A root cause analysis was performed using the current workflow for all DaTscan patients and interviewing referring providers. Patients were surveyed, patient preparedness was tracked and monitored. Several contributing factors were determined why patients were unprepared for their exams:
- Referring providers, scheduling staff and patients were unaware of required preparation and medications that interfered with the exam.
- DaTscan order set in EMR did not prompt ordering physician to withhold medications.
- Patients were unaware of appointment due to lack of communication and appointment reminders.

**Interventions**

- Figure 1 demonstrates a standardized pre-call check list for DaTscan patients. The standard workflow was implemented for nursing pre-calls for DaTscan exams to review medications and discuss exam preparation and arrival times.
- Imaging informatics and EMR designers added a pop up interfering medication list in the EMR when DatScans exams were ordered to alert ordering providers that certain medications may interfere with this exam (Figure 2). The ordering providers were able to determine if the patient medications could be safely withheld or if another imaging exam would be more appropriate.
- A reference list of interfering medications (Figure 3) was distributed for all referring providers and radiology residents on service. The radiology residents reviewed medications with the patients immediately prior to exam and made the final determination that exam could be performed.

**Discussion**

Patient scans were more confidently interpreted due to the new consistency with which interfering medications were held prior to the exam. Patients were no longer regularly rescheduled after arriving for their appointments improving patient experience and reducing no shows. The project shows the value of how highly reliable solutions when implemented, can effectively result in dramatic and consistent improvement in the quality of the clinical service provided while also saving money for the enterprise by reducing waste. The average radiotracer expense for one DaTscan exam is $2,570. The total number of combined no show/unprepared patients prior to interventions resulted in $102,800 in wasted pharmaceutical costs annually. The 84% waste reduction created through this project yielded an $86,350 annual cost savings. Additionally, the Imaging Department benefited by utilizing time slots and associated technologist resources more efficiently and effectively.

Quality improvement in radiology does not always require a financial burden to make a positive impact. By ensuring standardized patient preparation and communication, optimal and timely diagnosis for DaTscan patients was obtained more consistently while reducing waste, improving scheduling efficiency, and our patient’s experience.