Positive Deviance Case Analysis to Improve Patient Safety

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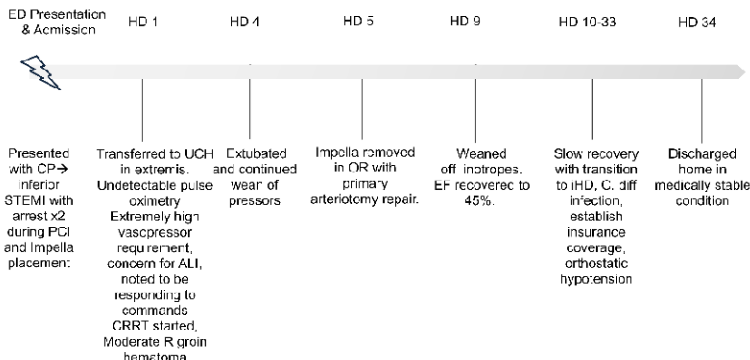
March 14, 2024

Patient Story

The Department of Medicine (DOM) Systems Improvement Conference, a UCH-certified collaborative case review, is a monthly conference in which we analyze cases within a Just Culture lens to discover system-based issues, rather than blaming providers, for errors that occur in our hospital system (Edwards, 2018).

Pre-Admission:
65 yo male, prior medical history of myocardial infarction in 2011 presented with acute chest pain to Long's Peak Emergency Department (ED). Found to have inferior STEMI. When a balloon angioplasty of the right coronary artery (RCA) was attempted, the patient suffered arrest and was resuscitated. Return of spontaneous circulation (ROSC) was obtained after 8 minutes and an Impella CP device (Abiomed, Danvers, MA) implanted. UCH was contacted for a transfer for treatment of cardiogenic shock and evaluation of candidacy for advanced therapies (e.g., transplant or left ventricular assist device (LVAD)).

UCH Hospital Course:
Admitted to the Cardiac ICU (CICU) at 5pm on maximum dose pressors. Throughout the night he was seen by multiple consult services including Neurology, Vascular Surgery, Glucose Management, & Nephrology. Continuous renal replacement therapy (CRRT) was started for treatment of an acute kidney injury (AKI). By the end of the day the patient was weaned down off pressors and decreased fluids. Over the next few days, the patient's vent settings were gradually weaned to minimal settings and extubation was achieved on hospital Day 4. By day 8, the patient had been weaned off all inotropes/vasopressors and continued CRRT with transition to intermittent hemodialysis (iHD). Transfer out of the ICU occurred on day 10 with rehabilitation and discharge to home on day 34.



Safety I & II Concepts

Positive deviance is an approach to examine the behaviors of individuals or teams who demonstrate exceptional performance .

Safety I

- What went wrong?
- Why?
- What can we fix?

- Reactive, unacceptable risk
- Humans are a liability

Safety II

- What went exceptionally or unexpectedly right?
- Why?
- What can we replicate?

- Proactive
- Humans are a resource

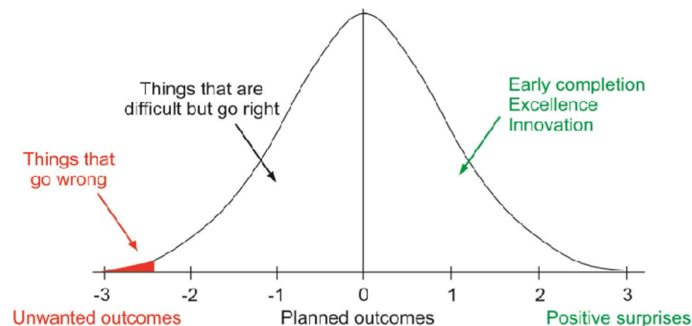


Figure 1. Hollnagel, E. (2015). *From Safety-I to Safety-II*

Care is delivered "right" all the time, far more than not, so we should be examining these as often, if not, more than adverse events due to medical errors.

Lessons Learned

In this case, we identified the following causal factors for this patient's positive recovery and subsequent discharge home.

- Clear communication of level of care/needs prior to transfer, teamwork mentality
- Did not limit care for a patient who had not previously followed up or interacted with healthcare system
- Availability of a higher level of care
- Flattened hierarchy for communication changes to care, nurse advocated for higher care
- Multiple providers available at the same time (overnight and on arrival)
- Day team staying later to help
- Experience of the CCU staff (especially bedside RN)
- Rapid responsiveness of (multiple) consultants
- Critical care consult service staffed 24/7

By analyzing what went "right" in this case, we were able to identify several potential solutions to implement in our system to replicate this case of positive deviance.

- Have appropriate and adaptive staffing for acuity and volume of patients
- Enact conscientious transfer of patients b/w regional and tertiary care centers
- Establish interprofessional teams for patient transfers to remove silos

We combine Safety I and Safety II activities every day in our work, but working conditions do not always allow us to recognize the exceptional work we perform (Hollnagel, 2015). **By examining the successful ways we provide care, we can standardize and spread the successful processes where care is done "right".**

References

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- Hollnagel, E. (2015). *From Safety-I to Safety-II: A White Paper.* Patient Safety Network. https://psnet.ahrq.gov/issue/safety-i-safety-ii-white-paper
- Lawton, R., Taylor, N., Clay-Williams, R., & Braithwaite, J. (2014). Positive deviance: A different approach to achieving patient safety. *BMJ Quality & Safety*, *23*(11), 880–883. https://doi.org/10.1136/bmjqs-2014-003115

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