



Objective

Decrease the percentage of low dose signed prescriptions, for rescue seizure medications placed in a Neurology clinic, from 3.5% to 1.5%, by December 2018 and sustain for one year

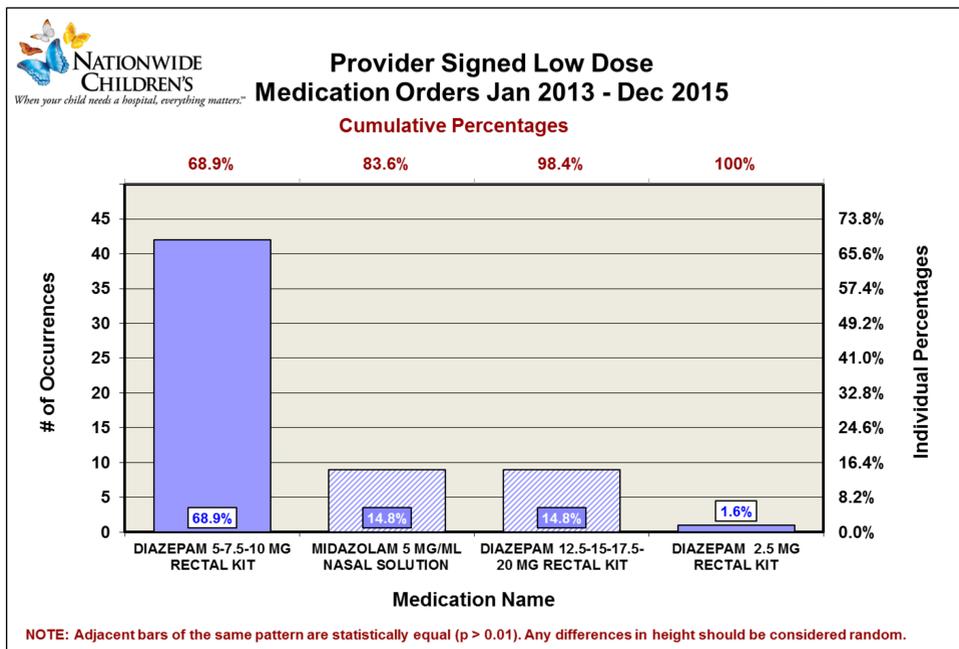
Background

- As many as 30% of patients ultimately diagnosed as having epilepsy will initially present with status epilepticus, making it a common neurologic emergency¹
- Current medical evidence suggests that there is a 20% mortality risk for those patients diagnosed with status epilepticus¹
- Low dose rescue medication has been found to be a variable for high Emergency Department utilization²
- Patients who are given incorrect dosing of emergency seizure medications, or no emergency seizure medication dosing may have a higher risk of emergency departments visits and/or unplanned hospitalizations
- In 2017, the American Academy of Neurology and Child Neurology Society created a quality measure around this subject

Methods

- A multidisciplinary quality improvement (QI) team was established to conduct analysis of data for prescribed seizure rescue medication doses from January 2013 - December 2015
- Based on data analysis, the QI team identified areas of focus for improvement opportunities and developed the project objective
- The QI team developed key drivers and implemented interventions, such as midazolam prefilled syringe program with use of standardized dosing, creating electronic chart alerts and tools, monthly pharmacy review of all low dose prescriptions, and provider and nursing education
- An automated monthly report was created to monitor prescribed seizure rescue medication dosing compliance by providers

Breakdown of low dose orders by medication type



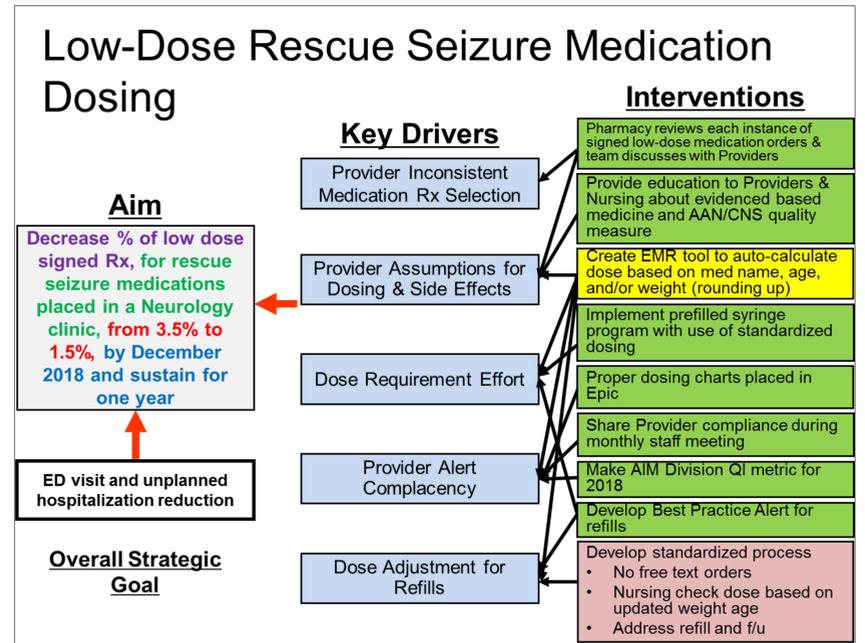
The Improvement Team

- Section Chief
- QI Medical Director
- Neurology Pharmacist
- Neurology Providers
- Nurses
- Clinical Leader
- QI Coordinator
- QI Data Analyst

References

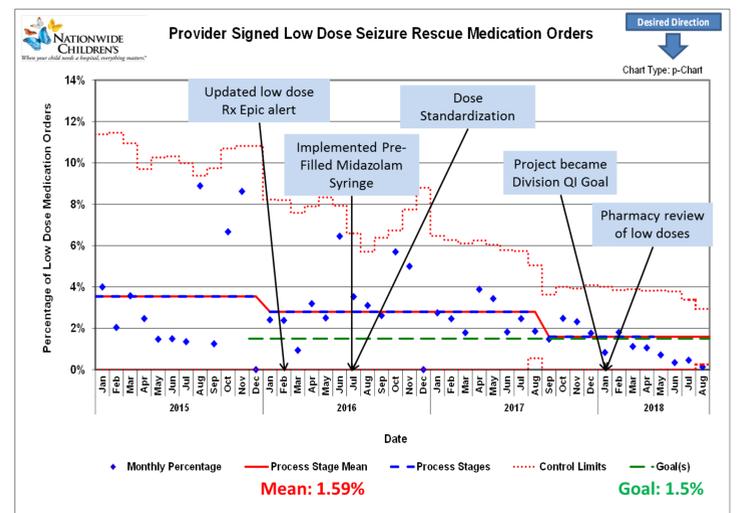
1. Betjemann JP. Trends in Status Epilepticus-Related Hospitalizations and Mortality: Redefined in US Practice Over Time. JAMA Neurol. 2015 Jun;72(6):650-5.
2. Patel AD. Variables associated with emergency department and/or unplanned hospital utilization for children with epilepsy. Epilepsy and Behavior. 31 (2014) 172-175.

Aim and Key Driver Diagram

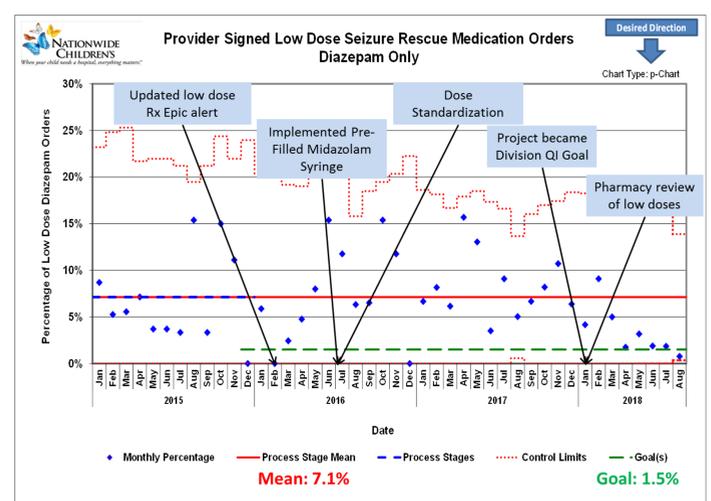


Results

- 2015 was used as the preliminary data baseline period with an average compliance rate of 3.5%. From January 2016 – August 2018, the team has decreased the non-compliance rate to an average of 1.6%
- The p-chart below represents a total of 8,327 seizure rescue medication prescriptions signed by a provider from January 2015 – August 2018



- Compliance of properly dosed Diazepam orders continues to be the largest area of opportunity. The p-chart below illustrates that no centerline shift or has occurred since the initial baseline average of 7.1% was established in 2015
- In comparison, low dosed and signed Midazolam orders occurred at an average rate of 0.33% in the same timeframe



Conclusion

Using quality improvement methodologies, the team successfully and substantially decreased provider prescribed and signed low dose rescue medication orders by an average of 54%