

# Improving Screening Rates for Metabolic Syndrome in Patients Taking Atypical Antipsychotics

Luann Richardson, DNP, PMHNP, Heeyoung Lee, PhD, PMHNP, Melissa Kalarchian, PhD, and Dianxu Ren, PhD, MD

## ABSTRACT

Metabolic syndrome is common in patients prescribed atypical antipsychotic medications to manage their psychiatric symptoms. However, screening for metabolic syndrome remains low. A combination of clinician and patient factors often leads to suboptimal screening. A multimodal quality improvement strategy to increase adherence to the American Diabetes Association/American Psychiatric Association metabolic syndrome screening guidelines was evaluated at a private practice. Screening increased after implementation of an electronic prompting tool and staff/patient education.

**Keywords:** electronic screening tool, electronic medical record intervention, mental illness, metabolic screening intervention, metabolic screening, metabolic syndrome, second-generation antipsychotics

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Metabolic syndrome and subsequent cardiovascular disease is a leading contributor to increased morbidity and mortality in those with serious mental disorders<sup>1</sup> and is even more likely to occur in individuals who are taking atypical antipsychotic medications (AAPs) to manage psychiatric symptoms.<sup>2</sup> The American Diabetes Association (ADA) and American Psychiatric Association (APA) recommendations for metabolic screening<sup>3</sup> (Table) allow health care providers the opportunity to identify patients at higher risk for metabolic syndrome, but overall clinician adherence to the guidelines remains suboptimal and inconsistent.<sup>4</sup>

Electronic medical record (EMR) tools have been used to improve screening rates in patients with depression,<sup>5</sup> obesity,<sup>6</sup> and diabetes,<sup>7</sup> suggesting that these may also be successful in improving screening for metabolic syndrome in patients prescribed AAPs. Multimodal strategies for improving screening/adherence rates have proved beneficial as well.<sup>8</sup>

## LOCAL PROBLEM

Consistent with other findings, field observation at a private psychiatric practice revealed that metabolic

screening in patients prescribed AAPs was not optimal. The goal of this quality improvement (QI) project was to implement a multimodal strategy to improve 1) screening adherence to the ADA/APA guidelines for monitoring metabolic measures in patients prescribed with AAPs and 2) improve health care personnel knowledge of metabolic guidelines and patient awareness of metabolic syndrome.

## METHODS

### Setting and Design

A pre-post comparison design explored the impact of a 12-week QI project on screening adherence rates in a private, semirural psychiatric practice in western Pennsylvania. The study consisted of a 3-part project assessing guideline adherence for metabolic screening in those prescribed AAPs as well as responses of health care personnel and patients before and after a quality improvement strategy (QIS).

### Recruitment and Sample

Health care personnel and patients were invited to complete separate brief confidential surveys, and patients were informed that their care would not be affected by whether or not they chose to participate.

**Table. Metabolic Measures per Most Recent American Psychiatric Association/American Diabetes Association Guidelines**

Baseline	Personal/family history, blood pressure, weight, BMI, waist circumference, fasting blood glucose, lipid profile, HgA1c
4-Week follow-up	Weight, BMI
8-Week follow-up	Weight, BMI
12-Week follow-up	Blood pressure, weight, BMI, waist circumference, fasting blood glucose, lipid profile, HgA1c

BMI = body mass index.

The project was reviewed and approved by the University of Pittsburgh Institutional Review Board as a QI project.

To be included in the study, pre- and post-intervention patients had to meet the following criteria: age 13 or older, English speaking, and prescribed an AAP for at least a 3-month period after study enrollment. Health care personnel on site included 1 psychiatrist, 2 nurse practitioners, 3 therapists, and 2 medical assistants.

### QIS

Pre-QIS, a retrospective review was performed on charts of patients previously prescribed AAPs in order to obtain a baseline rate of adherence to the guidelines. This process continued until 20 charts meeting the criteria were audited. Subsequently, health care personnel were invited to complete a brief survey concerning their knowledge of metabolic syndrome in patients prescribed AAPs (pretest). The survey was developed by the author and was also administered at the end of the project as well (posttest).

Next, the investigator offered a 45-minute educational session to office personnel to review the ADA/APA recommendations for metabolic screening in patients prescribed AAPs and the effects of metabolic syndrome, reinforce the importance of screening, and show how to use a new screening tool that was to be incorporated into the new EMR system at the office. Handouts included information about barriers to screening as well as suggestions to increase it. Basic patient education materials, developed by the National Institutes

of Health<sup>9</sup> and the National Alliance on Mental Illness,<sup>10</sup> providing information on metabolic syndrome, diet, and exercise were offered to patients.

The private practice was newly implementing an EMR system into which information technology personnel were able to integrate an electronic prompting tool that would capture ADA/APA screening recommendations. The tool consisted of a simple tab in the EMR interface where clinicians documented their progress note, which was intended to provide a trigger to monitor metabolic measures. Reminder cards were placed in multiple locations throughout the office as an additional strategy to boost adherence.

After implementing the EMR tool, 20 additional patients newly prescribed AAPs were asked to participate in the study. These participants completed a brief survey related to the medication effects of metabolic syndrome and again after a 3-month follow-up period during which adherence to screening was recorded.

### Methods of Evaluation

#### Adherence to the ADA/APA Recommendations.

The recommended metabolic measures were evaluated over the 3-month period after initiation of the AAP. A cumulative summary statistic using these measures was used to compare the pre- and postintervention groups. The summary statistic was defined as the global percentage of measures collected for completed visits at pre- and postintervention and the average number of screening measures completed at pre- and postintervention periods.

#### Health Care Personnel and Patient

**Surveys.** Both pre- and post-QIS, personnel and patient surveys were used to rate individual knowledge of metabolic syndrome in patients prescribed AAPs. Health care personnel were asked to rate usability of the EMR screening tool after its implementation. A visual analog scale, previously validated,<sup>11</sup> was used for rating feasibility/acceptability on a 10-point scale, with 1 being not feasible to use and 10 being highly feasible.

Patients also completed a brief survey to rate their knowledge of medication effects on metabolic syndrome on a 5-point scale (1 = very low and 5 = very high). Patients completed the survey when the AAP

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