Improving safety through speaking up: An ethical and financial imperative

By Adam Novak, MA, CPPS

Background: Fostering a culture that empowers staff to speak up when concerned about the quality or safety of patient care is both an ethically[1] and economically[2] responsible endeavor. The Michigan Health & Hospital Association (MHA) Keystone Center has implemented the Speak-Up! Award program that acknowledges frontline health care staff for voicing their concerns and making care safer. The objective of this effort was to advance patient safety in Keystone Center member organizations through widespread, measurable culture improvement. After extensive data collection and analysis, there was a discernable improvement in culture survey results across a 2-year period coinciding with the launch and sustainment of the award program. Furthermore, in an effort to demonstrate the power of speaking up among staff, the Keystone Center applied a cost-savings framework to the types of harm avoided. Results from the cost-savings analysis suggest that each instance of speaking up by staff saves patients, families, and health care organizations an average of more than $13,000.

Methods: Keystone Center Speak-Up! Award nominations were submitted through an electronic form that collects open, closed, and Likert-type question responses, producing a data array on type and severity of harm prevented, as well as the difficulty and magnitude of the decision to speak up. All data were then coded by harm type and subsequently applied to a tailored version of the cost-savings estimation framework used in the Great Lakes Partnership for Patients Hospital Improvement and Innovation Network. Safety culture was

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measured through the use of a survey instrument called the Safety, Communication, Operational Reliability, and Engagement (SCORE) instrument.

Results: The Keystone Center Speak-Up! Award program received 416 nominations across the 2-year study period, of which 62% (n = 258) were coded as a specific harm type. Adverse drug events (n = 153), imaging errors (n = 42), and specimen errors (n = 27) were the most common harm types prevented by speaking up. After applying the cost-savings framework to these data, it is estimated that for every instance of speaking up, approximately $13,000 in total expenses were avoided, which is in line with the findings from a report on the economic impact of medical errors sponsored by the Society of Actuaries.[3] Furthermore, culture survey results improved by 6% between 2015 and 2017, coinciding with the Keystone Center Speak-Up! Award program.

Conclusions: The Keystone Center Speak-Up! Award has proven to be a valuable tool in recognizing staff awareness and willingness to raise concerns about quality and safety in health care. Data analysis from this program presents evidence that fostering a psychologically safe culture of speaking up yields fiscal and humanistic returns, both of which are crucial to sustainable, meaningful progress in safety and quality. However, further research is required to adequately gauge the degree to which safety culture improvement is proportional to cost savings.

INTRODUCTION

Concerns over the safety of health care delivery have persisted through the decades, and rightfully so. The oft-cited landmark publication *To Err Is Human*[4] sparked a revolutionary safety movement, paving the way for much-needed research and catalyzing creative solutions from inquisitive, compassionate people. The report concluded that, beyond the many tens of thousands of lives lost to medical errors, the associated monetary costs ranged from $17 billion to $29 billion. It is also now widely accepted that a progressive, generative safety culture is a crucial underpinning for any intervention and that there is a symbiotic relationship between safety culture and harm reduction.[5]

Literature Review

There is ample support in the current literature for implementing speak-up programs in health care, with much of the research focused on understanding psychosocial barriers such as hierarchical gradients.[6–9] This is especially salient when considering team dynamics and interactions between different specialties, as is common in high-risk settings. For instance, researchers examining speaking up in surgical oncology were able to successfully implement a targeted communication training program aimed at surgical staff, thus impacting patient safety.[10] These findings lend credence to the importance of speaking up as an interventional method, as surgical oncology often involves long procedures and staff from multiple specialties. Other studies have shown the impact of adaptive interventions like staff empowerment training.[11,12] Specifically, in one study, researchers found that nurses who received explicit instruction on speaking up reported improved perceptions of teamwork, communication openness, and continuous improvement, all of which are staples of patient safety.[13] Still, other evidence supports the use of highly structured educational programs to encourage voicing concerns. In one case,

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social cultural change was leveraged throughout a health care organization to drive improved hand hygiene compliance among providers.[14] Another study reinforces this concept by demonstrating the importance of sharing safety stories of employees who have identified risks and taken corrective action, especially elevating them to the senior executive level.[15]

These findings provide a compelling argument for organizations wishing to employ safety culture improvement techniques as a long-term adverse event reduction solution. However, there are areas of research within this topic that are lacking considerably. For example, there is limited, if any, research investigating the relationship between speaking up and cost savings. By better understanding the monetary savings associated with speaking up, health care professionals can assume a stronger stance when vying for organizational resources and plan safety programs more prudently. To fully realize this, the present study provides a deeper examination of the link between preventable adverse events, safety culture, and cost avoidance. Ultimately, this approach offers a medium through which a traditionally soft scientific topic materializes into the realm of quantifiable measurement.

Keystone Center Speak-Up! Award Background

The Keystone Center Speak-Up! Award program was launched in 2016 as a method of unveiling and addressing deep-seated cultural issues that directly conflict with patient safety. The original patient safety goals of the Keystone Center Speak-Up! Award program were to simultaneously create change in the culture of reporting among health care staff regarding unsafe situations and to engage organizations in grassroots efforts to systematically embed strong messages of positive reinforcement regarding speaking up.

However, after reviewing the structured and unstructured data from hundreds of nominations submitted through this program, trends began to emerge relating to both type and frequency of harm prevented. This presented a unique opportunity to apply a cost-savings framework to the analyzed data for an assessment of the economic impact of speaking up. Thus, the final patient safety goals of the program are as follows:

1. To create culture change among health care staff regarding speaking up to prevent patient and staff harm.
2. To engage organizations in fostering and sustaining a culture of speaking up.
3. To examine and leverage the economic benefits of speaking up through measurable cost-savings analyses.

METHODS

Keystone Center Speak-Up! Award program implementation

Borrowing from the work of John Kotter's steps of change,[16] though not necessarily in that order, the Keystone Center was able to systematically enlist strong leadership support, build a solid base of early adopters, and publicly celebrate quick successes, all while creating a sense of urgency.

Specifically, the initial concept of this program was well received by senior leadership, and support has been incredibly strong since its inception. Both the chief executive officer (CEO) of the Michigan Health & Hospital Association (MHA) and senior vice president of the Keystone Center have attended all but one on-site award ceremonies to congratulate the awardees and their organizations in person. Other MHA leadership, such as the senior vice president of member relations and education, the chief of staff, general counsel, and chief medical officer, have all pledged their support for this program as well. Leadership staff were able to carve out time in board meetings and committees for discussion of the Keystone Center Speak-Up! Award, mention its value in keynote addresses, and encourage member organizations to participate via one-on-one conversations. Furthermore, leadership staff in member organizations have advocated for its adoption internally and shared their experiences with other members. This was of chief importance to facility-level implementation because it showed a commitment to adverse event disclosure, learning, and feedback opportunities. These characteristics are proven cultural drivers within health care organizations and are germane to safe environments that foster continuous improvement.[17] The program was officially approved by the Keystone Center Board of Directors, and a three-member subcommittee of the board participates in the quarterly, blinded scoring to determine the awardee and runners-up.

Early wins were largely responsible for the widespread success of this program. It was discovered that larger hospital systems with preexisting staff recognition programs could easily assimilate the concept of the Keystone Center Speak-Up! Award and were thus able to submit nominations with relatively few barriers. Because of this, the significant influx of nominations provided numerous opportunities to share with the broader membership as to how others were successfully participating.

Finally, a crucial point of intervention leading to the adoption of this program was the dissemination of messages to create a constant sense of value and worth among organizations and their staff. That is, proving to the members how this program is rooted in foundational concepts like safety culture, just culture, and

transparency,[18] in addition to leveraging positive reinforcement via public recognition.

Keystone Center Speak-Up! Award data

The Keystone Center Speak-Up! Award nominations were collected via an electronic form whereby a nominator submits information about the nominee along with a written description of the event that was prevented. Other information collected in this form includes the type and severity of harm prevented, the level of difficulty of speaking up and the magnitude of the decision to speak up. The data were coded as a particular harm type and verified by comparing the nominator-submitted harm type in the electronic form against the anecdotal description. Once verified, the data were applied to a tailored version of the cost-savings estimation framework used in the Great Lakes Partnership for Patients Hospital Improvement and Innovation Network. Nominations that were not easily coded for harm type were excluded from the analysis.

Safety culture data

Safety culture was measured using the Safety, Communication, Operational Reliability, and Engagement (SCORE) instrument.[19] This tool has been tested extensively and was constructed with proven psychometric assessment capabilities and high predictive validity, similar to those demonstrated in related studies.[20,21] One survey item was selected from the teamwork domain as the primary method to gauge cultural shift: "In this work setting, it is not difficult to speak up if I perceive a problem with patient care."

RESULTS

Data for the Keystone Center Speak-Up! Award program were collected from April 2016 through April 2018. Across the 2-year collection period, 416 nominations were submitted from 31 hospitals in Michigan, and of these, 258 (62%) were coded as a harm type. There were 15 types of harm coded across the 258 nominations, with adverse drug events (n = 153), imaging errors (n = 42), and specimen errors (n = 27) being the most common. After applying a cost estimate[22–28] to each area of harm, it was determined that the 258 events represented a total cost savings of $3,450,248. The total cost savings was then used to calculate an average cost savings per instance of speaking up of $13,373. A summary of this information is shown in **Table 1**, and the average cost-savings figure supports the findings from a report on the economic impact of medical errors sponsored by the Society of Actuaries.[3]

For the culture component of this program, baseline SCORE data were collected from June 2015 to June 2016, with the follow-up survey period being November 2016 to November 2017. The combined data set included 47,176 individual survey responses across 71 hospitals in Michigan. As shown in **Table 2**, the baseline and follow-up groups reported 62% and 68% agreement with the designated SCORE item respectively, representing a 6% positive increase.

DISCUSSION

The goals of the Keystone Center Speak-Up! Award program represent a relatively new and understudied approach to creating staff awareness and spreading learnings associated with adverse events that were avoided. This is a significant departure from the more traditional method of debriefing why an event happened, launching retrospective investigations, and sharing those findings. This program also shows an alignment with just culture principles, namely, the fact that the subjects of the submitted nominations are not outcome focused. Rather, the program juxtaposes risk-based assessments of harm avoidance with human morality and decision making.

Furthermore, the results of this study indicate an intrinsic linkage between safety culture, cost savings, and harm avoidance in health care. The analyzed data show a significant improvement in safety culture and an average cost savings of more than $13,000 per instance of speaking up across hundreds of would-be adverse events. This three-pronged approach to addressing patient safety most importantly conveys the human aspect of harm prevention through the storytelling of patient, family, and staff experiences, but also shows a dedication to fiscal responsibility and the nurturement of psychologically safe work environments.

Insight for Speak-Up program implementation

The work done within this program has aided the Keystone Center in developing actionable steps for its members to pursue further improvement. Most notably, the Keystone Center Speak-Up! Award Toolkit (**Figure 1**) was created with step-by-step instructions to guide organizations on creating their own speak-up programs. The steps of the toolkit are based on those used by the Keystone Center during its implementation phase, and present a blueprint for individual hospitals to use. For success with this program, it is recommended that hospitals complete 5 crucial steps. These steps which are outlined below provide structure for a speak-up recognition program, but allow plenty of latitude for tailoring and future augmentation:

1. A primary contact for all award functions needs to be designated for the organization. This individual is responsible for creating awareness within the organization, distributing and collecting nomination forms, and coordinating staff recognition events.

2. With the help of the primary contact and organizational leadership, the frequency with which the

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Table 1: Keystone Center Speak-Up! Award Entries Coded by Harm Type, Cost Estimate per Harm Type, and Total Estimated Cost Savings

Coded Entries	Total Entries	% Entries Accounted For
258	416	62.02%

Code	Harm	Cost Estimate	Number Reported	Total Estimated Cost Savings
1	Adverse Drug Event	$5,000	153	$765,000
2	Imaging Error	$419	42	$17,598
3	Specimen Error	$712	27	$19,224
4	Complications of Surgical Procedures or Medical Care	$12,500	8	$100,000
5	Wrong Site Surgery	$127,159	6	$762,954
6	Readmission	$8,808	5	$44,040
7	Wrong Surgical Procedure	$232,035	3	$696,105
8	Complication of Device, Implant, or Graft	$17,600	3	$52,800
9	Diagnostic Error	$213,250	3	$639,750
10	Catheter-Associated Urinary Tract Infection	$1,000	2	$2,000
11	Surgical Procedure on Wrong Patient	$109,648	2	$219,296
12	Central Line–Associated Bloodstream Infection	$17,000	1	$17,000
13	Surgical Site Infection	$21,000	1	$21,000
14	Falls With Injury	$7,234	1	$7,234
15	Retained Foreign Body	$86,247	1	$86,247
Total Cost Savings Represented by Nominees				**$3,450,248**

award is to be given must be established. The Keystone Center Speak-Up! Award operates on a quarterly cycle, though individual hospitals or systems may prefer monthly time frames to align with recurring meetings.

3. An efficient submission process needs to be determined, including logistical considerations. For instance, the Keystone Center uses an electronic survey tool to accept nominations due to the large quantity of information submitted. However, smaller facilities may opt for a simple paper form completed by hand and deposited in a drop box.

4. An awardee selection method that comports with organizational processes and values must be designed. For the Keystone Center Speak-Up! Award, the selection process is aligned with the quarterly Keystone Center Board of Directors meeting. This makes for a relatively efficient process of selecting a rotating group of board members as judges and allows for constant reminders as the meeting approaches. Individual organizations may wish to adopt a similar model where leadership or a randomly selected group of staff vote. Alternatively, other stakeholders can be engaged such as patient-and-family advisory council members.

5. The final and most important step is to ensure that the awardee's speak-up story is celebrated publicly. Depending on the nature of the event that was spoken up about, this can take different forms. A hospital may wish to invite local media to the celebration or at least provide a press release for publication. However, regardless of external exposure, it is paramount to the success of this program that the awardee's story is shared with frontline staff, leadership, and governing board members. This creates ownership for the organization, provides an explicit measure of transparency and reaffirms a strong cultural expectation of speaking up when having concerns. It is also helpful to host a recognition event with some type of prize for the awardee. This could be a party with catered food for the winner's unit or a framed certificate presented at a regularly scheduled meeting. The lesson is that public displays of recognition for this behavior provide social reinforcement and encourage positive normative change.

Table 2: Keystone Center SCORE Culture Survey Results From 2015 to 2017

Keystone Center SCORE Culture Survey Results: Teamwork Domain

Survey Item	2015–2016 % Agreement	2016–2017 % Agreement	% Change
In this work setting, it is not difficult to speak up if I perceive a problem with patient care.*	62	68	+6
Communication breakdowns are not common in this work setting.	38	45	+7
Communication breakdowns are not common when this work setting interacts with other work settings.	35	42	+7
Dealing with difficult colleagues is not consistently a challenging part of my job.	41	46	+5
Disagreements in this work setting are appropriately resolved (ie, not who is right but what is best for the patient).	60	65	+5
The people here from different disciplines/backgrounds work together as a well-coordinated team.	70	74	+4
It is easy for personnel here to ask questions when there is something that they do not understand.	76	79	+3

*Used for Keystone Center Speak-Up! Award program analysis.

Current use and future opportunities

As part of the business case for implementing this toolkit among Keystone Center members, a cover letter was sent to organization CEOs with the cost-savings analysis information, further extending the program's reach. Since the release of the toolkit, several organizations are confirmed to have adopted the program, with many more utilizing certain components and templates within the toolkit to accelerate their current work.

One unique quality of the Keystone Center Speak-Up! Award program is that it engages staff from all levels and disciplines within an organization. Examples of previous award nominees and winners include physicians, physician assistants, nurses, environmental services staff, clerical staff, security personnel, administrators, pharmacists, medical techs, physical therapists, social workers, and more. The award celebrations take place at the awardee's organization and bring together MHA leadership staff, the CEO of the winner's organization, coworkers, friends, and family. Member organizations have even connected with each other in the past over their own experiences with the award program, helping to establish broader collaborative networks. Given the cultural and financial implications of this program, various departments are included in its integration at the facility level such as human resources, risk management, quality, and leadership. This comprehensive implementation helps to bridge the gaps between safety, quality, and organizational business goals.

Another major benefit of this program is that it is transferrable, meaning any health care organization can adopt this model and relatively easily incorporate its processes into their existing infrastructure. For instance, as was previously mentioned, the Keystone Center developed the Speak-Up! Award Toolkit, which has successfully provided facilities with an easy plug-and-play option for rolling out a staff recognition program of their own. At the very least, organizations have reported using the toolkit as an idea generator to prompt creative alternatives that seek the same result of improved culture and ultimately better outcomes. This program has already shown its applicability on the national scale as well. The Minnesota Hospital Association's Good Catch Award was a primary influencer of the Keystone Center Speak-Up! Award, and the Keystone program has since been successfully adopted by the Virginia Hospital & Healthcare Association.

If the Keystone Center Speak-Up! Award schema is tailored to fit a health care organization's infrastructure and leadership are engaged in the effort, then successful adoption of the program is not only possible but highly likely. Though further study is required to fully associate causation, the current data suggest that a speak-up–type program encourages cultural growth, reduced preventable harm, and financial savings.

It is worth mentioning that several limitations exist within the methodology of this study. First, though there is overlap between the organizations that nominated staff for the Keystone Center Speak-Up! Award and administered

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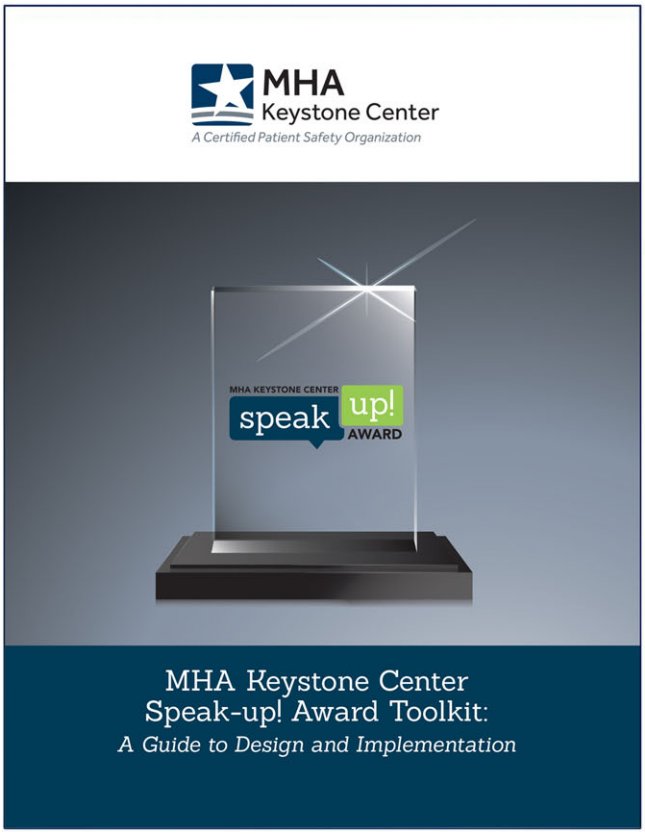
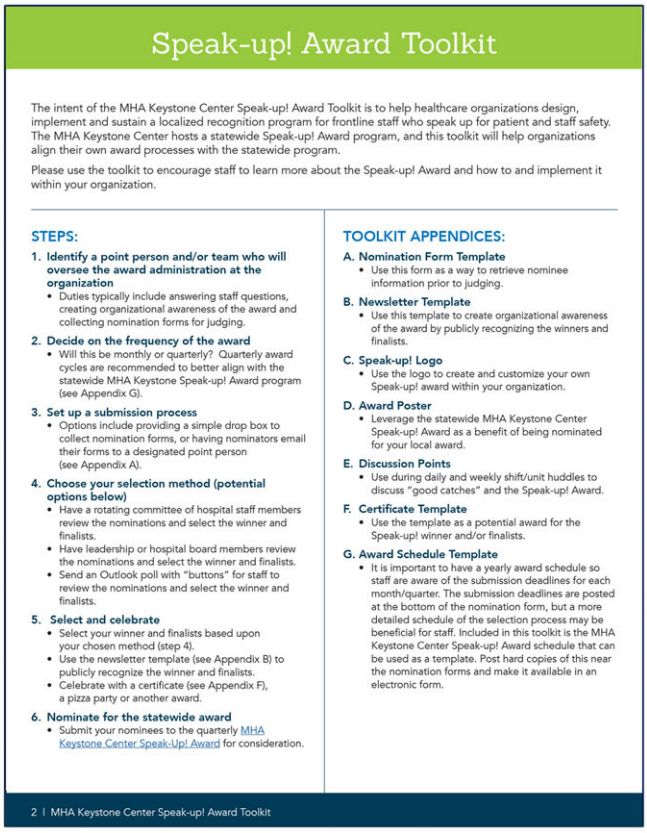
Figure 1:

Keystone Center Speak-Up! Award Toolkit Front Page, Instructions and Appendices





Speak-up! Award Toolkit

The intent of the MHA Keystone Center Speak-up! Award Toolkit is to help healthcare organizations design, implement and sustain a localized recognition program for frontline staff who speak up for patient and staff safety. The MHA Keystone Center hosts a statewide Speak-up! Award program, and this toolkit will help organizations align their own award processes with the statewide program.

Please use the toolkit to encourage staff to learn more about the Speak-up! Award and how to and implement it within your organization.

STEPS:

1. **Identify a point person and/or team who will oversee the award administration at the organization**
   - Duties typically include answering staff questions, creating organizational awareness of the award and collecting nomination forms for judging.
2. **Decide on the frequency of the award**
   - Will this be monthly or quarterly? Quarterly award cycles are recommended to better align with the statewide MHA Keystone Speak-up! Award program (see Appendix G).
3. **Set up a submission process**
   - Options include providing a simple drop box to collect nomination forms, or having nominators email their forms to a designated point person (see Appendix A).
4. **Choose your selection method (potential options below)**
   - Have a rotating committee of hospital staff members review the nominations and select the winner and finalists.
   - Have leadership or hospital board members review the nominations and select the winner and finalists.
   - Send an Outlook poll with "buttons" for staff to review the nominations and select the winner and finalists.
5. **Select and celebrate**
   - Select your winner and finalists based upon your chosen method (step 4).
   - Use the newsletter template (see Appendix B) to publicly recognize the winner and finalists.
   - Celebrate with a certificate (see Appendix F), a pizza party or another award.
6. **Nominate for the statewide award**
   - Submit your nominees to the quarterly MHA Keystone Center Speak-Up! Award for consideration.

TOOLKIT APPENDICES:

A. Nomination Form Template
- Use this form as a way to retrieve nominee information prior to judging.

B. Newsletter Template
- Use this template to create organizational awareness of the award by publicly recognizing the winners and finalists.

C. Speak-up! Logo
- Use the logo to create and customize your own Speak-up! award within your organization.

D. Award Poster
- Leverage the statewide MHA Keystone Center Speak-up! Award as a benefit of being nominated for your local award.

E. Discussion Points
- Use during daily and weekly shift/unit huddles to discuss "good catches" and the Speak-up! Award.

F. Certificate Template
- Use the template as a potential award for the Speak-up! winner and/or finalists.

G. Award Schedule Template
- It is important to have a yearly award schedule so staff are aware of the submission deadlines for each month/quarter. The submission deadlines are posted at the bottom of the nomination form, but a more detailed schedule of the selection process may be beneficial for staff. Included in this toolkit is the MHA Keystone Center Speak-up! Award schedule that can be used as a template. Post hard copies of this near the nomination forms and make it available in an electronic form.

2 | MHA Keystone Center Speak-up! Award Toolkit

the SCORE culture survey, there is not complete correspondence, and this potentially weakens the statement of correlation between the two variables. This means that the conclusions of this study are presuming accurate generalizability of the culture survey results, harm type distribution, and subsequently the cost-savings estimation to the statewide level. Second, only one definition was pulled from the current literature for each harm type during the coding process. While this method is seemingly simple, there are varying definitional parameters within each harm type, especially for broader categories such as surgery-related complications or issues with medical devices. Using broader definitions while coding the harm types exposes the study to potential miscoding, thus skewing the cost-savings figure by unintentional artificial inflation or deflation. Finally, by its very nature, claims of adverse event avoidance due to speaking up are not absolute. There always exists the possibility that, had a staff member not spoken up with concerns about care, the event still may not have occurred. Whether by chance or perhaps a strong human factors barrier, we cannot say with complete confidence that any single event was prevented by speaking up because the possibility of alternative prevention downstream is ever present.

CONCLUSIONS

The MHA Keystone Center Speak-Up! Award program demonstrates an awareness and acceptance of the potential for adverse events while also acknowledging that an intervention took place to prevent harm. This is a powerful statement because the story of what could have happened is being discussed, whereas traditionally patient stories are shared from the perspective of harm having already occurred. Leadership support of this effort was vital for early successes. This supplied a multitude of platforms for messaging about the program to Keystone Center members, allowing for a steady, momentous progression in its popularity and adoption. Furthermore, to the knowledge of the Keystone Center, there has been little to no research around quantifying the cost avoidance associated with speaking up in health care. This study provides a means for examining such a relationship and lays the groundwork for potential replication by others. Though it is a common sentiment that safety in health care should not resort to financial incentives, we acknowledge that this is an integral part of the field, and to ignore it as distasteful would be an injustice to those who stand to gain the most from programs like the Keystone

Center Speak-Up! Award: patients, families, and health care staff. The marriage of safety culture improvement, cost savings, and harm avoidance represents an elusive yet fully achievable goal in health care. However, further research is required to adequately gauge the degree to which safety culture improvement is proportional to cost savings.

Finally, noteworthy limitations of this study include the generalization of culture survey results, definitional variance used for harm type coding and fundamental complications of quantifying adverse events that were avoided. Despite these limitations, this work should not be considered academic. It is the opinion of this author that the limitations previously discussed do not pose a significant threat to the contribution of the findings to patient safety improvement. On the contrary, these provide areas of tremendous opportunity for advancing the body of knowledge with future research, and there is simply too much at stake to not build upon the concepts discussed here.

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