

**D13**

Marie-Stella Uwamahoro

Advisor(s): Ratna Basak

**Quality Improvement Project to decrease Chest X-Rays usages in Children with Asthma Exacerbations.**

Background: Asthma exacerbation is a common condition for Emergency Department (ED) visits in the pediatric population. In the United States, almost 60% of children with asthma have exacerbations annually and approximately 20% of them need ER visits. Current national guidelines recommend against doing routine chest X rays (CXR) for patients with acute asthma exacerbations to prevent unnecessary exposure to radiation. Baseline data analysis revealed that the pre-intervention percentage of CXR not meeting the guidelines in children presenting to the ED with asthma exacerbations was 50% at our hospital. Objective: To decrease percentage of CXRs obtained for pediatric patients presenting to the ED and admitted to the inpatient pediatric unit with acute asthma exacerbation by 50% in 6 months. Methods: Current guidelines for obtaining a CXR in pediatric patients with asthma exacerbations were reviewed, and CXR indications were identified. The study was conducted by reviewing Electronic Medical records of patients from 2-21 years. The target population was emergency medicine physicians and pediatricians. The first intervention was individual 1:1 provider education; the second intervention was giving each provider a pocket card on the indications for CXR. The third was creating and displaying posters in the ED about the CXR indications; and the fourth intervention was presentation at Grand rounds. Results: The first PDSA cycle with providers education yielded a slight decrease in CXRs usage to 40%. With the introduction of PDSA 2 by distributing pocket cards with clear indications for doing CXR, the percentage decreased to 24%. With PDSA 3 as a displayed poster in the ED, we observed a significant decrease to <20%. PDSA 4 cycle shows that we have reached a steady state with the CXR percentage continuously below 20%. Conclusion: A series of successfully planned interventions decreased the usage of CXRs in children presenting with a chief complaint of asthma exacerbation.