Performance Improvement: Closing the Loop Using an Electronic Database

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Introduction/Problem

Introduction

American College of Surgeons (ACS) mandates that Level I Trauma centers must have a Performance Improvement Program (PIP) that includes a data collection process to identify and analyze opportunities for improvement

Problem Statement:

Loop Closure is the problem resolution, outcome improvement and assurance of safety plan that is put in place after an event or concern is identified.

*We did not have a process for real time identification, analysis, detecting trends and documenting loop closure**.**

Interventions

➢ Real time Patient Rounding
➢ Develop/ Design Electronic System
➢ Build reports/queries in Redcap
➢ Indicate loop is closed using 'FLAG' in Redcap
➢ Create PI Sub-Committee Meeting

Real Time Data Review → Red Cap Database → Report Writing → Peer Review → Effective Loop Closure

Methods

➢ A paper template was created and trialed prior to the development of the electronic database.
➢ Patient information was then abstracted and entered into the electronic database in Draft mode.
➢ Hard stops and color changing technology were created with added feature of upload capability.
➢ PI Tracker was then moved to Final production with full report writing options.
➢ Compliance with loop closure is evaluated through the report option.

Literature Review/ References

➢ Retrospective data is beneficial to understanding trends but is often subject to bias and can lead to missed opportunities for timely decisions and high quality care (Ball, Hannah, Newbold, & Douglas, 2005).
➢ Beyond one month, recall is subject to bias and imprecise (Johansen & Wedderkopp, 2010).
➢ Daily focused awareness and dutiful observation leads to identification of opportunities for improvement
➢ (Lindsey & Crochan, 2012).

➢ Ball, M. J., Hannah, K. J., Newbold, S. K., & Douglas, J. V. (2005). *Nursing Informatics: Where caring and technology meet* (2nd ed.).

Johansen, B., & Wedderkopp, N. (2010). Comparison between data obtained through real-time data capture by SMS and a retrospective telephone interview. *Chiropractic & Osteopathy*, 18(10), 1-12.

Lindsey, J. S., & Crochan, B. (2012, May 22). 4 keys to effective administrative rounding. *Beckers Hospital Review*. Toussani, J. S., & Mannon, M. (2014, November 12). Hospitals are finally starting to put real-time data to use. *Harvard Business Review*.

For more information, contact:

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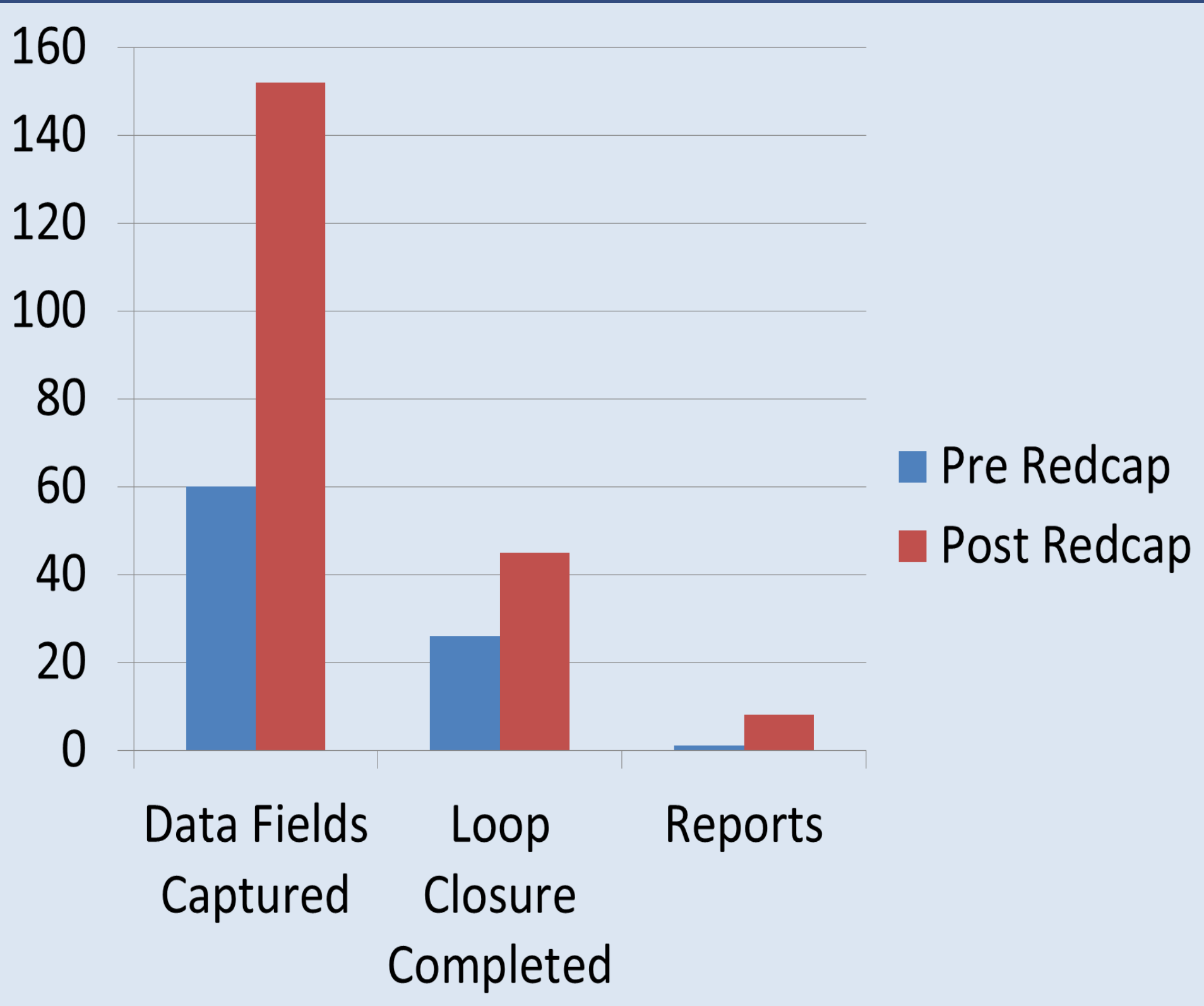
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Metrics & Outcomes

We started the project with 1900 patients with a 60% capture rate of all data fields necessary for adequate performance improvement. To date we have 100% capture of all our data fields and a system that allows files to be exported, reports to be run daily and surveys to be sent that are directly linked to the patients record.

The database that is now being utilized provides the necessary flags and elements to capture, review and close performance improvement audit filters in order to ensure a method of loop closure, quality assurance and optimal care to trauma patients.

	Pre Redcap	Post Redcap
Trauma Patients	N=1900	N=1900
Mortality	N=89	N=89
Data Fields Completed	60	152 (92 more elements captured)
Open Loops Identified at TCC	45	45
Loop Closure-Completed	26 (58%)	45 (100%)
Reports	1	8+ (can run a report off of any field)

Results

→The ability to demonstrate loop closure run reports, link mortality reviews, and send surveys with physician signatures was a noted strength by the American College of Surgeons during our Level I Re-verification.

→Our data shows that implementation of an electronic database resulted in a significant increase in the capture of PI Audit Filters and Loop Closure.

→Real-Time PI data entry is now feasible using a web based application. This allows for bedside rounding to immediately capture complications, delays, system issues, etc.

→Specifically the New Taxonomy is now captured and monitored using the report option.

Next Steps

➢ To create a Redcap 'Quality Review' database to monitor our compliance with Policies/Procedures and Guidelines within the Trauma Department
➢ To increase the number of Redcap Reports from the current data submitted to analyze and track performance
➢ Develop a separate Sub-QA committee that will look at the trends and opportunities for improvement prior to the monthly meeting to expedite process and improvement

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