Introduction

At New Hanover Regional Medical Center (NHRC) the system of care for dental pain patients that present to the Emergency Department (ED) has been fragmented with no clear route to provide patients with the definitive care they need: treatment by a dentist. This has led to frustration by patients and providers alike. Dental pain is a recurrent complaint of patients presenting to the ED, with 146 per month on average (Figure 1). Of these patients, the majority are either self-pay (56%) or Medicaid (19%) and most do not have an established dentist. The issue of a fragmented system has been compounded by the lack of evidence-based, standardized clinical care approaches for diagnostics, treatments and admission.

Goal

The objectives of this project are to provide evidence based care for patients that present with dental pain to the ED, establish agreed upon criteria for hospital admission, improve patient experience by providing access to definitive treatment, create a system of care that eliminates fragmentation that patients have to navigate through, reduce provider frustration and establish collaborative relationships across the specialties.

The measurable goals and benchmarks include increasing the use of Panorex scans as an imaging modality when CT is deemed unnecessary, utilization of an evidence based ED order set, utilization of a newly established community dentistry referral process, reduce the 30-day return rate to the ED for dental pain and improve provider satisfaction.

Improvement Process

The Clinical Excellence team engaged stakeholders from the Emergency Department, Pharmacy, Oral Maxillofacial Surgery, Clinical Outcomes, and Radiology to determine what process barriers existed and what steps needed to be addressed in treating dental pain patients using LEAN methodology.

Background data was gathered in part by using Clarity Report writing for analytics from the Epic electronic medical record (EMR). Patient chief complaints, volumes, ED length of stay, imaging utilization, ED return rates and medication utilization were reviewed. Focusing on the value equation (Value = Outcomes / Cost) for dental pain patients, literature was reviewed and primary countermeasures were determined to be to create a guideline-based emergency medicine treatment algorithm with order set, develop a follow-up process for patients without a primary dentist, establish admission criteria and educate stakeholders on the consensus based recommendations.

The emergency medicine treatment algorithm was constructed as an ED order set. The ED worked with the hospital’s Community Engagement Department to evaluate community options available for dental care follow up. It was determined that MedNorth Health Clinic, a Federally Qualified Health Clinic, had recently established a stable dentistry practice and was therefore approached for collaboration.

The to Oral Maxillofacial Surgeons (CMFS) agreed to be available for consultation on complex cases and a referral was built into the EMR with an automation to send the patient information to MedNorth. The process, imaging recommendations and referral information were presented to the Emergency Medicine providers at their board meeting for input and support. Emergency Department staff were notified at daily huddles and staff meetings.

In February 2019, this project was presented at the NHRMC Dentistry/OMFS Department Meeting that included all stakeholders in the project. The new process was discussed in detail to identify barriers, celebrate successes, establish next steps for continual process improvement.

Discussion

The Clinical Excellence Dental Pain Team now attends the Dentistry/OMFS Department Meeting to report out data results, discuss barriers for continual PDCA (Plan Do Study Act), and for continual engagement and sustainment. This project has been an example of the power and possibilities when diverse groups of people who share a passion collaborate with the patient’s best interest at the center of the mission. Building upon the established relationships and collaboration of this team, the MedNorth Dentists have asked this group to consider as a next step to establish a system for pediatric patients seen in their clinic, also with minimal resources and needs for definitive care including sedation resources that currently are being referred to resources that are a 2-hour drive from Wilmington to receive care. Many of these pediatric patients do not have the resources to make this journey. The pediatric dentists, a part of the Dentistry/OMFS Department and the NHRMC surgery administration have committed to create a process to treat these pediatric patients at the hospital, keeping them in their home community for their care.

This project was presented to the organization wide LEAN Report Out session to share learnings and success that could be adopted in other areas across the organization. Ultimately, this project lead to many lessons learned, such as unexpected and resourceful collaboration occurs when exploring what’s possible while keeping the patients at the center of the solution. By pulling together passionate people who want to do the right thing for the patient we can come to solutions that work for the patient’s benefit and not of one group or department. This project has also challenged the NHRMC system to re-evaluate ED EMR tools with providers to determine what method is best for delivering evidence based care and what is best in terms of ease of use for their workflow. An improvement opportunity for appropriate imaging is currently being addressed through ongoing chart review and individual feedback by the ED medical director. Exploring community resources and establishing relationships with providers outside of the hospital network who support vulnerable, low-risk patients may lead to solutions for other populations or projects, such as pediatric patients who need treatment or transitions of-care work. The solution may not always be to build something new, but instead to best utilize resources, which may live outside the walls of the organization.

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