

Improved hospital 'handoffs' cut adverse events by almost half

December 7 2022, by Nancy Fliesler



Credit: Pixabay/CC0 Public Domain

About 15 years ago, pediatricians Christopher Landrigan and Amy Starmer observed a weak link in hospital care: Medical residents were rigorously trained to take patient histories with standardized templates and to present cases in a structured format during daily rounds, yet such structured communication was largely absent during shift changes, when patients' care was handed off to new providers.

Patients admitted to the hospital typically have multiple provider teams caring for them, with information handoffs occurring frequently during their stay. These handoffs "are a common source of vulnerability for patients," said Landrigan, now chief of the Division of General Pediatrics at Boston Children's Hospital.

Miscommunication contributes to about two-thirds of serious adverse events in hospitals, according to the Joint Commission, a leading health care quality assessment organization. Handoffs are especially prone to [communication](#) lapses. Providers finishing a shift may be tired and rushed, and more apt to omit key information important to the patient's care.

Wanting to improve this process, Starmer and Landrigan created the I-PASS handoff program, which consists of a package of communication and training tools that prompt providers to pass on crucial information—both verbally and in writing—in a reliable, structured fashion.

In a study published in the *Journal of Hospital Medicine* in November, the team at Boston Children's and Harvard Medical School put I-PASS to the test in a diverse group of hospitals. Results were striking: Over a

three-year period, adverse medical events were reduced by nearly half.

Capturing critical information

I-PASS revolves around a simple mnemonic that specifies information to be exchanged during handoffs:

- I: Illness severity
- P: Patient summary
- A: Action list
- S: Situational awareness/contingency planning
- S: Synthesis of the information by the incoming provider

"We wanted to add structure to what was an unstructured and sometimes haphazard process," explained Starmer, HMS assistant professor of pediatrics and associate medical director of quality at Boston Children's.

In their first major study, published in [*The New England Journal of Medicine*](#) in 2014, Starmer, Landrigan, and colleagues implemented I-PASS at nine academic children's hospitals. Following up, they found improved communication and a 30 percent reduction in serious, preventable medical errors.

But would I-PASS work with adult patients and in other types of hospitals?

"We wanted to know whether the program would be similarly effective and feasible in a more real-world setting with a broader variety of providers and patients," said Landrigan, who is also the HMS William Berenberg Professor of Pediatrics at Boston Children's.

Dramatic reduction

The new study engaged 32 adult, pediatric, academic, and community hospitals. The researchers enrolled both residents and faculty champions who were key to the successful adoption of I-PASS. The team also provided outside coaching to help hospitals implement the program.

However, to simulate real-world conditions, the I-PASS team provided much more limited financial and administrative support than in the 2014 study.

Supervising physicians at each hospital oversaw more than 3,000 patient handoffs before, during, and after program implementation and collected data. The I-PASS team separately reviewed 1,620 written handoff documents.

Analyzing error surveillance reports, Starmer, Landrigan, and colleagues found a 47 percent reduction in [adverse events](#), both major and minor, after I-PASS implementation. They also saw marked improvements in the completeness and quality of handoff communications.

Verbal handoffs were complete in 66 percent of cases after implementation, up from 20 percent prior. Written handoffs were complete in 74 percent, up from 10 percent prior.

Outgoing providers gave high-quality verbal and written patient summaries 81 percent and 78 percent of the time, respectively—up from 39 percent and 21 percent.

Incoming providers gave a high-quality synthesis of the information they received 83 percent of the time, compared to 31 percent before I-PASS.

Going big

To the researchers' surprise, improvements were consistent across the

board, regardless of hospital size, setting, and patient population.

"Handoff is a universal issue in health care," said Landrigan. "We think we've created a universal language for handoffs. The challenge now is to implement the program at scale across hospitals."

Extending the reach of I-PASS will require some adaptations to accommodate different medical specialties. For example, the patient summary might be structured to include different elements for ICU nurses versus orthopedic surgeons. The ability to adapt the content within the broader universal structure helps establish buy-in from providers.

To encourage the process, Landrigan and Starmer co-founded the I-PASS Patient Safety Institute. The company is currently working with about 50 hospitals to launch handoff programs at scale, offering training, cloud-based tools, and support for medical records systems.

The team was encouraged to find that a year after this latest study was completed, the participating hospitals were still using the I-PASS approach. Many are working to expand the program to more care areas, focusing on more-complicated handoffs that cross different care areas of the [hospital](#).

Starmer noted that although adopting I-PASS takes effort and a willingness to change behavior, hospitals are more willing to engage in that work now than they were in past decades.

"Fifteen years ago, there was much more resistance," she said. "But now there's recognition that handoff communications are important to safety. Hospitals are increasingly focused on high reliability and standardizing their operations, and I-PASS aligns perfectly with that focus."

Meanwhile, Starmer and Landrigan are translating the I-PASS concept to clinician-family communications through a 21-center study that's now wrapping up. With Alisa Khan, HMS assistant professor of pediatrics, they're developing strategies for communicating with families at increased risk for medical errors because of limited comfort with English. Starmer has also had success translating I-PASS to improve patient transitions between ambulatory care environments and hospitals.

"This project has been near and dear to our hearts," said Landrigan. "It's exciting to see I-PASS grow and gain traction from its seeds 15 years ago and filter into different parts of the health care system."

More information: Amy J. Starmer et al, Implementation of the I-PASS handoff program in diverse clinical environments: A multicenter prospective effectiveness implementation study, *Journal of Hospital Medicine* (2022). [DOI: 10.1002/jhm.12979](https://doi.org/10.1002/jhm.12979)

Provided by Harvard Medical School

Citation: Improved hospital 'handoffs' cut adverse events by almost half (2022, December 7) retrieved 17 May 2024 from <https://medicalxpress.com/news/2022-12-hospital-handoffs-adverse-events.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--