

Oral Re-Hydration vs. IVF in a Children's ED

Category of submission (select as many as apply):

Choosing Wisely

IOM Domains that this project addresses (select as many as apply)

Patient Centered

Please share how you defined your project. Consider addressing the questions below. (Max 500 Words)

What was the identified Quality Gap? - What was the improvement target? - What was the timeline of the project? - Who were the stakeholders? - What was the stakeholders' input? - What was the method for collecting stakeholder input? - What was the potential for significant impact to the institution? - What was the potential for significant impact to society?

The American College of Emergency Physicians (ACEP) set forth a clinical recommendation as a part of the "Choosing Wisely" guidelines to avoid instituting IV fluids before doing a trial of oral rehydration therapy in uncomplicated ED cases of mild to moderate dehydration in children. The ACEP recommends oral rehydration therapy initially to prevent unnecessary pain and complications in pediatric patients. The clinical guidelines suggest anti-nausea medications to allow patients with nausea or vomiting to successfully complete oral rehydration therapy. If oral rehydration therapy fails, it is recommended to start IV fluids at that time. There is strong clinical evidence to support the clinical guidelines referenced above. However, given that the "Choosing Wisely" guidelines were issued in 2014, questions remain whether they have been fully adopted in the Emergency Medicine community. This study aims to measure compliance with the guidelines to avoid IV fluids therapy before doing a trial of oral rehydration therapy in pediatric cases of mild to moderate dehydration to determine to what extent unnecessary IV fluid therapy is utilized.

Please describe how you measured the problem. Consider addressing the questions below. (Max 500 Words)

What data sources were used? - Was a numeric baseline OUTCOME measure obtained? - What defined the sample size? - What counterbalance measures were identified? - What numeric baseline COUNTERBALANCES were obtained? - Was the outcome measure clinically relevant? - Was the outcome measure a nationally recognized measure?

A retrospective study was performed in which patients fitting the inclusion criteria who presented to the UK Makenna David Emergency Department between 5.1.15-5.1.20 were randomly added to the study. A retroactive determination was made as to whether Oral rehydration therapy was indicated based on the "Choosing Wisely" guidelines. Patient care plans were reviewed to determine whether oral rehydration or IV fluids were given. Study population was drawn from the patients seen at the Makenna David Emergency Department over the last 5 years. Patients aged 2 months to 8 years old were included in the study. Gender and race were not factors for either inclusion or exclusion. Total patient histories examined totaled 100. Patient records included were from May 2015 to May 2020. Statistical analysis was then performed to see whether physicians are deviating from the guidelines to a statistically significant extent. A total of 13 patients were excluded from data analysis, 10 patients qualified as severe dehydration and 3 patients were transferred from an outside hospital with IV catheters already in place. Out of the 87 patients that fit inclusion criteria, 56 patients were given an oral rehydration trial and/or oral Zofran before an IV catheter was placed. This data demonstrates that our Emergency Department followed ACEP guidelines 64% of the time.

Please describe how you analyzed the problem. Consider addressing the questions below. (Max 500 Words)

What was one factor contributing to the gap? - Were multiple factors contributing to the gap? - Was a structured root cause analysis undertaken? - What was the appropriate QI method or tool used for root cause analysis? - Was a root cause analysis performed prior to identifying potential solutions? - What was the rationale for selecting intervention(s)? - Did the project use a QI method or tool for selecting intervention(s)?

Physician variability played the largest factor in whether guidelines were followed. Also, whether a patient was sent from another ER or a clinic played a significant variable. Lastly, if a patient was going to receive an IV for other parts of treatment, then guidelines were often not followed

Please describe how you improved the problem. Consider addressing the questions below. (Max 500 Words)

What was the implementation of intervention(s) (date/time of go live)? - Was the target measure re-measured afterwards with comparison graph? - Was a structured plan for managing change used? - Was the project counterbalance re-measured with a comparison graph? - Was the counterbalance adversely affected? - Is the improvement in target outcome measure shown? - Was a statistical significance demonstrated in the outcome measure?

We have shared this data with our institution. It was discussed at faculty meetings and discussion was had to put more emphasis on attempting oral hydration. Nurses were also educated regarding this measure.

Please describe the control phase of your project. Consider addressing the questions below.

What were the lessons learned from the project? - Was there communication to stakeholders of the summary of the project, and lessons learned? - Was a process owner identified? - Did the process owner acknowledge ownership of ongoing monitoring? - What control measures were identified? - What was the reaction plan for deficiencies identified in the control measure? - Was there at least one year of sustained monitoring demonstrated? - Was the project successfully diffused in scholarly form (i.e. poster, manuscript, etc)?

We learned that since the Choosing Wisely campaign to decrease use of IVF re-hydration, there has been a decrease use of IVF re-hydration. However there are many factors that affect whether IVF are used. These include whether other medical professionals sent patient to ED with expectations, and other uses for IV and parent willingness.