

## **REDUCING HEALTH DISPARITIES: USING EMERGENCY ROOM VISIT DATA TO TARGET SCHOOL-BASED ASTHMA INTERVENTIONS IN MISSOURI**

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**Background:** Asthma is a potentially life threatening condition. Mortality risk increases with uncontrolled disease and as exacerbations occur. In Missouri, the Patient Abstract System (PAS) through a web-based query portal provides emergency room (ER) visit data at state, region, county, and ZIP-code level. Using the ER visit data as an indicator of poor asthma control, we identified geographic areas with the highest ER visit rates among school-age children to target school-based asthma interventions in Missouri.

**Method:** The number and rate of ER visits with asthma as the principal diagnosis were obtained by county for children age 14 and younger during 2006-2008. For the two counties with the highest rate of asthma ER visits, the rate was calculated for school-age children age 5 to 14 in each ZIP-code area in these counties to identify the geographic areas with highest emergency care utilization.

**Results:** St. Louis City (28.8 per 1,000, 95% CI 27.8 to 29.8) and St. Louis County (15.2 per 1,000, 95% CI 14.8 to 15.6), which have large urban populations, are the top two counties with the highest asthma ER visit rates among children age 14 and younger in Missouri. The rates in these counties are significantly higher than the state rate (9.6 per 1,000, 95% CI 9.5 to 9.8). In St. Louis City and County, school children age 5-9 had higher ER visit rates than children age 10 to 14. The leading zip codes for asthma ER visits in St. Louis City and County were identified and prioritized for school-based asthma interventions (Table).

**Conclusions:** A total of 64 health professionals have completed evidence-based asthma training in priority ZIP-codes. Surveillance data can be useful in identifying disparate geographic areas and at-risk populations to target interventions as well as define and monitor disparities over time.

Asthma Emergency Room Visit Rates for children age 5-14 by leading zip codes\*, St. Louis City and County, 2006-2008

<b>St. Louis City</b>			<b>St. Louis County</b>		
<b>Zip Code</b>	<b>Number</b>	<b>Rate</b>	<b>Zip Code</b>	<b>Number</b>	<b>Rate</b>
63106	270	53.1	63133	154	38.3
63113	251	38.9	63121	347	28.6
63107	239	32.5	63134	198	28.6
63104	228	31.9	63136	696	24.7
63112	241	31.6	63138	266	24.6

\*Zip codes with 100 or more asthma ER visits among children age 5-14; rates per 1,000 population.