

Wyoming Drug Utilization Review

Antipsychotic Use Among Children

Kristin Brauneis, PharmD Candidate 2009

Antipsychotic use among children has greatly increased in the past ten years, mainly due to the development of second generation antipsychotics. These medications are used as first line agents due to a more favorable side effect profile in comparison to the older first generation antipsychotics.¹ From 1993 to 2002, a six fold increase in the use of second generation antipsychotics among children in the

United States was seen (201,000 to 1,224,000 prescriptions).¹ The only second generation antipsychotic medications currently indicated for use in children for schizophrenia and bipolar disorder include risperidone and aripiprazole.^{2,3} First generation antipsychotics approved for use in children include chlorpromazine, prochlorperazine, and haloperidol.^{2,3} These medications have fallen out of favor for the treatment of schizophrenia and bipolar disorders due to extrapyramidal symptoms, anticholinergic effects, sedation, and tardive dyskinesia.¹ Most antipsychotic prescribing in children is based off of results from clinical trials conducted in adults. In fact, 50-75% of all pediatric use is prescribed off-label.⁴ Conducting studies among

this population is extremely difficult due to safety and ethical concerns. Although second generation antipsychotics are considered first line in adults, recent studies in children and adolescents have shown serious metabolic side effects such as increased weight gain and body mass index, which may increase the risk for cardiovascular effects and diabetes mellitus.⁵

The table on page 3 shows antipsychotic use in Wyoming Medicaid recipients under the age 18. Olanzapine, risperidone, and quetiapine have been the most commonly prescribed antipsychotics among children over the past ten years. Beginning in 2006, utilization of aripiprazole and ziprasidone began to rise. Results from the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) trial suggested that olanzapine was most effective among adults.⁶ However, during the Treatment of Early Onset Schizophrenia Spectrum Disorders (TEOSS) study, the olanzapine arm of the trial was stopped early due to “significant weight gain” (6.1 kg during eight week treatment period).⁷ Clozapine was also associated with “significant weight gain.”⁷ Risperidone is associated with an increased risk of hyperprolactinemia at doses greater than 6 mg/day, a condition in which the body produces greater than 40 µg/L of prolactin.⁸ Although risperidone has also been shown to cause adverse metabolic effects, this medication has been one of the highest prescribed medication in the last ten years.^{2,3} Quetiapine has also been associated with significant weight gain and body mass index in children,⁹ although it has been one of the most commonly prescribed antipsychotic medication.

Due to a small number of studies conducted in children and adolescents comparing antipsychotic medications, it is extremely important for health care providers to continuously monitor patients taking these medications due to adverse metabolic effects. Often, children diagnosed with a psychotic disorder

continued on page 3

WY-DUR Manager
Aimee Lewis, PharmD

WY-DUR Board Members
William Harrison, MD, Chair
Rebecca Drnas, RPh, Vice Chair
Joseph Farrell, PAC
Steen Goddik, MD
Kurt Hopfensperger, MD, JD
Richard Johnson, RPh
Scott Johnston, MD
William Keenan, RPh
James Robinett, DO
Dean Winsch, PharmD
Tonja Woods, PharmD

WY-DUR Board Ex-Officios
Donna Artery, PharmD
Antoinette Brown, RPh
James Bush, MD
Roxanne Homar, RPh
Melissa Hunter, PharmD
Linda Martin, PharmD

WY-DUR Program Assistant
Laura Miller, MS

Wyoming Drug Utilization Review
University of Wyoming
School of Pharmacy
Dept. 3375
1000 E. University Ave
Laramie, WY 82071
307-766-6750

www.uwyo.edu/DUR
www.uwyo.edu/PDL

Edited by
Aimee Lewis, PharmD
Laura Miller, MS

WY-DUR Board Meeting Update

The DUR Board met for its bimonthly business meeting on January 29, 2009. Highlights of this meeting include the following.

- The State Pharmacist reported on two bills that are being monitored: Senate File 160 which expands the current medication donation program to include medication disposal as well as adding resources. House Bill 164 would make it a felony to forge a controlled substance prescription.
- The Pharmacy Program Manager announced that the transition from ACS to GHS for claims processing is still on track for an April implementation. On March 31, pharmacies will be unable to process claims and the help desk will not be available.
- The Board approved the Narcotic limits, Cymbalta, Versa Foam and Atopiclair criteria as previously published. The final criteria will be posted on the DUR website at www.uwyo.edu/DUR.
- The Board approved the following draft criteria to be released for public comment.

Proposed criteria for Somatotropin WY-DUR January 29, 2009

All somatotropin agents:

- **Prior authorization is required for use outside of FDA-approved indications.**
- **Evaluation by an endocrinologist is preferred.**
- **Clinical evidence of improved growth will be required on a yearly basis to support ongoing utilization.**
- **Clinical evidence of need for growth hormone will be required for adult growth hormone deficiency and pediatric growth failure due to inadequate endogenous growth hormone.**

Preferred agents: Genotropin and Nutropin
Trial and failure of a preferred agent will be required for the following indications:

- **Pediatric: Growth failure due to inadequate endogenous growth hormone, Prader-Willi syndrome, children born small for gestation, Turner syndrome, idiopathic short stature, short stature homeobox-containing gene**
 - **Adult: Replacement for those with growth hormone deficiency**
- Evidence for Trilipix was reviewed. The Board agreed that this product should require prior authorization until additional safety information is available.
 - The Board agreed that since many medications are used in the pediatric population based on adult data, it is reasonable to apply the same prior authorization criteria with specific allowances as necessary.

The preferred drug list will be updated effective 4/1/09 to include additional preferred agents in some classes. Prior authorization criteria was simplified to reflect the addition of these agents as necessary. A new list will be published prior to the 4/1/09 implementation date.

All proposed prior authorization criteria will be posted for public comment. Comments may be sent by email to alewis13@uwyo.edu or by mail to: Wyoming Drug Utilization Review Board, Dept. 3375, 1000 E. University Avenue, Laramie, WY 82071. Comments should be received prior to March 12, 2009 for Board review.

The next DUR Board meeting will be held March 26, 2009 in Laramie. Topics for discussion will include PA criteria for the ADHD class, coverage of multivitamins for ocular disorders, as well as further discussion of the proposed prior authorization criteria listed above. An agenda will be posted approximately two weeks prior to the meeting.

The Preferred Drug List Advisory Committee will meet on April 14, 2009 to discuss various ophthalmic agents. An agenda will be posted at www.uwyo.edu/PDL approximately two weeks prior to the meeting.

Important Changes with EqualityCare Pharmacy Program

Effective April 1, 2009, the EqualityCare Office of Pharmacy Services (OPS) will be changing to a new Pharmacy Benefit Management (PBM) contractor called Goold Health Systems (GHS). More information on the switch over and contact information will follow in the coming weeks. A new BIN number for claims processing, provider manual, help desk information and other pertinent information will be sent to each pharmacy the last week of February by GHS.

Please note that claims will stop being processed by our current PBM vendor, ACS, Inc., on Monday, March 30, 2009 at 6 pm MST. Therefore, **NO** EqualityCare pharmacy claims will be processed between the hours of 6 pm on March 30, 2009 to no later than 8 am on Wednesday, April 1, 2009. Please talk with your EqualityCare clients ahead of time to remind them to plan to fill their prescriptions before or after the system downtime. If you have a prescription

that must be dispensed during the time the system is down, you may do one of the following:

- Submit a paper claim for reimbursement
- Dispense the prescription and submit the claim via the Point-of-Sale (POS) system on April 1st
- Dispense enough medication for the downtime period and fill the remainder of the prescription and submit the claim via the POS system on April 1st.

In addition, due to the State Auditor's financial payment cycle, **THERE WILL BE A ONE WEEK DELAY IN PHARMACY CLAIMS PAYMENTS** due to the switch over. We apologize for any inconvenience this might cause.

If you have any questions regarding the new PBM, please contact the OPS at 1-800-438-5785.

Antipsychotic Use Among Children

are also taking mood stabilizers and/or antidepressants. In some cases, children may be taking more than one antipsychotic medication. The use of multiple antipsychotic medications greatly increases the risk of weight gain, cardiovascular events, and diabetes mellitus.¹⁰ Studies among children have shown that second generation antipsychotic may cause serious metabolic effects in a relatively short period of time; therefore, it is important not to generalize results based off of adult studies to this population. There have been even fewer studies on the newer second generation antipsychotics such as aripiprazole, ziprasidone, and paliperidone. In order to assess the long term effects of antipsychotic use in children and adolescents, more studies with long term follow up should be conducted.

5. Arango C, Parellada M, Moreno DM. Clinical effectiveness of new generation antipsychotics in adolescent patients. 2004;14(suppl4):S471-9.
6. Lieberman JA, Stroup TS, McEvoy JP, Swartz MS, Rosenheck RA Perkins DO, et al. Clinical antipsychotic trial of intervention effectiveness (CATIE) investigators: effectiveness of antipsychotic drugs in patients with chronic schizophrenia. N Engl J Med. 2005; 353:1209-1223.
7. Sikich L, Frazier JA, McClellan J, Findling RL, Vitiello B, Ritz L, et al. Double-blind comparison of first-and second-generation antipsychotics in early-onset schizophrenia and schizoaffective disorder: findings from the treatment of early-onset schizophrenia spectrum disorders (TEOSS) study. Am J Psychiatry. 2008;AiA:1-13.
8. Sheehan AH, Yanovski JA, Calis KA. Pituitary gland disorders. In: DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey LM, editors. Pharmacotherapy: A Pathophysiologic Approach. 7th ed. online. New York (NY): McGraw-Hill; 2008. Available from: <http://www.accesspharmacy.com>. Accessed: Oct 17, 2008.
9. Jensen JB, Kumra S, Leitten W, Oberstar J, Anjum A, White T, et al. A comparative pilot study of second-generation antipsychotics in children and adolescents with schizophrenia-spectrum disorders. J Child Adolesc Psychopharm. 2008;18(4):317-326.
10. McIntyre RS, Jerrell JM. Metabolic and cardiovascular adverse events associated with antipsychotic treatment in children and adolescents. Arch Pediatr Adolesc Med. 2008; 162(10): 929-935.

Antipsychotic Use in Children Under Age 18

Wyoming Medicaid

Year	Rx Number	Total Reimbursement
2003	2,047	331,088
2004	2,795	512,407
2005	4,170	868,198
2006	5,323	1,216,180
2007	6,908	1,715,000
2008	8,596	2,441,667

References

1. Olsson M, Blanco C, Liu L, Moreno C, Laje G. National trends in the outpatient treatment of children and adolescents with antipsychotic drugs. Arch Gen Psychiatry. 2006;63:679-685.
2. Lexi-Drugs Online™. Lexi-Comp Online™. Hudson (OH): Lexi-Comp, Inc.; 2008. Available from: <http://online.lexi.com>. Accessed: Oct 15, 2008.
3. Drug Facts and Comparisons. Facts & Comparisons 4.0 Online™. Indy (IN): Wolters Kluwer Health Inc.; 2008. Available from: <http://online.factsandcomparisons.com>. Accessed: Oct 15, 2008.
4. Zito JM, Derivan AT, Kratochvil CJ, Safer DJ, Fegert JM, Greenhill LL. Off-label psychopharmacologic prescribing for children: history supports close clinical monitoring. Child Adolesc Psychiatry Ment Health. 2008;2(1):24.

Wyoming Drug Utilization Review
University of Wyoming
School of Pharmacy
Dept. 3375
1000 E. University Avenue
Laramie, WY 82071

PRE-SORTED STANDARD
U.S. POSTAGE PAID
LARAMIE, WY 82071
PERMIT No. 1

Return Service Requested

February 2009

Wyoming Drug Utilization Review

In This Issue

Antipsychotic Use Among Children

WY-DUR Board Meeting Update

Important Changes with EqualityCare Pharmacy Program

Please contact WY-DUR at 307-766-6750 if you would like to have your name added or removed from our mailing list, or if you need to have your address updated. The WY-DUR newsletter is also available on-line at www.uwyo.edu/DUR/newsletters.