

What’s New in the Patient Safety World

November 2019

I-PASS Delivers Again

Handoffs have been the topic of many of our previous patient safety columns, but we haven’t written about them much in the past couple years. Handoffs, of course, occur at transitions of care that are periods of vulnerability from a patient safety perspective. Handoffs involve not only transfer of information but also transfer of responsibility.

Of the numerous handoff protocols out there, [I-PASS](#) is probably the one we’ve written about most often.

We first described I-PASS in our February 14, 2012 Patient Safety Tip of the Week [“Handoffs – More Than Battle of the Mnemonics”](#), a column that highlighted the need to tailor handoff formats to the specific tasks at hand. I-PASS came about because existing formats were not optimal for resident-to-resident handoffs. But I-PASS is much more than a mnemonic and format for handoffs. It also involves extensive team training (based on TeamSTEPPS™) and resident training modules, simulation and role playing, faculty development resources and tools, direct observation of handoffs with feedback, and generation of a printed handoff document that can be integrated with the electronic medical record.

In our December 2014 What's New in the Patient Safety World column [“I-PASS Passes the Test”](#) we discussed the publication of the final results of the I-PASS project ([Starmer 2014](#)). After implementation of I-PASS the rate of medical errors decreased by 23% and the rate of preventable medical errors decreased by 30%. Significantly, there was no increase in the amount of time spent on handoffs and there was no significant change in resident workflow or the amount of resident contact with patients and families.

Specific medical error types reduced in the I-PASS collaborative included diagnostic errors, errors related to medical history or physical examination, multifactorial errors, and errors related to therapies other than medications or procedures. (Errors related to medications, procedures, falls, and nosocomial infections did not change.)

The reduction in medical errors was significant at six of the nine sites participating. Study authors had no explanation for the lack of improvement at three sites, since they also demonstrated improved inclusion of key elements in the handoff process.

Now another study has demonstrated that implementation of a handoff bundle, modeled on the intervention in the original I-PASS study, was associated with decreased medical errors and preventable adverse events on an academic family medicine inpatient unit ([Dewar 2019](#)). The handoff tool was designed and implemented in the electronic medical record (EMR). This tool was updated by the team, which was about to sign out, to allow incoming team members to view the chart and discuss the case while performing the sign-out process. They adhered to a strict no-interruption rule during handoffs (a poster campaign was used to remind facility nursing staff to not interrupt the resident team during this critical time in which sign-out was occurring). The authors conducted a retrospective review of admissions in the 6 months before and after implementation of the program.

Medical error rate dropped from 6.0 to 2.2 per 100 admissions and preventable medical errors dropped from 0.65 to 0.15 per 100 admissions. Non-intercepted potential adverse events dropped from 1.30 to 0.44 per 100 admissions. And intercepted potential adverse events dropped from 0.98 to 0.74 per 100 admissions. Errors with little potential for harm dropped from 2.77 to 0.74 per 100 admissions.

The authors acknowledge that the most significant reduction was in errors with little potential for harm. They also note that the relatively few cases with harm were most often related to medications administered to patients. They suggest future research might focus on medication errors and that the handoff process might benefit from inclusion of a clinical pharmacist.

Similar to the original I-PASS study, the investigators are not able to separate out which component of the I-PASS “bundle” is most important in reducing errors. But it is reassuring that the I-PASS program is successful in reducing errors in yet another venue.

Read about many other handoff issues (in both healthcare and other industries) in some of our previous columns:

May 15, 2007	“Communication, Hearback and Other Lessons from Aviation”
May 22, 2007	“More on TeamSTEPPS™”
August 28, 2007	“Lessons Learned from Transportation Accidents”
December 11, 2007	“Communication...Communication...Communication”
February 26, 2008	“Nightmares....The Hospital at Night”
September 30, 2008	“Hot Topic: Handoffs”
November 18, 2008	“Ticket to Ride: Checklist, Form, or Decision Scorecard?”
December 2008	“Another Good Paper on Handoffs” .
June 30, 2009	“iSoBAR: Australian Clinical Handoffs/Handovers”
April 25, 2009	“Interruptions, Distractions, Inattention...Oops!”

April 13, 2010	“Update on Handoffs”
July 12, 2011	“Psst! Pass it on...How a kid’s game can mold good handoffs”
July 19, 2011	“Communication Across Professions”
November 2011	“Restricted Housestaff Work Hours and Patient Handoffs”
December 2011	“AORN Perioperative Handoff Toolkit”
February 14, 2012	“Handoffs – More Than Battle of the Mnemonics”
March 2012	“More on Perioperative Handoffs”
June 2012	“I-PASS Results and Resources Now Available”
August 2012	“New Joint Commission Tools for Improving Handoffs”
August 2012	“Review of Postoperative Handoffs”
January 29, 2013	“A Flurry of Activity on Handoffs”
December 10, 2013	“Better Handoffs, Better Results”
February 11, 2014	“Another Perioperative Handoff Tool: SWITCH”
March 2014	“The “Reverse” Perioperative Handoff: ICU to OR”
September 9, 2014	“The Handback”
December 2014	“I-PASS Passes the Test”
January 6, 2015	“Yet Another Handoff: The Intraoperative Handoff”
March 2017	“Adding Structure to Multidisciplinary Rounds”
August 22, 2017	“OR to ICU Handoff Success”
October 2017	“Joint Commission Sentinel Event Alert on Handoffs”
October 30, 2018	“Interhospital Transfers”
April 9, 2019	“Handoffs for Every Occasion”

References:

I-PASS Study website.

<http://www.ipasshandoffstudy.com/home>

Starmer AJ, Spector ND, Srivastava R, et al. Changes in Medical Errors after Implementation of a Handoff Program. N Engl J Med 2014; 371: 1803-1812
<http://www.nejm.org/doi/full/10.1056/NEJMsa1405556>

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