancing this evidence-based healthcare practice. The author recommends CANDOR advocates meet with their HCPs and hospital leaders to determine the questions, concerns, and goals of each group that will be impacted by the program. It is thus important to identify the opinion leaders of each peer group so that they can be persuaded to promote the innovation to their colleagues. CANDOR advocates should make a concerted effort to help the peer opinion leaders educate their colleagues about the benefits, costs, and risks of CANDOR. Concise one-page handouts can be provided to the promoter, who, in turn, can give it to their peers; this has proven to be an effective means of communication with hospital leadership and HCPs. CANDOR advocates should therefore seek out national organizations to help them implement the program at their institutions. It is hoped that this paper's readers will investigate CANDOR in more detail with the goal of improving their

and their colleagues' well-being as well as delivery of care to their patients.

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Conflicts of Interest Statement:
The author has no conflicts of interest to declare.

Funding Statement:
The author received no financial support for the research, authorship, and/or publication of this article.

Acknowledgements:
Not applicable

Funding Statement:
None

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