MEDICATION CHART ERRORS

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INTRODUCTION

A study of medication errors in charts was conducted with the goal of improving patient chart accuracy in hopes this would help to prevent future medication errors.

Visit medication refills and telephone requests are completed based on a patient's chart, thus errors are more likely if incorrect chart. This is true for much of healthcare but when it comes to medication errors the results can be detrimental.

OBJECTIVES

Determine if the number of medication errors in the chart is mitigated by nurse review with patient at time of visit.

METHODS

Literature review for similar study designs in a clinic setting was performed and a similar study was done in a psychiatric setting. Here, null is charts cannot be significantly further improved.

PDSA cycle was completed initially and referenced throughout the study. PDSA cycle is broken down as noted below:
-Plan: Determine improvement potential of medication errors in chart.
-Do: Using the current system, paper documents were collected from the nurse after chart review was completed. Provider again reviews with the patient, noting any incorrect medications.
-Study: Data will be studied to determine the prevalence of medication errors in charts.
-Act: The study results will quantify an opportunity for improvement if one does exist to indicate an appropriate correction.

Medication lists re-reviewed by provider.

The number of nurse corrections and missed errors were monitored.

Sample consisted of 16 days of collected data; all but one was included in the study.

Excluded day was due to clinic staffing which did not allow a reasonable time to perform function

DATA

Data, standard patient medication list printout, is collected after nurse reviews with patient. This document was passed to the provider who verified the list with each patient. Provider later tallied the total medications and nurse corrections.

Documents used for data collection are not shown due to their protected nature.

Due to the nature of the study and the facility practices blinding the subject was not a practical option. Obscuring the studies intent would have meant superfluous work that would have caused undue hardship on an already strained nursing staff.

RESULTS

Nurse Corrections, Total Medications and Doc Corrections
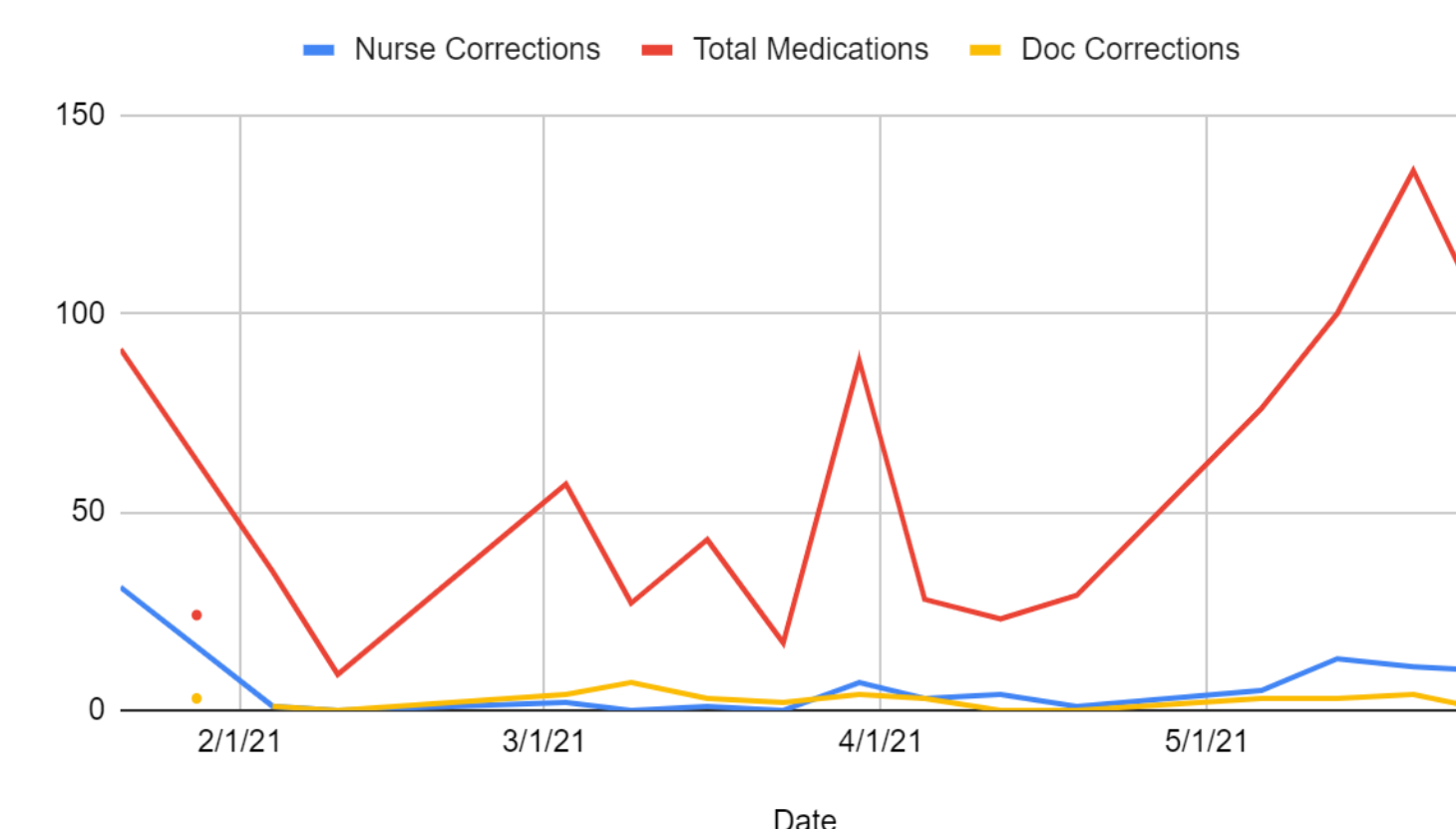
This figure highlights the numerous medications that must be reviewed which contributes to an overwhelming task.
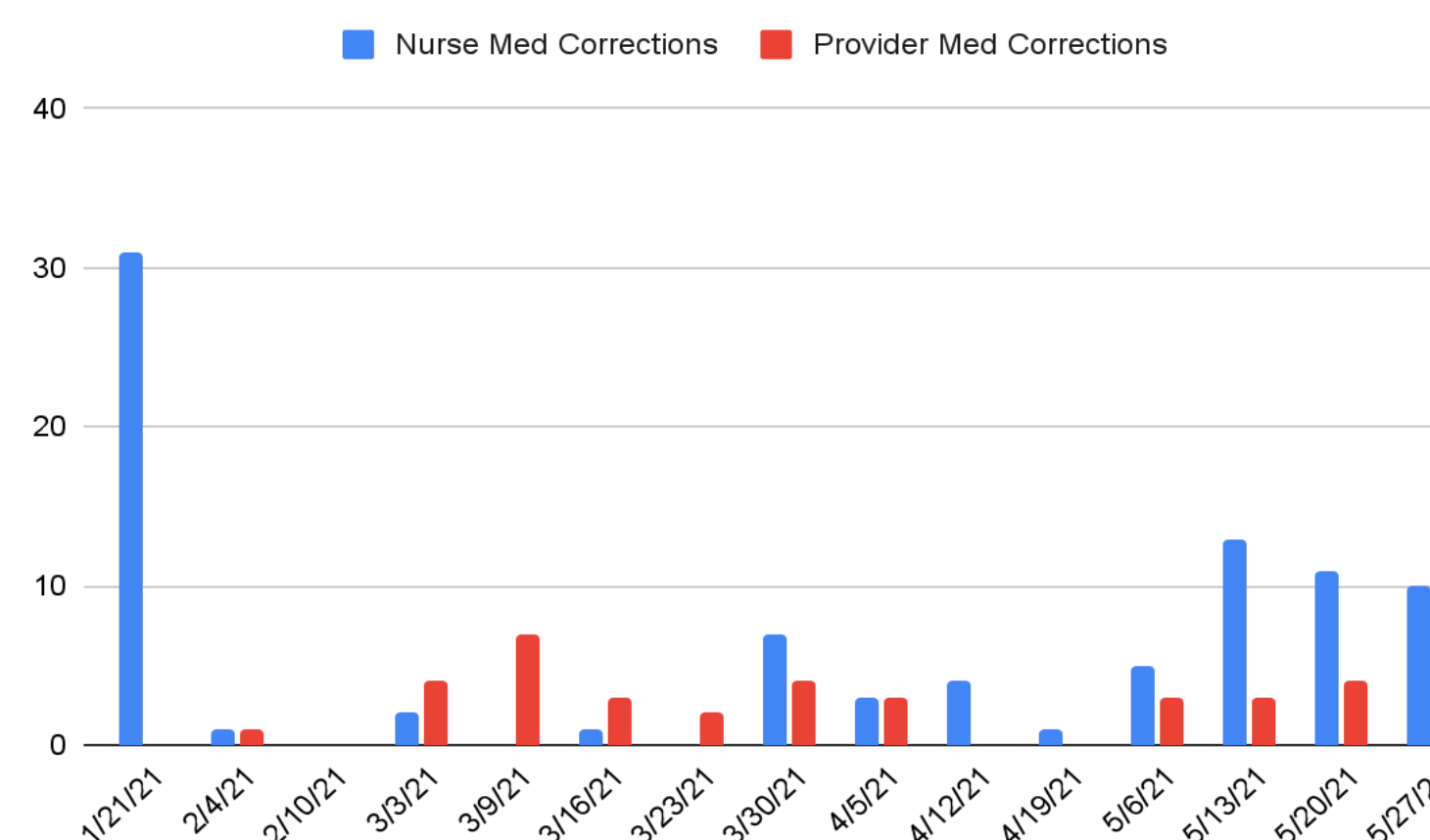
As the study progressed so too did the number of patients who came to clinic but the number of nurse corrections made also increased.

DISCUSSION

This study was observational in nature and the intent was to determine quality improvement regarding incorrect medications in charts and quantifying potential for medication accuracy improvement.

Study Weaknesses:
• biased data collector and analyzer
• small sample size
• Cross sectional study has Inherent inability to determine causality
• assumes documents collected were later updated in patient's chart.

Study Strengths:
• It meets the requirements set out to determine improvement
• system can be easily duplicated since the data collected is a form and uses same clinic practices
• Subsequently, it did not greatly disrupt the clinic flow but still allotted for uncontrollable changes in nurse staff collecting the initial data
• minimized disruptions to the study and work flow

Study Aim was to show the number of medication errors in charts and quantify the effect nursing can have on this with an aim for it to be at least 10% over a period of no less than a sample of 10 clinic days.

CONCLUSION

Having the provider review medications after the nurse did not show an improvement in medication accuracy of 10%. However, a similar improvement in accuracy was obtained simply from the nurse reviewing the list of medications with the patient. The physician updating the medication list did improve accuracy but by less than 5%.

Likely, these numbers are affected by the many biases as previously discussed including sample and selection bias. Sample bias, due to the limited population of patients from a single provider, and selection bias from the nurse who was not blinded to the focus of the data. Which was likely the most prominent and easily controlled oversight by the authors in this study.

Nonetheless, a percent of 14.39% is significant and indicates room for improvement, especially given the harm that might occur from a single mistake in the medical record. Nursing review of medication errors with patients decreases frequency of errors by about 15%.

NEXT STEPS

Ultimately, there is room for improvement, however, just before this study concluded the clinic began providing laptops for providers to use in patient rooms and I suspect the convenience of data and instant updating of corrected data would impact the chart medication errors.

A follow up study might compare the medication errors in EHR versus this study or compare results if nurses are provided with EHR access in rooms as well.

A laptop with the medication list which could be updated in real time would be a system improvement since EHR is inherently easier to keep up with versus paper documents and corrections are made in real time directly to the chart. Since starting this study the facility has purchased new laptops for providers.

The results of which, I suspect, will further emphasize that, "...the goal cannot be met by tweaking the existing system" as noted in handbook.

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