Medical Care Quality Abbreviated Case Study

Overview

A burn clinic at a major southeastern hospital system (MSHS*) provides medical care to hundreds of patients a month, ranging from devastating first degree to relatively mild third- and fourth-degree burns. MSHS wanted to advance their capabilities as a state of the art medical research center by providing better, more in depth and accurate patient analysis to improve successful outcomes. Additionally, they wanted to analyze their admissions, triage, and protocol procedures to increase successful outcomes.

Business Challenge

Like many healthcare systems, MSHS serves a large patient base; multiple languages, emergencies, insurance carriers, Medicaid, Medicare and a litany of other variables that must be sorted through to provide appropriate and effective medical care. Some of this data is structured and available to medical practitioners, but the vast majority (85% or more) is in unstructured, free form and frequently handwritten text, and translated from a different language. This data is manually read, reviewed and annotated by MSHS staff, meaning that nearly 65% of the time nurses and doctors are not attending to patients, they are overwhelmed reading poorly organized and disjointed data that is of dubious accuracy. MSHS needed to turn the tables and automate these manual processes and develop ways to let their staff focus on the patients, not the paper. They identified the following issues to address at the burn clinic in order to meet their patient care goals:

- Analyze the Patient Transfers to and from the Burn Center (admission process, patient records and data)
- Analyze operating room procedures applied to patients (triage and protocol)
- Analyze microbiology data (from clinical notes, patient monitoring information and notes, follow on conditions)
- Analyze and extract specific “Causes of Injury” from patients (verbal notes and continuing care data from staff-patient interaction, some multi-lingual data)
- Perform regulatory reporting in accordance with existing standards and HIPAA compliance requirements

Solution

MSHS chose CONQ to automate the data harmonization and unification effort, consisting of over 25,000 patient records in hundreds of formats, both structured and unstructured, eliminating the expensive, manual effort required from the nurses and doctors. The speed and accuracy of the automated process allowed MSHS staff to focus on patient care and wellness to a much greater extent, increasing their actual caregiving time by 100%. MSHS also automated regulatory report preparation and enhanced their HIPAA compliance posture.

Results

The cost/time savings achieved from the automation process alone (estimated at $1.25M annually) delivered an ROI of 10 weeks. Another critical discovery was made via the CONQ software; Patient analysis showed that two of the treatment rooms had significantly more patients with staph coccus infections than the other eighteen rooms combined. A review of the triage procedures and treatment protocols determined that the rooms were also used more frequently for general admittance due to their proximity to the admitting station. A simple change in room assignment dropped the occurrence of staph infections literally overnight and reduced patient extended stays by a significant factor.

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* The actual name of the Major Southeastern Hospital System (MSHS) provider has been withheld because of Mutual Non-Disclosure Agreements (MDNA) between the parties.