

Supporting Emergency Department Response to COVID-19



Using behavioral design to tackle provider burnout with Massachusetts General Hospital

Widespread cases of COVID-19 in the U.S. have strained emergency departments across the country. As hospitals and health care providers manage influxes of patients, behavioral science is one more tool that can support their efforts in ways that might often go overlooked in the face of pressing challenges. We partnered with the Emergency Department (ED) at Massachusetts General Hospital (MGH) in Boston over the summer of 2020 on two different behavioral interventions related to their rapid response to COVID-19.

Summary

Clinical provider wellness and mental health is key for a well-functioning medical system. Research has found that feelings of fulfillment and satisfaction at work among providers lead to better patient outcomes and quality of care.

However, in recent years in the United States, new challenges in the healthcare environment—such as longer shifts, new technologies, or providers' lack of control over their work pace and schedule—have led to a decrease in physician wellness and an increase in reported feelings of burnout and fatigue. One example of a new challenge physicians face is the introduction of the Electronic Medical Record (EMR)—a digital record of patient health information. While the EMR is a significant advancement in hospitals over the past decade since it systematically gathers all a patient's previous medical information in one place, it requires doctors to spend extra time recording notes in a new format. This extra time, which adds to doctors' already time-crunched day, has been shown to lead to a greater prevalence of physician burnout. Physician burnout is not a trivial problem: if not properly addressed, burnout and exhaustion can not only impact performance on the job but also lead to poor mental health outcomes and in extreme cases, even depression and suicide.

It goes without saying that provider burnout and fatigue increased dramatically during the COVID-19 pandemic when hospitals became overwhelmed and healthcare providers put their health and lives at risk amid strained resources and staff. A 2020 survey published by Medscape confirmed what might be expected, that although many chief causes of burnout remained the same in 2020 (long shifts, challenges managing schedules), the pandemic added even more stress and burnout. Forty seven percent of the providers who responded to the survey said their burnout has “strong/severe impact” on their life (as compared to 42% the year before). Many respondents said that their burnout impacted their work-life happiness more than it did before the pandemic—with only 49% reporting feeling happy during the pandemic as compared to 69% before.

Highlights

- ▶ More providers have reported burnout and fatigue during the COVID-19 pandemic than before.
- ▶ Easy-to-access, simple web aggregators allow providers to get necessary information with fewer hassles.
- ▶ Positive feedback reports make provider accomplishments more salient, potentially helping reduce stress and anxiety levels.

Like with many issues across the U.S. healthcare system, provider burnout was a big problem even before the pandemic and was pushed to the brink by it. In partnership with the Emergency Department (ED) at Massachusetts General Hospital (MGH), we performed rapid behavioral design from May to October 2020 aimed at alleviating information overload and making the impact of providers' work more salient to them. As early examples of using behavioral science to reduce provider burnout, these designs can pave the way for future work aimed at supporting provider wellness.

A new communications channel for rapid protocol changes

During the surge in COVID-19 cases in March through May of 2020, MGH ED received the most COVID-19 patients of any emergency department in Massachusetts. The ED underwent rapid and substantial changes in policies and protocols to manage the influx of patients. Efficiently disseminating critical and changing information to healthcare teams was one of the myriad challenges created by the COVID-19 pandemic.

Many of the information delivery methods the hospital utilized initially in the spring were effective but resource intensive, including frequent email updates, in-person rounding by the physician administrative team, and weekly COVID-19 case conferences. These methods added more tasks to providers' plates, and it simply wasn't sustainable to continue the efforts beyond the first few months of the pandemic.

In June, our team designed a less resource-intensive way to continue providing staff with readily accessible, up-to-date information without adding tasks: a simple, single-page website with the latest COVID-19 updates and most useful durable information, accessed by QR codes around the ED.

To capture attention, QR codes were available at strategic locations throughout the ED. Small QR codes were customized to fit on the border of computer monitors in the ED, and larger ones appeared on posters in all care pods. The posters leveraged the behavioral principles of ease and salience (Fig. 1); the design acknowledges the rapidly changing protocols, offers help, and includes one simple call-to-action—to scan. It also uses bright colors and specific formatting to capture attention.

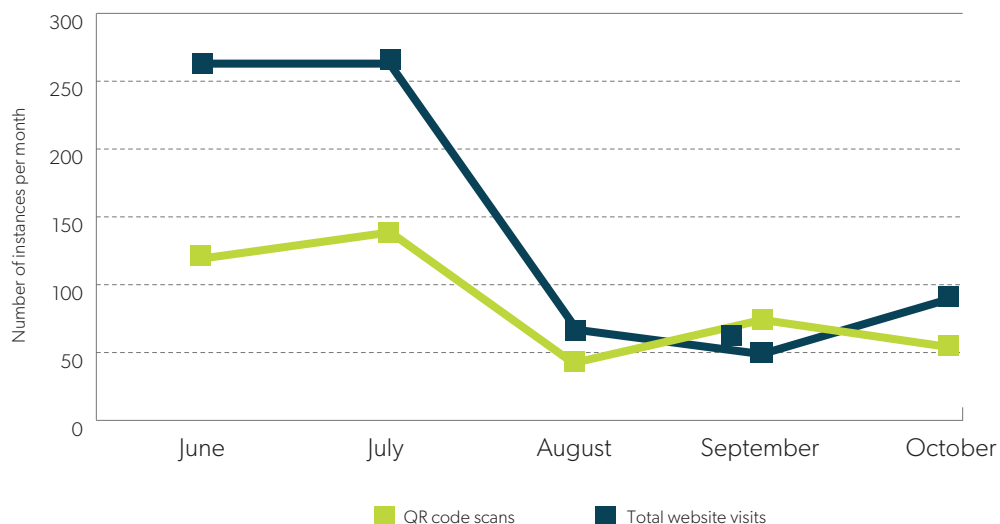
When providers scanned the code, they visited a home page with separate links for nurses and clinicians. This allowed both groups to scan the same QR code to access information relevant to their role. In the initial methods of providing COVID-19 information, staff were inundated with a large amount of material on an almost daily basis. The new site design attempted to reduce information overload by providing only the most essential information.

Figure 1: The QR code sticker with associated text and the website homepage



From June through October 2020, with roughly 400 employees in the ED, the QR codes were scanned 433 times by 294 unique users. We used TAGO, a web service that can generate QR codes, to assign each QR code a tracking number; this allowed us to not only monitor website traffic but also to track unique QR code scans. We found that 47% of these scans were of the computer stickers and 53% were from the posters. Because 34% of website visits were returning visitors without a new associated scan, we surmise that some users re-scanned the code each time they wanted to access the content, while others appeared to bookmark the website on their mobile device. The site was accessed most frequently in June and July following initial implementation, but use remained durable over subsequent months (Fig. 2).

Figure 2: Graph of unique QR code scans and website visits over time



A patient feedback report to address burnout

Even before COVID-19, emergency medicine historically had higher rates of burnout as compared to other specialties. It stands to reason that working on the front lines of COVID-19 would only exacerbate the already high levels of burnout for emergency clinicians. We investigated this problem during the summer of 2020 by administering a survey to ED clinicians to gauge their levels of burnout and solicit ideas for potential improvements to help mitigate burnout as much as possible during the pandemic. One of the themes that appeared the most in the free response questions was that providers often feel they don't receive enough positive feedback after offering patient care.

Many health systems already use patient feedback to improve outcomes. Good patient experience is linked with improved health outcomes as well as reduced patient turnover. With alternative payment models, there are also financial benefits to tracking and reporting patient satisfaction metrics.

However, patient feedback could be beneficial for providers as well. In recent years, some in the medical community have written about this topic, and others have suggested providing positive feedback as a tactic to mitigate provider burnout. Evidence suggesting that positive feedback is an important tool for employee wellness and engagement supports these ideas. A 2015 Gallup survey found that employees whose managers gave positive feedback were more than twice as engaged in their work compared to those who didn't—67% compared to 31%.

In order to further investigate how positive feedback could support providers and patients alike, our team designed a positive feedback report for MGH to send to clinicians every two months via email (Fig. 3). Using a centralized, systemwide patient feedback system, we filtered for positive patient feedback and built a specialized report. Since the reports would be sent up to eight weeks after the point of service, the report template features the patient's name and visit date to help contextualize the feedback for providers. Negative feedback was still shared with the care teams separate from these new reports. Developing a mechanism specifically for positive feedback made it more salient and prevented it from getting buried, unlike when it was shared alongside negative feedback.

At the conclusion of our engagement, MGH was rolling out the report dissemination. Early pilot testing with providers in the ED indicated that they appreciated the intervention and felt better about the care they provided after receiving the reports.

Figure 3: Sample positive feedback report (names and information changed to protect identities)

Your Patient	Visit Date	Feedback
Bob Wright	7/4/2020	I just love the MGH ED. The service was great and I got seen quickly.
Linda Chulol	7/20/2020	Everyone was just so nice!! Best ED ever!!
Rebecca Dert	7/22/2020	The doctor who saw me was great. Really the whole care team was helpful.
Dan Size	7/28/2020	I always go to MGH when I have an emergency. I just want everyone to know how much I appreciate the care.
Derek Singer	8/4/2020	My doctor, Doctor X, came to check on me so many times while I was in the ED. I know he is really busy so I really appreciate how much attention he gave me.
Julia Yudel	8/10/2020	My foot was really hurting me when I came in but by the time I left, I felt much better. Thank you MGH and the MGH ED!
Tom Cortez	8/15/2020	Growing up, I didn't go to the doctor much. Well, let me tell you if I had doctors like those at MGH I would have gone. Man, these guys really blew it out of the water. From their COVID protocols to the care, it was all so great.

Thank you for your work in the ED over the past two months!

What's next for behavioral science and provider burnout?

Provider wellness is an important, but sometimes neglected element of clinical care. Particularly during the pandemic, some specialties, such as **emergency medicine**, have been especially impacted and have faced unprecedented levels of stress and anxiety as well as feelings of not being in control of their work-life balance. At the time of this writing, the COVID-19 pandemic continues to fuel uncertainty and the need for multiple types of innovations that can support provider well-being.

Massachusetts General Hospital continues to use these two designs to support providers in their emergency department. Both could be adapted for other healthcare systems, and there's substantial opportunity to continue building on these insights. In addition to structural or environmental changes that support well-being in healthcare settings, behavioral science could be a powerful tool for reducing stress and burnout among providers, during a crisis and beyond.