



THE OFFICIAL NEWSMAGAZINE OF THE AMERICAN ACADEMY OF PEDIATRICS

AAP News

Embracing principles of high reliability organizations can improve patient safety during pandemic

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A hospitalist knows he has been exposed recently to COVID-19 in a community setting. He is experiencing mild symptoms, including cough and low-grade fever. Because the department is shorthanded and his colleagues are fatigued and stressed, he feels compelled to work. Dismissing his symptoms as borderline, he arrives at the hospital for his shift. How can the hospital prevent or mitigate the potential damage?

High reliability organizations (HRO) operate in complex, high-hazard domains for extended periods without serious accidents or catastrophic failure, according to the Agency for Healthcare Research and Quality Patient Safety Network. A fundamental principle of HRO is avoiding failure through reproducible operations rather than trying to control the ramifications after a failure.

Industries that have incorporated HRO principles into their operations include airlines, aircraft carriers and nuclear power plants.

The COVID-19 pandemic has highlighted the urgency of the health care system embracing HRO principles and addressing substantial vulnerabilities.

HRO in health care

Health care has been troubled by unreliable systems and suboptimal behavioral choices that can increase the risk of patient harm. Adopting HRO principles can lead to more consistent processes to keep patients safe, improve quality, manage risk and decrease liability.

The patient safety literature is replete with examples of ways to reduce harm such as marking the appropriate limb consistently and systematically prior to surgery, complying with hand hygiene, requiring two patient identifiers and using procedural time-outs.

Other industries have addressed challenges by attempting to design safer systems accompanied by a high degree of accountability.

Working toward HRO principles during a pandemic



A great deal of work has been done in the past year to make health care systems more reliable, especially in the area of infection prevention.

Hospitals and offices have instituted various safety protocols and procedures, many from nationally recognized experts, to mitigate the risk of infected individuals spreading COVID-19. Patients, visitors and clinical and clerical staff members each follow different but appropriate protocols. Everything from screening staff with daily temperature checks to expedited vaccine development are consistent with HRO.

Consistent and reliable use of these processes is critical to limit risk, but a second level of organization is needed to assess the effective use of these protocols systemwide. For example, office managers institute screening for patients; a compliance officer has a process to determine if the offices within the system are performing screens; infection control has processes to monitor that the proper protocols are in place and being used properly and so on up the chain of responsibility. In addition, if an office becomes aware of an unexpected issue or exposure, it can be brought to the attention of the supervisory levels and addressed systemwide.

Organizations that institute these principles rely on strong leadership and a team of professionals who share the goal of limiting risk and catastrophic outcomes. They have layers of responsibility, which may involve assessment of various processes and their outcomes. Data become an important component in this continuous assessment and can be collected at all levels of the process.

Nonjudgmental reporting and continuous improvement are critical to creating the highest levels of safety. This means paying special attention to precursor events where a breach in protocol occurs without significant consequence to others (e.g., employees come to work when ill but no one else gets sick). The process includes assessing how the event happened and how to avoid recurrence, which is possible in an environment that encourages reporting, not hiding, such events.

By incorporating HRO principles into their hospital and outpatient work, pediatricians can design better processes and encourage better compliance with reliable positive outcomes.

Take-home points

- Identify leaders in your organization or office who can help design and monitor consistent systems for infection control.
- Use data (e.g., percentage of patients screened, proportion of employees getting daily temperatures recorded, etc.) to assess processes objectively and determine if changes are needed.
- Look at close call events critically and without blame to improve protocols. This should be an ongoing process.
- Look for other oversight within your organization to get feedback on your performance and to see if others in your system have more efficient processes.

The hospital's initial screening process failed to detect that the hospitalist had symptoms of COVID-19, perhaps because he downplayed them due to his desire to help his team. The protocol called for a second level screen with temperature assessment, which identified a fever of 101.6 degrees Fahrenheit. Per established procedure, a rapid COVID-19 test was administered. It was positive, and the physician was sent home. The hospital was vigilant, had reliable multistep screening in place and had placed a premium on team accountability. Because of the hospital's successful use of HRO strategies, potentially catastrophic failure (having an infected physician working and potentially infecting others) was avoided.

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Resources

- ["Infection Control Guidance for Healthcare Professionals about Coronavirus \(COVID-19\)" from the Centers for Disease Control and Prevention](#)
- [Members interested in applying for appointment to the Committee on Medical Liability and Risk Management should visit https://collaborate.aap.org/Lead/Pages/CommitteesCouncilsSections.aspx](https://collaborate.aap.org/Lead/Pages/CommitteesCouncilsSections.aspx)
- [Additional Pediatricians and the Law columns](#)