Improving Providers Utilization of I-PASS* Handoff in Hospitalized Leukemia Patients

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Background

- 80% of healthcare mistakes due to poor handoff communication (Blazin et al., 2020; Lee et al., 2016; O'Toole et al., 2019)
- Causes 30% of malpractice complaints (Joint Commission, 2017)
- Leading to 1,744 deaths and cost $1.7 billion over 5 years (Joint Commission, 2017)
- I-PASS (*I*llness severity, *P*atient summary, *A*ction list, *S*ituation awareness & contingency planning, and *S*ynthesis by receiver) recommended for nationwide handoff prioritization in 2006 (AHRQ, 2019; Joint Commission, 2017)
- Inadequate handoff practice impacts vulnerable older adult population (Vognar & Mujahid., 2015)
- Leukemia providers' utilization of the I-PASS handoff persistently well below AHRQ's benchmark

Gap Analysis

Inconsistent handoffs, practices by email, verbal reports, and/or no handoff communication from leukemia providers in the hospital, where 80% of significant incidents related to miscommunication, may result in low I-PASS usage, and RRT calls/ICU transfers.

Literature Review

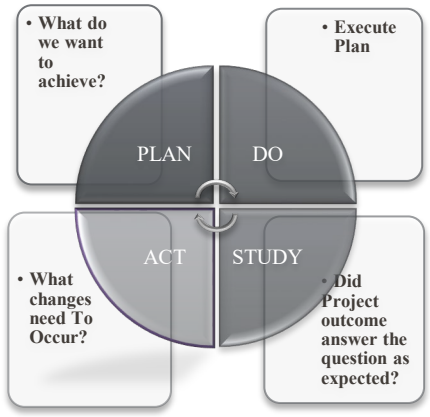
Studies related to I-PASS Tool identified:

- Improved handoffs
- Decreased preventable adverse events
- Reduce medical mistakes
- Timely identification of critically ill patients (Clarke et al., 2016: Huth et al., 2016; Starmer et al., 2014).
- No change in ICU LOS or duration of mechanical ventilation
- Improve provider confidence in handoff
- Improve provider readiness and workflow
- Increased compliance after simulation training (Desmedt et al., 2020; Parent et al., 2017; Starmer et al., 2014)

Inquiry Question

Does an educational intervention encouraging providers' utilization of the I-PASS measurably change the proportion of handoff days when evaluated over an 8-week period in hospitalized leukemia patients?

Framework



Methods

- Project Design: Quality Improvement (QI) using Plan-Do-Study-Act framework
- Population: A convenient non-probability sampling method from leukemia Advanced Practice Providers (APPs, *n*=17)
- Setting: Leukemia floors at MD Anderson Cancer Center
- Measurement: EPIC/Connect Care One version of electronic health record (EHR)/SSPS25 analysis

Results

- The proportion of 30–90-day handoff counts (*N*=4,259 (44.2%) after simulation training was measurably higher than the baseline handoff counts of (*N*=24,132 (30.6%) collected on leukemia providers between 9-1-2019 – 9-5- 2021.
- Corresponding RRT calls/ICU transfers within the same time frame showed 1089 & 1149 vs 122 & 156.
- A Fisher's Exact 1-sided test showed the proportional difference between 44.2% post intervention and 30.6% at baseline is statistically significant above the 95% confidence level for a $p = 0.000$.
- Control chart evaluated the stability of the data over time showed downward trend in RRT calls/ICU transfers.

Fisher's Exact Test Results of Handoff Proportion Between Baseline & Pilot Data

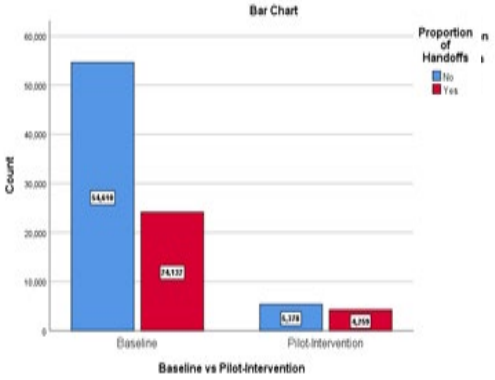
Chi-Square Tests

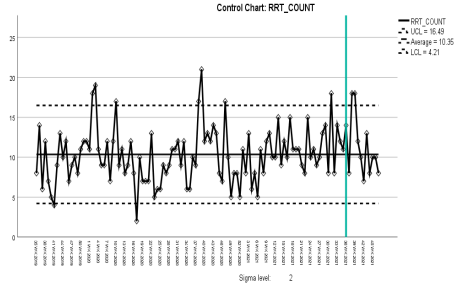
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	722.703[a]	1	0.000		
Continuity Correction	722.081	1	0.000		
Likelihood Ratio	690.529	1	0.000		
Fisher's Exact Test				0.000	0.000
N of Valid Cases	88379				

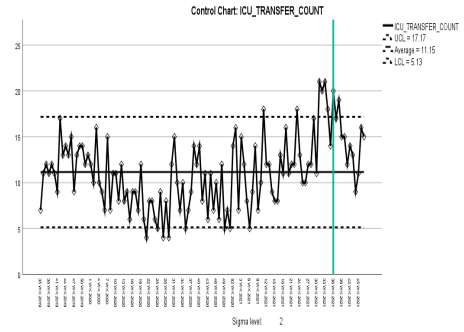
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 3095.80.

b. Computed only for a 2x2 table

RRT Activations & ICU Transfers Post Pilot Intervention







Discussion

- A measurable, clinically significant handoff counts noted with 44.2% pilot intervention vs baseline 30.6%
- Simulation training on I-PASS increased tool's utilization for patient care transition
- Corresponding RRT calls/ICU transfers showed downward trend with increased I-PASS use
- Structured handoff system like I-PASS improves handoff communication
- Project findings align with landmark and recent studies of the I-PASS
- Small sample size (*n*=17) with short time frame.
- No control for seasonal variation

Practice Implications

- Continuity of hospital care
- Lower healthcare costs
- Prevent omission of important data
- Shortened length of stay
- Reduced medical mistakes

Further Recommendations

- Leadership enforces handoff policy
- Yearly performance re-in-servicing of leukemia provider
- Future research
- Need longer project duration randomization and diverse sample

Conclusion

- I-PASS handoff communication represents clinical advancement in patient safety
- Built in elements in I-PASS improve handoff between providers
- Provide cost savings for patients and healthcare systems
- Use of evidence-based tool benefit patients and hospital systems
- Project results provide opportunity for meaningful change
- Improve patient outcomes

*IPASS: A mnemonic framework to standardize patient handoff process

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