

MEDIC CQI drives improvement in pediatric quality measures through alignment of financial & professional incentives.

Problem & Importance

The Michigan Emergency Department Improvement Collaborative (MEDIC) Collaborative Quality Initiative (CQI) includes 40+ hospital EDs (general and pediatric) working together to improve the care of adult and pediatric patients. MEDIC uses evidence to select quality initiatives, measure performance and drive improvement.

MEDIC pediatric quality measures include reducing unnecessary chest x-rays (CXR) in children with asthma, bronchiolitis, and croup and reducing computed tomography (CT) scans in children with minor head injuries (HI). Overuse of these low-value imaging practices in EDs is common despite national guidelines.

Methods to drive physician performance improvement may include both financial and professional incentives.

In this project we report the results of implementing interventions to drive improvement on MEDIC pediatric measures through alignment of financial and professional incentives including Value Based Reimbursement (VBR) for self monitoring and maintenance of certification (MOC).

What We Measured

Baseline: CXR Utilization in Pediatric Patients with Asthma, Bronchiolitis, and Croup in 2020 performance year = **28.6%**

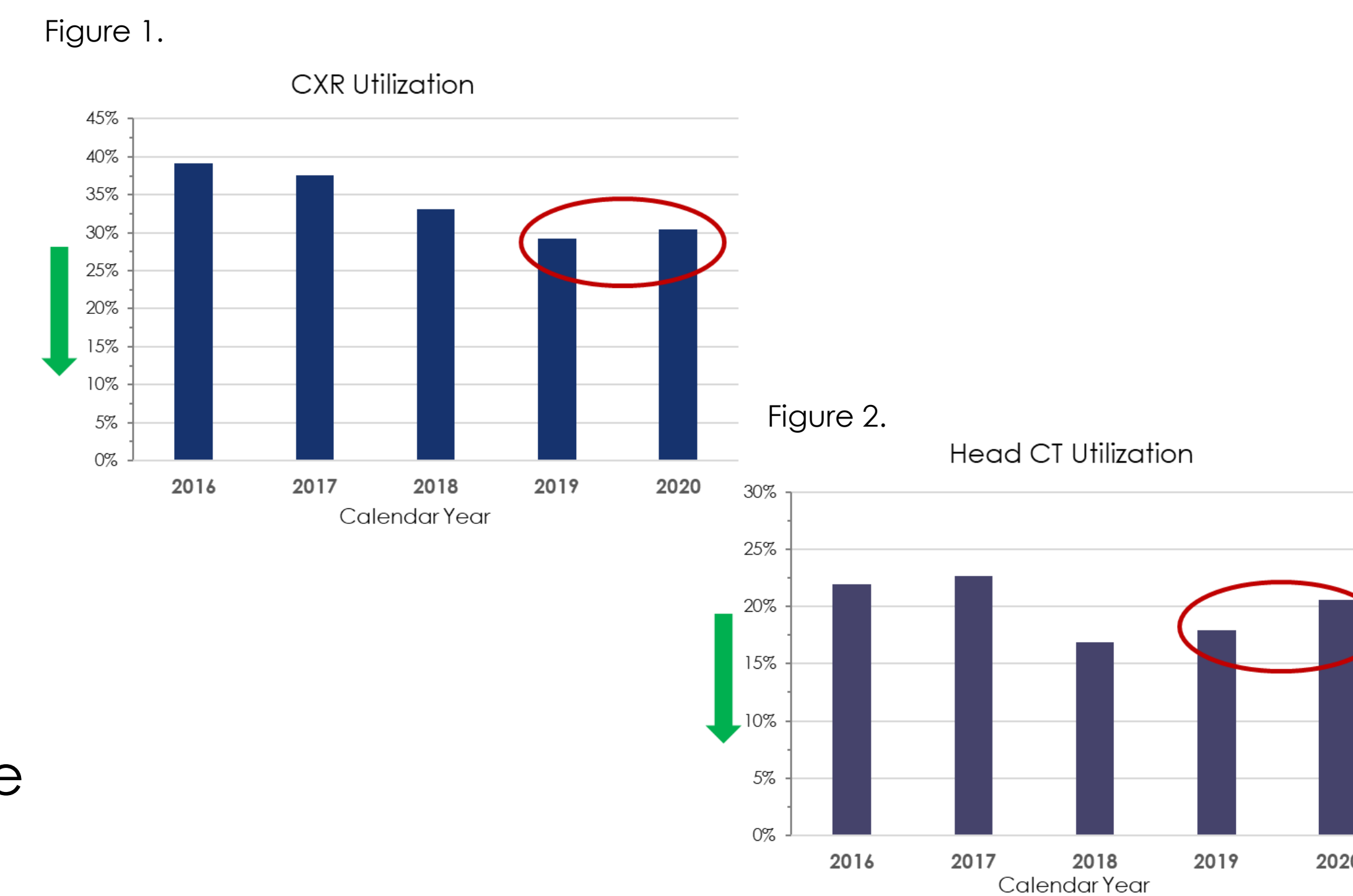
Head CT Utilization in Pediatric Patients with Intermediate Risk Minor Head Injuries in 2020 performance year = **19.5%**

SMART Target: VBR eligible providers who selected CXR or Peds HI will improve upon their individual baseline to help the collaborative meet the 2021 performance targets of $\leq 25\%$ and $\leq 18\%$ by the end of the 2021 performance year.

Gap to Close: Improve CXR utilization by 3.6% and Head CT utilization by 1.5%. Set using Achievable Benchmarks of Care (ABC) methodology.

Understanding the Current State

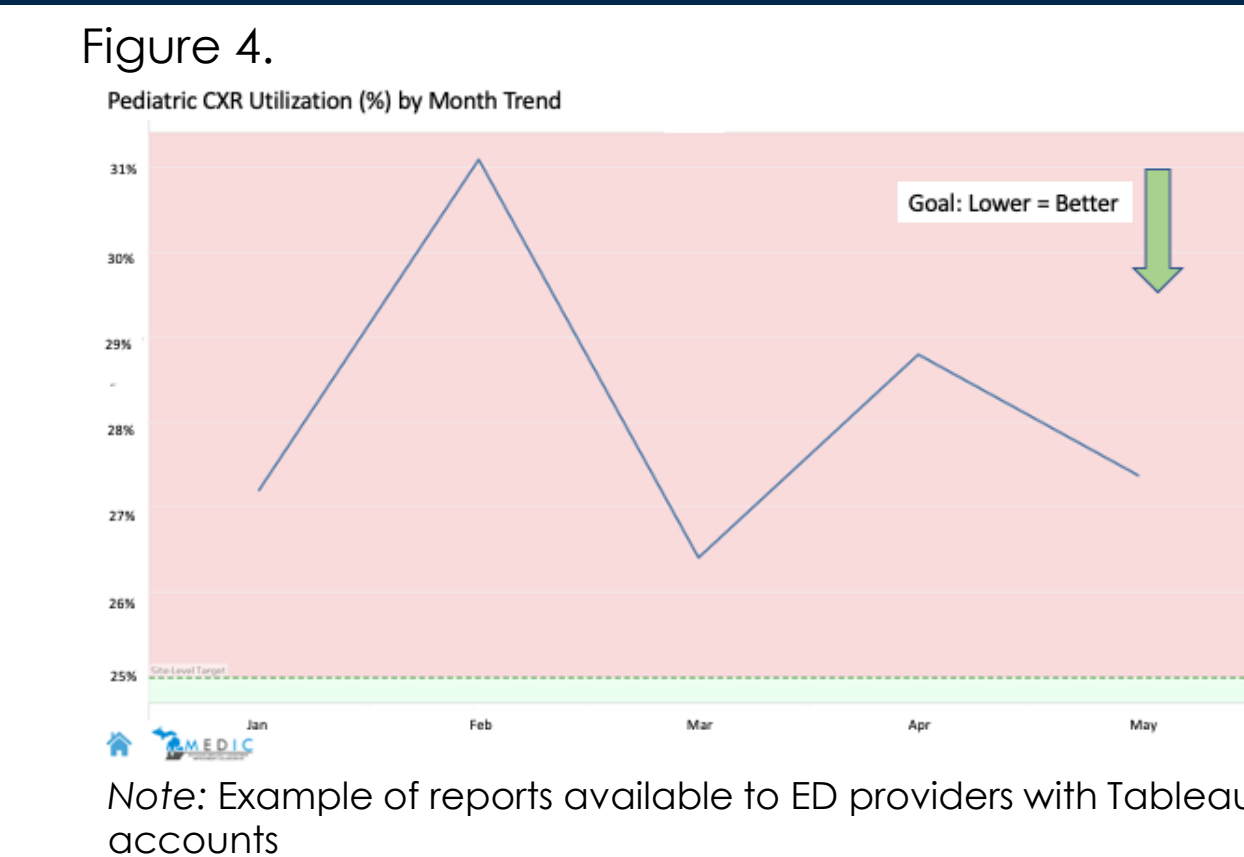
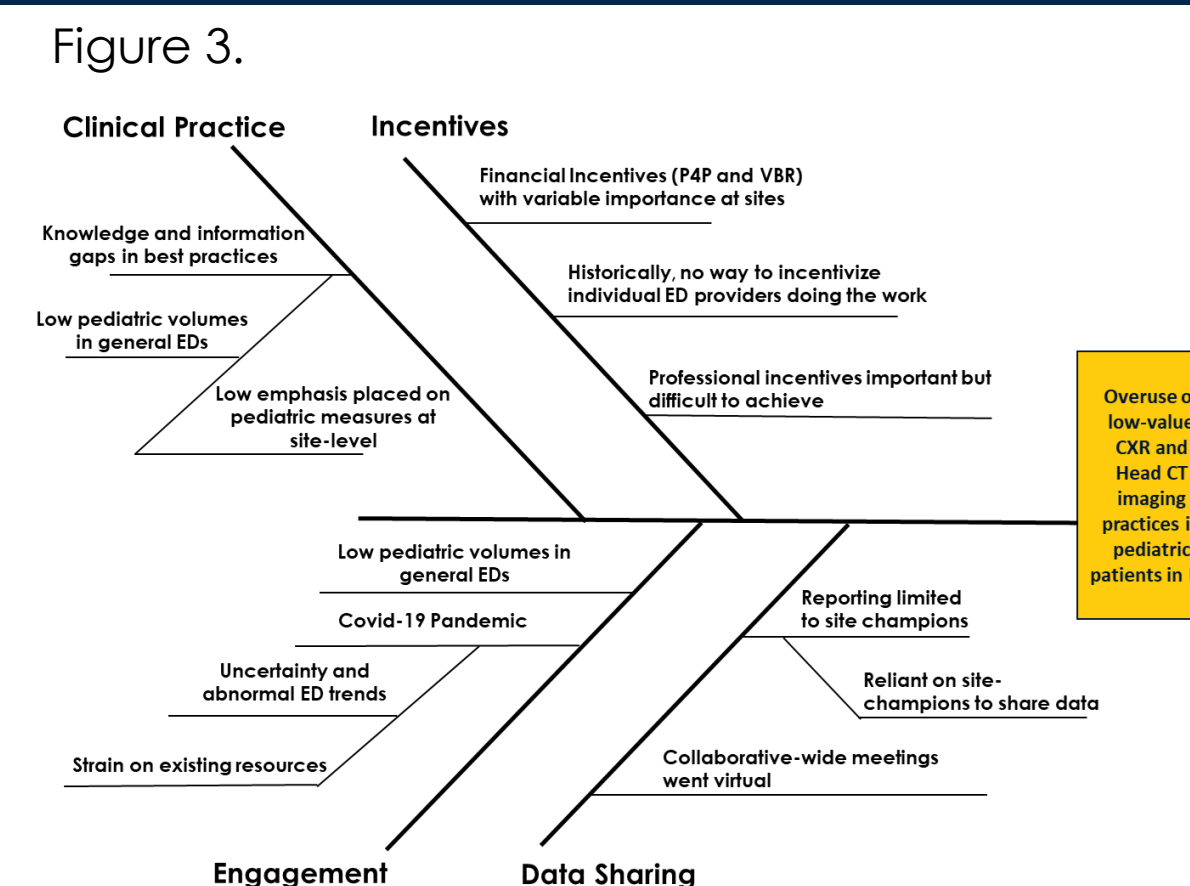
- Head CT and CXR utilization measures were not new to the MEDIC collaborative, but performance improvements plateaued or worsened in 2020 (see figures 1 and 2) prompting investigation of new incentive techniques
- The Covid-19 pandemic created some abnormal ED visit trends and uncertainty in 2020 and beyond, but that did not change our goal of continuous improvement
- 19 VBR/MOC eligible EDs for the 2021 performance year, 6 of which were new to the program



Analysis & Interventions to Improve

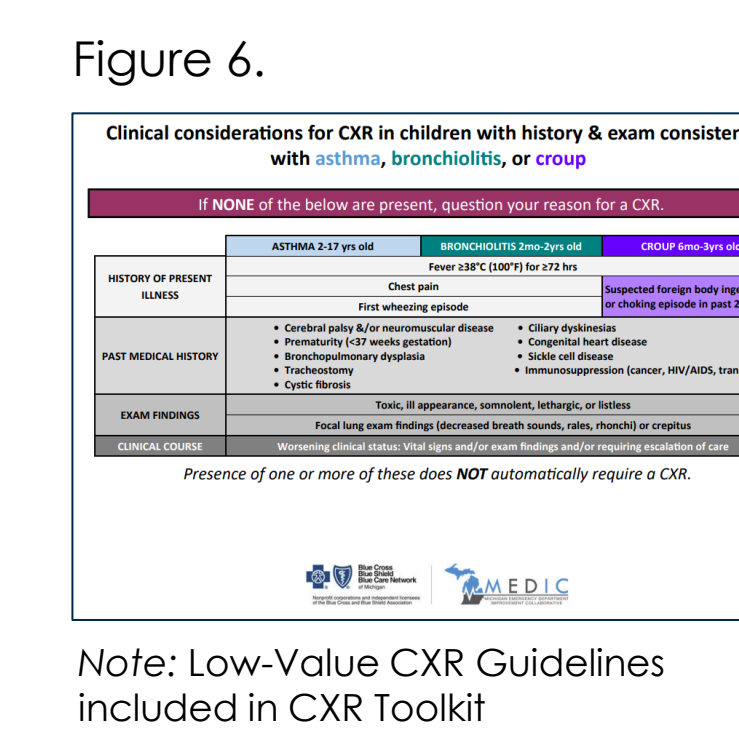
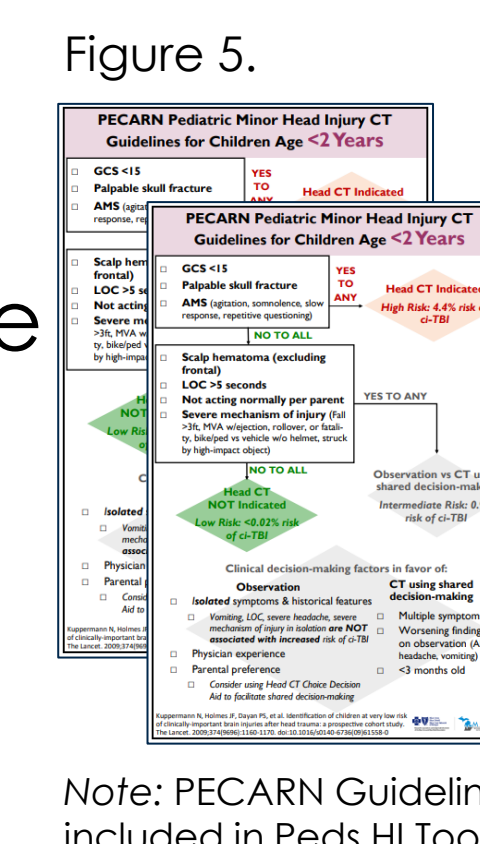
Analysis:

Fishbone root-cause analysis (figure 3) revealed actionable items including alignment of different incentives and improved access to MEDIC data for individual ED providers



Interventions:

- Active: Individual provider incentive program including 2% VBR financial incentive and MOC rewards
 - Required engagement in MEDIC on-demand performance reporting by individual providers (figure 4)
- Passive: MEDIC toolkits (figures 5 and 6), MEDIC target communications, and information sharing during tri-annual collaborative-wide meetings



Results & Outcomes Achieved

Over 350 ED providers participated in the financial and/or professional incentives, 54 of which received financial reward for working on the pediatric CXR and HI measures, and 24 pediatric specific providers received MOC credit. While a subset of total MEDIC clinicians participated, this program resulted in a MEDIC collaborative reduction in both CXR and Head CT utilization rates overall for the 2021 performance year (Table 1).

Table 1.	2020 Baseline Numerator	2020 Baseline Denominator	2020 Baseline %	2021 Post-Intervention Numerator	2021 Post-Intervention Denominator	2021 Post-Intervention %	Avoided Radiology Tests
CXR Utilization	4,646	16,224	28.5%	4,930	19,842	24.8%	725 CXRs Avoided
Head CT Utilization	594	3,047	19.5%	785	4,292	18.3%	52 Head CTs Avoided

350+

Physicians signed up for MEDIC Tableau reporting

54

ED Physicians received financial VBR incentive for working on pediatric initiatives

24

Pediatric ED Physicians received MOC credit

Sustain & Spread

- Financial and/or professional incentives are important facilitators of ED physician performance improvement.
- Engagement also requires individual ED physicians to be motivated to self monitor performance through convenient access to data.
- Matching available programmatic financial incentives to drive ED pediatric focused performance improvement with professional MOC requirements to maintain board certification adds motivation for engagement. These incentives are available to all CQIs.
- While successful, barriers to expansion remain, including disparate MOC board requirements for EM vs. Pediatric EM physicians, variable need for MOC point requirements and value of incentive method to an individual ED clinician.
- MEDIC plans to incorporate combined financial and professional incentive methods aligned to maximize engagement.

Keys to Success



Convenient 24/7 access to performance reporting



Collaboration & Communication



Financial and professional Incentive alignment

Team Members and Contacts

The MEDIC team: C. Guarnaccia, MSN, RN, M. Nypaver, MD, M. Hogikyan MPH, K. Kocher, MD, MPH, M. Macy, MD, MS, C. Mangus MD, A. Scott MSE, C. Radden MA and The MEDIC Pediatric Committee.