

Potential Targeted Intervention:

ACEI/ARB and Statin Use in Women of Childbearing Age without Contraceptives

Use of ACEIs, ARBs, and statins in women of childbearing age should be approached with caution. The US Food and Drug Administration consider all statins pregnancy category X.¹ Statins are to be avoided during all trimesters due to the high risk of adverse fetal effects. Currently, ACE inhibitors and ARBs are rated pregnancy category C during the first trimester and D during the second and third trimesters.¹ However, recent data has indicated that use of ACEIs and ARBs during the first trimester may result in increased risk of fetal abnormalities.^{2,3}

Analysis of Wisconsin Medicaid claims database was conducted to evaluate the incidence of contraceptive use in women of childbearing age (15-45) who were on a ACEI, ARB, or statin over a one year period from April 2008-April 2009. A member was considered to be using a contraceptive if there was evidence of an oral, vaginal or transdermal contraceptive, intrauterine device, or diaphragm. The percentage of women of childbearing age taking an ACEI, ARB, or statin and also taking a contraceptive were 11.7% and 11.1% respectively.

Rx Class	n	BC +	BC -
ACE-ARB	6467	762	5340
STATIN	4269	477	3798
BC	75406		

A targeted educational intervention addressing this issue may result in decreased fetal abnormalities associated with ACE, ARB, and statin use in pregnancy. Educational intervention could be targeted toward the prescriber or member.

1. DRUGDEX® System [Internet database]. Greenwood Village, Colo: Thomson Reuters (Healthcare) Inc. Updated periodically.

2. Cooper WO, Hernandez-Diaz S, Arbogast PG et al. (2006) Major congenital malformations after first trimester exposure to ACE inhibitors. *New England Journal of Medicine*, 354, 2443–2451.

3. Quan A (2006) Fetopathy associated with exposure to angiotensin converting enzyme inhibitors and angiotensin receptor antagonists. *Early Human Development*, 82, 23–28.

ACE/ARB, Statin Childbearing age Intervention Data

Email sent : 8/14/09
From: Dr. Lon Blaser
To: Tom Olson

Tom

I found this data from CDC on birth rates by age. It is not Wisconsin specific but may add to the discussion.

Lon

+ The preliminary birth rate for women aged 20–24 years increased slightly (less than 1 percent) in 2007, to 106.4 births per 1,000 women from 105.9 (Tables 2 and 4–5). The *number of births* to women aged 20–24 years rose slightly between 2006 and 2007 (less than 1 percent), due entirely to the increased birth rate. The rate for women aged 25–29 years also increased in 2007, by 1 percent, to 117.5 births per 1,000 women from 116.7 in 2006. The number of births to women aged 25–29 years rose 2 percent in 2007, entirely a result of the increased birth rate.

+ The preliminary birth rate for women aged 30–34 years increased in 2007 as well, by 2 percent, to 99.9 births per 1,000 women from

97.7 in 2006. This was the highest rate reported since 1964 (103.4), the end of the postwar “baby boom” (1946 to 1964) (1,3). The number of births to women aged 30–34 years increased 1 percent in 2007. The rate for women aged 35–39 years also increased in 2007, by less than 1 percent, to 47.5 births per 1,000 from 47.3 in 2006. This is the 29th consecutive year of increase as well as the highest rate over the past 40 years (49.9 in 1964) (1,3). The number of births to women aged 35–39 years increased slightly between 2006 and 2007.

+ The preliminary birth rate for women aged 40–44 years increased 1 percent in 2007, to 9.5 births per 1,000 women, the highest rate since 1968 (9.6); the rate for women aged 45–49 years (which includes births to women aged 50–54 years) was unchanged at 0.6 births per 1,000 (Tables 2, 4, and 5). The number of births to women aged 40–44 years decreased slightly, whereas the number of births to women aged 45–54 years increased 5 percent.

http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_12.pdf