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Class Update: Attention Deficit Hyperactivity Disorder (ADHD)

EXECUTIVE SUMMARY:

Month/Year of Review: February 2012

Reason for Review:
The Oregon Evidence-based Practice Center (EPC) for the Drug Effectiveness Review Project (DERP) produced an updated report for the Pharmacologic Treatments for Attention Deficit Hyperactivity Disorder which was published in December of 2011[1]. The full report can be found on the Evidence-based Practice Center website: http://derp.ohsu.edu/about/final-document-display.cfm. This report will be evaluated and summarized for any potential Oregon Health Plan policy decisions. Refer to the full reports for details on methods, search strategy, inclusion criteria, outcomes included, and methods for grading the evidence.

Summary:
Recent years have seen an increase in the use of non-stimulant pharmacological treatments for Attention Deficit Hyperactivity Disorder (ADHD) including antipsychotics, antidepressants, atomoxetine, clonidine and guanfacine. The Oregon Health Plan (OHP) uses formulary controls of a Preferred Drug List (PDL) and Prior Authorization (PA) criteria. Many mental health medications are exempt from the use of PA criteria, and may only be controlled by the PDL.[2] Previous class reviews only included stimulant treatments and atomoxetine[3], whereas the most recent review included all potential pharmacologic treatments for ADHD.[1] Comparative effectiveness data was generally not available. Overall efficacy and safety data show few differences between agents, with difference in formulations showing temporal benefits consistent with pharmacokinetic properties associated with the formulation. Efficacy and tolerability findings were evaluated separately in young children, children adolescents, and adults. The DERP review of the available evidence concludes the following regarding comparative effectiveness and harms:

Effectiveness and Efficacy:

- Effectiveness data was generally lacking, with available data having notable methodological limitations
- Efficacy data supports the superiority of stimulants (methylphenidate, amphetamines) and non-stimulant (atomoxetine, guanfacine, clonidine) over placebo.
- No consistent superiority has been demonstrated between immediate and extended release stimulant formulations.
- No consistent superiority has been demonstrated between immediate release stimulants and non-stimulants.
- Limited data suggests some extended release formulation stimulants may be superior to atomoxetine for selected patient populations.
- No comparative efficacy data exists for either extended release clonidine or extended release guanfacine.

Harms:

- Tolerability and side effect profiles are generally consistent with pharmacologic profile and delivery mechanism (immediate release, extended release, or transdermal).
- Long term safety data is of generally poor quality for both stimulants and non-stimulants.
- Atomoxetine may be associated with an increased risk of suicidal behaviors compared to placebo.
- Data evaluating cardiovascular risk was conflicting, with some data showing no significantly increased risk of cardiovascular events.
- Very limited data suggests that height and weight changes associated with stimulant therapy are also found in children treated with atomoxetine.

Recommendations:

- Due to a lack of comparative efficacy or effectiveness data, do not consider extended release formulations of clonidine and guanfacine as clinically superior to other stimulant and non-stimulant ADHD treatments.

References

[1] McDonagh MS, Peterson K, Thakurta S, Low A. Drug Class Review: Pharmacologic Treatments for Attention Deficit Hyperactivity Disorder. Final Update 4 Report. Prepared by the Oregon Evidence-based Practice Center for the Drug Effectiveness Review Project. Oregon Health and Science University. Portland, OR. 2011. Accessed 1/3/2012 from: http://derp.ohsu.edu/about/final-document-display.cfm

[2] Oregon Administrative Rules. Accessed 1/3/2012 from http://arcweb.sos.state.or.us/pages/rules/oars_400/oar_410/410_121.html.

[3] Origer B, Medak R, Klein T, O'Kane N, Clark R, Aebi C. Pharmacologic Treatments for ADHD. Health Resource Committee. June 2008. Accessed 1/3/2012 from http://www.oregon.gov/OHA/pharmacy/therapeutics/docs/hrc-2008-06-adhd.pdf?ga=t