

ANTIPSYCHOTIC QUALITY MEASURES: METABOLIC MONITORING IN CHILDREN TAKING ANTIPSYCHOTICS

BACKGROUND

Increasing concerns regarding obesity and diabetes emergence in children and adolescents¹ are heightened for youth prescribed antipsychotic medications due to adverse metabolic and other physical effects.² A multi-year study of youth enrolled in three health maintenance organizations found that exposure to antipsychotics (AP) was associated with a four-fold increased risk of diabetes in the following year, compared to children not prescribed psychotropic medication³.

The Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA) established the Pediatric Quality Measures Program (PQMP), an initiative funded by the Agency for Healthcare Research and Quality (AHRQ) and the Centers for Medicare & Medicaid Services (CMS) to support the development of new measures in child health care. The National Collaborative for Innovation in Quality Measurement (NCINQ) is the group responsible for developing and proposing measures for inclusion in the Child Core Set used in Medicaid programs. The Healthcare Effectiveness Data and Information Set (HEDIS) is a tool used by more than 90 percent of America's health plans to measure performance on important dimensions of care and service. Both of these sources recommend use of quality measures addressing metabolic monitoring in children taking antipsychotics.

HEDIS Measure: Metabolic Screening for Children and Adolescents On Antipsychotics. The percentage of children and adolescents 0-17 of age who had two or more antipsychotic prescriptions and had metabolic screening (during the observation period).

NCINQ Proposed Measure for inclusion in Child Core Set: Metabolic Screening for Children and Adolescents on Antipsychotics. The percentage of children 0 to 20 years of age taking any antipsychotic medication who had metabolic screening documented during the measurement year.

At the November 2014 DUR Board Meeting, MS-DUR presented an analysis that showed that during the period July 2013 to June 2014 only 13% of children and adolescents enrolled in Mississippi Medicaid taking antipsychotic medications had claims documenting blood glucose and cholesterol tests had been performed during the observation year.

¹ Eisenmann JC. Secular trends in variables associated with the metabolic syndrome of North American children and adolescents: a review and synthesis. *Am J Hum Biol.* 2003 Nov-Dec;15(6):786-94. Review. PubMed PMID: 14595870.

² Pringsheim T, Lam D, Ching H, Patten S. Metabolic and neurological complications of second-generation antipsychotic use in children: a systematic review and meta-analysis of randomized controlled trials. *Drug Saf.* 2011 Aug 1;34(8):651-68. doi: 10.2165/11592020-000000000-00000. Review. PubMed PMID: 21751826.

³ Andrade S, Lo J, Roblin D, Fouyazi H, Connor D, Penfold R, Chandra M, Reed G, Gurwitz J. (2011) antipsychotic medication use among children and risk of diabetes mellitus. *Pediatrics*, 128, 1135-1141.

Unfortunately, since there was no quorum at the November 2014 DUR board meeting, there was no vote and recommendations were tabled until the February 2015 meeting. During the February 2015 meeting, the DUR Board recommended that MS-DUR initiate an educational intervention to notify prescribers of the need for metabolic monitoring, evaluate the impact of the intervention, and report back to the Board for consideration of further actions that might be needed to address this issue.

EDUCATIONAL INTERVENTION

The educational intervention was conducted from February 2015 through September 2015. The intervention each month consisted of the following actions:

- We identified all beneficiaries under the age of 21 who had a prescription filled for an antipsychotic and determined if they had medical claims for metabolic monitoring within one year prior to the prescription fill.
- Providers were ranked based on the number of their patients who had filled antipsychotic prescriptions during the previous month and had not had medical claims documenting appropriate metabolic monitoring during the previous year.
- The providers with the largest number of patients not receiving monitoring were mailed a letter informing them of the importance of metabolic monitoring and reporting their rates for the prior month and the overall rate for all providers in the state during that month.
- Up to 100 providers were contacted monthly. No provider was contacted more often than once every three months.

Each month, providers were ranked based on their rate of compliance with metabolic monitoring for beneficiaries filling prescriptions that month. The top 100 providers were sent the educational mailing notifying them about the importance of metabolic monitoring and their performance on the quality measure during the previous month. A total of 179 different providers were contacted as part of the intervention. 70% of these providers were contacted more than once. The prescribers contacted during the intervention accounted for more than 80% of the children filling prescriptions for antipsychotics during this time period.

EVALUATION

Analyses were conducted to evaluate the pre- vs post-intervention period behavior among providers contacted during the intervention. In order to compare pre- and post-educational intervention periods and to measure lab monitoring in a manner similar to what could be detected through prospective DUR, modifications were made in the technical specifications for the quality measures. The quality measure is defined as the percentage of beneficiaries taking an

antipsychotic at any time during the observation period who have claims for metabolic monitoring anytime during the same observation period. For purposes of the evaluation, the measure was converted into a prospective DUR edit in which each prescription fill was checked to determine if claim(s) for metabolic monitoring were found within a one-year look back period. This criteria was applied to all antipsychotic prescriptions filled for children during the pre and post observation periods. The pre observation period was April – November, 2014 and the post observation period was April – November, 2015. The same months were used for each period to control for any seasonal variations that might occur. For each observation period, beneficiaries with at least one prescription meeting metabolic monitoring criterion were classified as having met the criteria. When calculating physician rates, children were attributed to the prescriber of the last antipsychotic prescription filled during the observation period. Performance rates for prescribers were calculated for each observation period as the percentage of children attributed to the provider who met the metabolic monitoring criteria. This modification in the measurement resulted in higher percentages for obtaining metabolic monitoring than did the technical specifications used in the quality measure. This occurs because there was a full year look-back for every prescription filled because the look-back period included months prior to the beginning of the observation period.

Beneficiaries were included in the analysis if they met all of the following inclusion criteria:

- Age < 21 years at time of prescription fill; and
- Enrolled in Medicaid at least 3 months during observation period; and
- Not dual-enrolled or a resident in a long-term-care facility; and
- Had > 3 prescription fills for antipsychotics.

The percent of beneficiaries classified as meeting the metabolic monitoring requirement during each observation period are reported in Table 1, which describes whether they had a visit with the provider prescribing their antipsychotic prescription during the observation period. Overall, the percentage of children taking antipsychotics who had metabolic monitoring did not change significantly between the 2014 and 2015 observation periods. It was assumed that prescribers would most likely wait until the next patient visit to perform metabolic monitoring after receiving the educational letter, therefore, we examined changes in the rates for metabolic monitoring for children having office visits and those not having office visits during the two observation periods. Among children having office visits, a slight increase (+2.9%) in the rate for lipid monitoring was observed.

| TABLE 1: Percentage of Children Who Are Taking Antipsychotics That Had Metabolic Monitoring Within One Year of a Prescription Fill by Whether The Child Had a Visit With The AP Prescriber During Observation Period (Prescription fills between April - November 2014 and April - November 2015; FFS and CCOs) | | | | | |
|--|---------------------------|--------------------------|---------------------------------------|-------------------------------------|-----------------------------------|
| <i>NOTE: Includes all beneficiaries with 3+ prescription fills during each period</i> | | # Children on APs | Glucose monitoring^a | Lipid monitoring^a | Both lab tests^a |
| ALL Children Taking Antipsychotics | 2014 | 5,071 | 54.2% | 32.4% | 31.4% |
| | 2015 | 4,851 | 49.5% | 32.4% | 30.6% |
| | Change 2014 - 2015 | | -4.7% | 0.0% | -0.8% |
| Children WITH Visit During Observation Period | 2014 | 2,887 | 57.1% | 34.1% | 32.9% |
| | 2015 | 2,540 | 54.3% | 37.0% | 34.4% |
| | Change 2014 - 2015 | | -2.8% | 2.9% | 1.5% |
| Children WITHOUT Visit During Observation Period | 2014 | 2,184 | 50.5% | 30.0% | 29.4% |
| | 2015 | 2,311 | 44.2% | 27.3% | 26.4% |
| | Change 2014 - 2015 | | -6.3% | -2.7% | -3.0% |

^a Monitoring was considered to have occurred if a medical claim containing a procedure code included in the measure technical specifications was found within one year prior to the prescription fill.

The rates for children receiving metabolic monitoring by whether the prescribing provider was contacted in the educational initiative or not are shown in Table 2. The educational initiative increased the rate of monitoring among children on antipsychotics prescribed by providers contacted during the intervention by only 1.4%. A decrease was seen in the percentage of children having glucose monitoring. Among prescribers who were not contacted as part of the educational initiative, the percentage of children being prescribed APs that had glucose monitoring went down -7.0% and the percentage having lipid monitoring went down -5.5%. It appears that the initiative had a small beneficial effect among the providers contacted.

| TABLE 2: Percentage of Children Taking Antipsychotics Having Metabolic Monitoring Within One Year of a Prescription Fill by Whether The Prescriber Was Contacted During Educational Initiative^a (Prescription fills between April - November 2014 and April - November 2015; FFS and CCOs) | | | | | |
|--|---------------------------|--------------------------|---------------------------------------|-------------------------------------|-----------------------------------|
| <i>NOTE: Includes all beneficiaries with 3+ prescription fills during each period</i> | | # Children on APs | Glucose monitoring^b | Lipid monitoring^b | Both lab tests^b |
| Children With Prescribers CONTACTED in 2015 | 2014 | 2,925 | 52.0% | 31.4% | 30.6% |
| | 2015 | 3,811 | 48.5% | 32.8% | 31.2% |
| | Change 2014 - 2015 | | -3.5% | 1.4% | 0.6% |
| Children With Prescribers NOT CONTACTED in 2015 | 2014 | 780 | 60.1% | 36.5% | 35.6% |
| | 2015 | 1,040 | 53.1% | 31.0% | 28.4% |
| | Change 2014 - 2015 | | -7.0% | -5.5% | -7.2% |

^a Educational intervention letters were mailed from February 2015 - September 2015. 2014 data are reported as baseline information for the contacted providers.

^b Monitoring was considered to have occurred if a medical claim containing a procedure code included in the measure technical specifications was found within one year of the prescription fill.

As previously noted, providers are not likely to schedule lab tests until the next patient visit. Table 3 compares provider rates for monitoring by whether the prescriber was contacted as part of the educational initiative and whether the beneficiary had an office visit during the observation period. Comparing the two observation periods in this breakdown provides a method of examining whether provider behaviors actually changed with respect to ordering lab tests during office visits. Performance on monitoring actually decreased among providers not contacted through the educational initiative. Among providers who were contacted the rate of monitoring for lipids increased by 5.2% and the rate for glucose monitoring decreased by 2.4% for beneficiaries who had office visits during the observation periods.

| TABLE 3: Prescriber Performance Rates For Metabolic Monitoring by Whether The Prescriber Was Contacted During Educational Initiative^a and Whether Child Visited Prescriber During Observation Period (Prescription fills between April - November 2014 and April - November 2015; FFS and CCOs) | | | | | | |
|--|---|---------------------------|---------------------------------|--|--------------------------------------|------------------------------------|
| <i>NOTE: Includes all prescribers with ratings in both years based on 2+ beneficiaries</i> | | | Average # Children / Prescriber | % With Glucose Monitoring ^b | % With Lipid Monitoring ^b | % With Both Lab Tests ^b |
| Prescribers NOT CONTACTED in 2015 (n = 119) | Children WITH VISIT During Observation Period | 2014 | 10.5 | 52.3% | 24.4% | 23.9% |
| | | 2015 | 7.9 | 46.8% | 19.3% | 18.7% |
| | | Change 2014 - 2015 | | -5.5% | -5.1% | -5.2% |
| Prescribers CONTACTED in 2015 (n = 111) | Children WITH VISIT During Observation Period | 2014 | 20.8 | 53.5% | 32.2% | 29.6% |
| | | 2015 | 19.8 | 51.1% | 37.4% | 34.4% |
| | | Change 2014 - 2015 | | -2.4% | 5.2% | 4.8% |
| | Children WITHOUT VISIT During Observation Period | 2014 | 14.3 | 44.6% | 25.7% | 24.0% |
| | | 2015 | 16.6 | 35.8% | 21.0% | 19.0% |
| | | Change 2014 - 2015 | | -8.8% | -4.7% | -5.0% |

^a Educational intervention letters were mailed from February 2015 - September 2015. 2014 data are reported as baseline information for the contacted providers.

^b Monitoring was considered to have occurred if a medical claim containing a procedure code included in the measure technical specifications was found within one year of the prescription fill.

Providers were targeted for contact during the educational initiative based on the number of children they had prescribed APs and their rate of metabolic monitoring. Priority was given to contacting providers with high numbers of children without monitoring. As such, few of the providers with only one or two patients were contacted. As shown in Table 4, providers with only a few children on APs had the lowest rates for metabolic monitoring. These providers do not account for a very large percentage of the children on APs, but do continue to present a problem with respect to metabolic monitoring.

| TABLE 4: Prescriber Performance Rates For Metabolic Monitoring by Number of Children Prescribed Antipsychotics During 2015 Observation Period (Prescription fills between April - November 2015; FFS and CCOs) | | | | | | |
|--|----------------|------------------------------|-------------------------------------|---|---|---|
| | | Number of Prescribers | Total Number Children on APs | % Children With Glucose Monitoring^a | % Children With Lipid Monitoring^a | % Children With Both Lab Tests^a |
| Number of Children Prescribed APs in 2015 | 1 - 2 | 473 | 571 | 46.7% | 14.6% | 13.8% |
| | 3 - 5 | 106 | 399 | 42.1% | 19.8% | 18.9% |
| | 6 - 10 | 47 | 341 | 42.8% | 27.4% | 23.5% |
| | 11 - 20 | 50 | 717 | 62.3% | 41.4% | 39.7% |
| | 21+ | 95 | 5,786 | 56.0% | 43.5% | 40.4% |

^a Monitoring was considered to have occurred if a medical claim containing a procedure code included in the measure technical specifications was found within one year prior to the prescription fill.

CONCLUSION

The educational intervention conducted in 2015 appears to have had a small positive effect on metabolic monitoring rates. However, the program did not increase rates as much as would be desired, even among the providers who were contacted. Additional educational actions and/or clinical edits or procedures are needed to adequately address metabolic monitoring in children taking antipsychotics. However, when beneficiaries saw prescribers at their offices, rates for metabolic monitoring were higher. The number of children taking antipsychotics and not having office visits during the 8-month observation periods is a concern and may indicate that increased supervision of beneficiaries taking antipsychotics is needed.

Next Steps:

In the next few months, DOM and MS-DUR will be participating in a committee of 10 state Medicaid programs selected by the American Drug Utilization Review Society (ADURS) that will meet with representatives from CMS to discuss programs for monitoring antipsychotic use among children. MS-DUR will present findings from this meeting to the DURB at the April 2016 meeting.

At this time, MS-DUR seeks input from the DUR Board regarding what might be more effective methods for communicating the importance of metabolic monitoring to providers. A copy of an educational piece used by the California Medicaid is included as Appendix A.