The "OK" Guideline: Implementing an Electronic Electrolyte Repletion Guideline for Improving Rates of Oral Potassium and Magnesium Delivery

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Problem Definition

Nearly 500,000 doses of potassium (K) and magnesium (Mg) are given at Thomas Jefferson University Hospital (TJUH) each year. More than 80% of these doses are given intravenously.

Guidelines that encourage both intravenous and oral (PO) repletion options increase rates of PO dosing and more successfully attain goal levels than standard care.

Aims For Improvement

Our goal was to increase the percent of K and Mg doses delivered by oral route to >50% of total doses distributed at TJUH within one year of implementation of an Epic-based electronic order set.

Intervention

Measurements/ Results

In a small-sample Plan-Do-Study-Act cycle, 94% of K and 100% of Mg levels were repleted within normal limits. There were zero instances of hyperkalemia or hypermagnesemia.

The percent of K and Mg doses delivered PO were 76% and 63%, respectively.

Next Steps and Lessons Learned

If adopted into practice by TJUH residents and physicians, these guidelines can effectively replete K and Mg, increase oral dosing rates, and reduce healthcare related costs across the Jefferson Health system.

The next steps in this project include:

- Promoting use of guideline (i.e., education, computer automatization)
- Further study of order set to ensure safety and evaluate effectiveness
- Iteratively enhance guideline and order set to ensure the promotion of high-value care