Any prescription that was electronically generated and faxed to Reed’s
Most of the errors involved entry into the wrong field. The most common
Discussing the data with
There were many errors with e-
We were limited to one compounding pharmacy for this QI project, so
We were not able to compare the rate of errors between electronic
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improve quality of patient care, they have created a problem as well.
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Definition of E-prescription (E-script) for the project
Any prescription that was electronically generated and faxed to Reed’s Compounding Pharmacy. This included any prescription conveyed via
computer, printed and faxed prescriptions.

Background and Introduction
This project was done at Reed’s Compounding Pharmacy. Reed’s receives about 85 prescriptions a day, which shows the extemporaneous compounding. Of these compounds, about 70% are for hormone replacement formulations, about 15% are veterinary formulations, about 10% are topical prescriptions for pain or dermatology problems, and about 5% are miscellaneous prescriptions. From this information it was determined that the most common Reed’s clientele include women of 40-70 years old, pet owners, parents, or geriatric patients. Reed’s does not accept insurance, so the clientele pay cash for their prescriptions.

This quality improvement (QI) project deals with the prescribing portion of the medication use process. It is important because it will help uncover the common errors made on e-prescriptions in one compounding environment. It may help to catch the errors sooner and more consistently. It could also help the e-prescribing companies fix some of the errors in their software to make it easier and faster for prescribers to write the prescriptions correctly.

Medicare has begun their e-prescribing incentive program which includes future penalties for physicians who fail to meet the requirements or fail to sign up for the program if they are eligible¹. With many physicians making the switch to e-prescribing, the potential errors being made with e-prescriptions in a compounding pharmacy could intensify.

Prior Research:
• Research suggests that 56% of e-prescriptions had some kind of error in which the pharmacist had to intervene. The most common interventions used were calling the prescriber or going through the patient’s profile. Some of the errors were never resolved.²

In Sweden, it was determined that e-prescriptions required more pharmacist intervention for errors than handwritten prescriptions. The “dosage” and “directions to use” were the most common errors. Eighty-five percent of the pharmacist recommendations were accepted by the prescriber. Therefore even though e-prescriptions were implemented to improve quality of patient care, they have created a problem as well.

To calculate the e-prescription error rate, determine error type, identify the types of interventions that were made and how long it took to resolve errors.

• About 11% of the new prescriptions filled at Reed’s Pharmacy are e-prescriptions (Figure 3).
• The error rate in e-prescriptions was 63% (Figure 4).
• The most frequent error was wrong entry field (70.3%), followed by wrong dose (8.8%), wrong direction (8.8%), and wrong drug (5.5%) (Figure 5).
• Wrong error field usually indicated that the drug name in the wrong field being the most frequent sub category (81%), or there were multiple items, such as names, professional directions, etc. that were in the wrong field (7%) (Figure 6).
• Pharmacists often use judgment to resolve an e-prescription error (68%) and refers to patient profile to make the judgment call (20%) (Figure 7).
• E-prescription issues were resolved as quickly as 2 days to as long as 17 days.

• There were many errors with e-prescriptions identified in this compounding pharmacy.
• Pharmacists had to spend time to rectify prescription errors, some of which took over two weeks. Even though most of the time it only takes the pharmacist a few seconds to look up a patient’s history to make a judgment call, it still decreased efficiency of work flow. When the pharmacy invoice is disrupted from the workflow, more dispensing errors are likely to occur.
• Patients were not able to get their medications until e-prescriptions were resolved.
• Most of the errors involved entry into the wrong field. The most common type of error for the entry field error is when the drug name was written in the directions field instead of the intended field. Another common type is when multiple components were in the improper field. Other common errors were wrong directions and wrong dose. Very few errors were identified that remained in the wrong dosage form or conflicting information.
• Discussing the data with Surescripts would inform them of the patterns the pharmacists at Reed’s are observing and allow for a possible change in their system in relation to compounded medications.
• The data obtained will be presented to Surescripts. By presenting the data to one of the biggest e-prescribing companies, a possible change could occur in how compounded drugs are prescribed. This could decrease the errors that compounding pharmacies are presently seeing.

Recommendations and Future Research
We recommend:
• Repeating data collection at another compounding pharmacy would be beneficial to improve external validity.
• Comparing the rate of errors between electronic and written prescriptions. This would be able to show if there is any statistical significance between these two groups.
• Implementing interventions at a compounding pharmacy or doctor’s office

References