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OREGON PUBLIC HEALTH DIVISION • DEPARTMENT OF HUMAN SERVICES

GEOGRAPHIC DISPARITIES IN PEDIATRIC ASTHMA CONTROL

Asthma is one of the most common chronic diseases among children in the U.S. Although asthma management guidelines and effective asthma control medications are available, a considerable gap exists between best practices and asthma care.

Disparities in asthma care and asthma outcomes by socio-economic status are well-documented. According to the Agency for Healthcare Research and Quality's *Closing the Quality Gap*, people of lower socio-economic status (SES) with asthma "are more likely to be limited by asthma symptoms, to use an emergency department as their usual source of care, and to be hospitalized for asthma."[1] In Oregon, asthma is 51% more prevalent among children from low-income households (<$25k/year) than those from higher-income households (12.5% and 8.3%, respectively). One group of children with low SES is those on Medicaid.

In this issue of the *CD Summary*, we present information on asthma control among Oregon children ages 0-17 years who are on Medicaid. While the data focus is on children who are on Medicaid, the discussion applies to asthma care for all children.

ASTHMA CONTROL MARKERS

We analyzed three measures as indications of poor asthma control: emergency department (ED) visits for asthma, hospitalizations for asthma, and sub-optimal medication usage (a per-patient ratio of controller medicine to the sum of rescue and control medicines in a year; low ratios indicate poor asthma control). These medical and pharmacy claims data were obtained from Oregon Division of Medical Assistance Programs for the 2004 and 2005 calendar years.

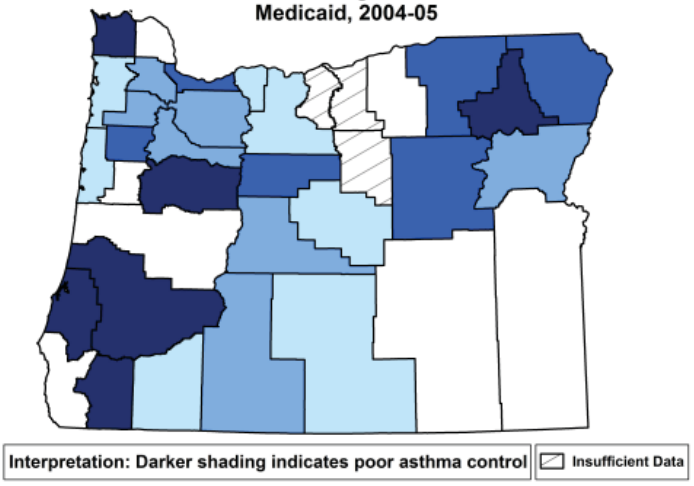
Overall, for every 100 children on Medicaid with asthma, there were an average of 19.3 ED visits and 3.7 hospitalizations for asthma per year. In addition, 47% had a low medication ratio, indicating too few controller medication dispensings or too many rescue medication dispensings.

DISPARITY ISLANDS

Access to care is a critical issue in managing asthma, and rural areas often have reduced access to both primary and specialty care. We analyzed data by county to identify differences in asthma control among regions of Oregon. For this analysis, all three measures were standardized and combined into a single asthma control score in which high scores mean poor control.*

The results of this analysis show that asthma control is highly variable across the state but, on average, appears to be worse in rural counties. As seen in the figure, the counties with the worst asthma control scores among children on Medicaid include Clatsop, Coos, Douglas, Josephine, Linn, and Union counties. Most of these counties are indeed rural. Also note the southwest region of Oregon tends to have high rates whereas the southeast region is relatively spared.

Asthma Control Scores for Oregon Children with Asthma on Medicaid, 2004-05



Poor asthma control was also evident for children in some urban areas. For example, Multnomah County had one of the highest ED visit rates for asthma.

UP IN SMOKE?

Why are rates of poor asthma control higher among children on Medicaid in these counties? We still suspect access to care plays a key role, but several rural counties do not exhibit asthma control problems. Clearly other factors contribute to these disparities. Some additional factors may include: environmental conditions, less ability to read and comprehend health information, lack of access to transportation, and cultural differences. Secondhand smoke exposure may also play a role; the three counties in southwest Oregon with poor asthma control scores (Coos, Douglas, and Josephine counties) also have three of the five highest adult smoking prevalences in Oregon (all ≥27% compared to 20% for the state).

WHAT TO DO

Disparities in asthma control can be tackled in several ways. Some methods applicable to all children—not just those who are on Medicaid—include how patients manage their asthma, health care provider practices, and health systems.

One area ripe for systems change is communication with providers regarding ED visits. We know that ED visits for asthma are all too frequent for children. Unfortunately, follow-up outpatient visits to an ED visit for asthma only happen about 35-40% of the time for children on Medicaid and are only slightly better

* For the data nerds, each measure was converted into a z-score, and the z-scores were then summed by county.

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for children with commercial insurance. These low follow-up rates are likely due in part because the primary care provider never hears about a patient's ED visit; also claims lag may mean the health plan doesn't hear about the visit until 2-3 months after it occurred. Ideally, if a patient's primary care provider and health plan were immediately notified of the ED visit and then contacted the patient to schedule a follow-up visit, we would improve outpatient follow-up.

BARRIERS TO CARE

Another barrier to children receiving quality asthma care includes parents' abilities to read or comprehend health information, called "health literacy." Low health literacy among parents of children with asthma has been associated with more ED visits for asthma, over-use of rescue medications, and more missed school days due to asthma.[2] Similarly, children with asthma whose parents have lower education levels are also less likely to use controller medications.[3]

National data indicate that cultural differences and differences in the language spoken at home may lead to poorer health outcomes. For example, in families where English is not the language spoken at home, children are more likely to have poor health and less likely to receive needed medical care.[4] African American and Hispanic children are less likely to use a controller medication, and African American children are three times as likely as Caucasian children to be admitted to a hospital for asthma.[5]

RESOURCES

The following resources may help providers ensure that patients receive quality asthma care.

- **Oregon Asthma Resource Bank** (*www.healthoregon.org/asthma/resourcebank*). The Patient Education and Tools for Providers sections contain asthma education handouts and an asthma action plan that are easy to read and comprehend.
- **Tools and Trainings in Language and Culture.** The U.S. Office of Minority Health offers tools and web-based trainings for healthcare providers to improve cross-cultural communication skills for organizations and providers. To access these free tools and trainings, go to *www.thinkculturalhealth.org.*
- **The Oregon Asthma Program** is working to identify and address pediatric asthma disparities in Oregon. Contact us at asthma.ohd@state.or.us or 971-673-0984.
- **The National Asthma Education and Prevention Program** (NAEPP) **guidelines** (*www.nhlbi.nih.gov/guidelines/asthma/index.htm*). The NAEPP released the newest version of *Guidelines for the Diagnosis and Management of Asthma: Expert Panel Report 3* (EPR-3) in September 2007. The literature review and guidelines are organized around four components of asthma care: 1) assessment and monitoring, 2) patient education, 3) control of factors, contributing to asthma severity, and 4) pharmacologic treatment. One of the key differences from previous versions is that the stepwise asthma management charts have been revised and expanded to specify treatment for three age groups: 0-4 years, 5-11 years, and 12 years and older. The 5-11 year-old group was added based on new evidence regarding medications for this age group, as well as emerging evidence suggesting that children may respond differently than adults to asthma medications. EPR-3 reaffirms that patients with persistent asthma need both long-term control medications and quick relief medications. EPR-3 also reaffirms that inhaled corticosteroids are the most effective long-term control medication across all age groups. In addition, EPR-3 includes new recommendations on other treatment options.

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