

Improving Metabolic Monitoring Guideline Adherence in Psychiatry Residency Outpatient Clinic

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Goals

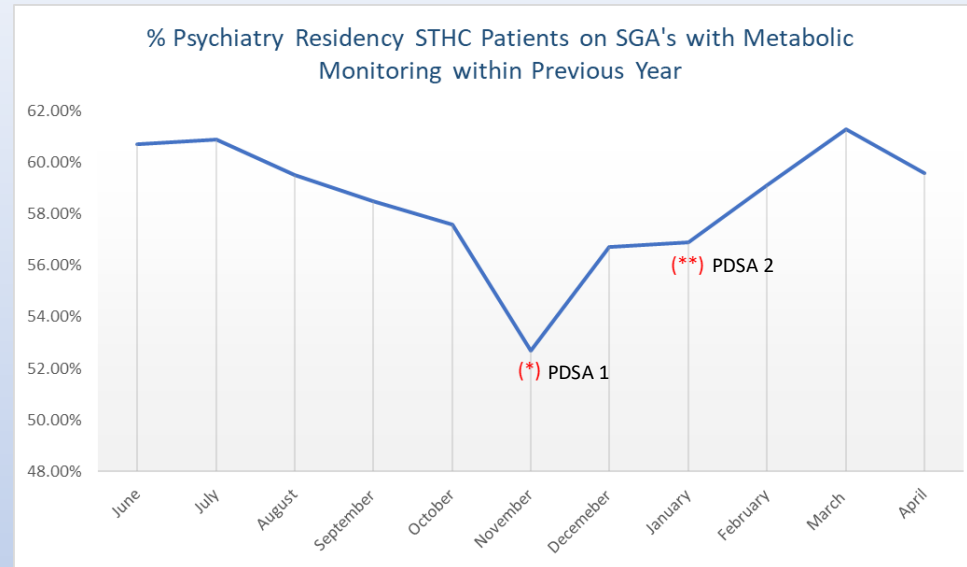
- Increase % of Psychiatry Residency Spokane Teaching Health Clinic (STHC) patients who are treated with Second Generation Antipsychotics (SGAs) and have annual Hemoglobin A1c (Ha1c) and lipid panel results 15% by April, 1 2020.
- Compare how well Psychiatry Residency adheres to guidelines relative to other resident programs and larger health care system
- Better understand adverse health impact SGAs may introduce to our psychiatric patient population

Background

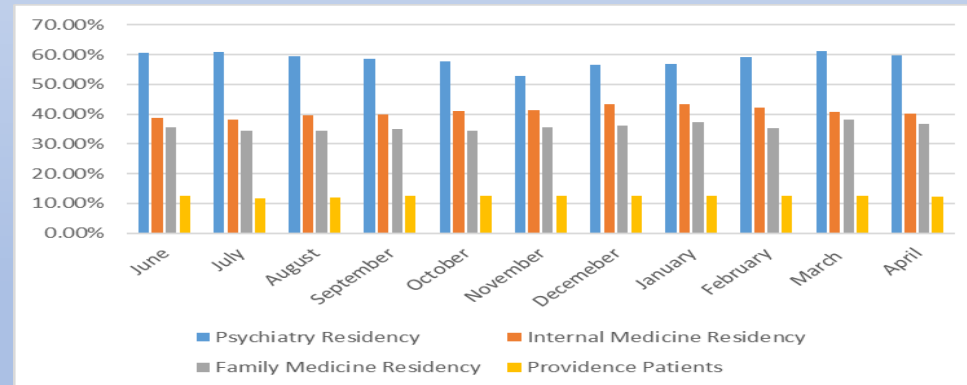
- Metabolic side effects of SGAs include increased risk of hyperlipidemia, diabetes, hypertension, obesity, and cardiovascular disease
 - Clozapine and Olanzapine showed ~4.5 kg weight gain at 10 weeks
 - Olanzapine associated with 0.4% increase in Hemoglobin A1c (Ha1c) at 10 weeks¹
 - at 14 weeks, 20.1 mg/dL increase in cholesterol on olanzapine/clozapine²
- 2004: American Psychiatric Association and American Diabetes Association developed a consensus for guidelines regarding metabolic monitoring while on SGAs³
- 2010: State Medicaid Primary Care Study demonstrated after initiation of SGA, only 10% lipid screening and 27% serum glucose screening performed⁴
- Large meta-analysis (9 studies, n~70000) found 56% glucose monitoring, 29% lipid monitoring adhering to guidelines⁵

Outcome Metrics

- Utilizing Slicer/Dicer through Epic EMR, STHC Psychiatry Residency patients prescribed an SGA could be identified, and the % of those with Ha1c and lipid panel results within the previous year could be determined over time (figure 1)



(Figure 1)



(Figure 2)

	% Abnormal value (n=237)
Ha1c	24%
Lipid Panel	48%

(Table 1)

	% Abnormal value (n=237)
HDL	30%
LDL	25%
Cholesterol	23%
Triglycerides	23%

(Table 2)

- Compared % adherence over time between STHC Psychiatry Residency, Family Medicine Residency, Internal Medicine Residency, overall Providence Health Care system (figure 2)
- Determined % of Psychiatry Residency STHC patients on SGAs with abnormal Ha1c or lipid panel components (table 1, 2)

PDSA Cycles

- Conducted two PDSA cycles for Quality Improvement (figure 1)
 - (*) Resident business meeting announcement of QI project
 - Education of guidelines at morning huddle. Ongoing reminders at morning huddles
 - (**) Provided individual psychiatry resident feedback using adherence metrics, announced contest for best adherence percentage. Added reminder on intake and follow-up templates to order appropriate labs, continued periodic morning huddle reminders

Outcomes

- From the beginning of project, Psychiatry Residency monitoring improved from 52.7% to 59.6% (6.9%), with peak of 61.3%, falling short of 15% improvement goal (figure 1)
- Average STHC Psychiatry, Internal Medicine, Family Medicine, and Providence system adherence respectively 58%, 41%, 35%, 12% (figure 2)
- Significant number of patients treated with SGA who had metabolic monitoring demonstrated abnormal lab results indicating increased risk for cardiovascular disease (table 1, 2)

Discussion

- Significant turnaround and steady improvement from initiation of first PDSA cycle demonstrates value of education, reminders, and incentives in improving standard of care practices
- Differences among residencies and larger system demonstrate need for further awareness outside psychiatry specialty
- Significant percentage of patients show abnormal metabolic lab values which need to be addressed to lower cardiovascular risk, showing importance of lab monitoring
- Further Questions: Is there a significant impact by transitions of care? Do major national events (i.e pandemic) affect standards of care/compliance?

1.) Tek et al, Antipsychotic-induced weight gain in first-episode psychosis patients: a meta-analysis of differential effects of antipsychotic medications. *Early Interv Psychiatry*. 2016;10(3):193-202.
 2.) Lieberman JA, Stroup TS, McEvoy JP, et al. Effectiveness of antipsychotic drugs in patients with chronic schizophrenia. *N Engl J Med*. 2005;353:1209-1223.
 3.) Consensus Development Conference on Antipsychotic Drugs and Obesity and Diabetes. *Diabetes Care* Feb 2004, 27 (2) 596-601; DOI: 10.2337/diacare.27.2.596
 4.) Moratto EH, Druss B, Hartung DM, et al. Metabolic testing rates in 3 state Medicaid programs after FDA warnings and ADA/APA recommendations for second-generation antipsychotic drugs. *Arch Gen Psychiatry*. 2010;67:17-24.
 5.) Mitchell, A. J., et al. "Guideline Concordant Monitoring of Metabolic Risk in People Treated with Antipsychotic Medication: Systematic Review and Meta-Analysis of Screening Practices." *Psychological Medicine*, vol. 42, no. 01, Oct. 2011, pp. 125-147., doi:10.1017/S003329171100105x.