

An Analysis of Childhood Asthma Hospitalizations and Deaths in Michigan, 1989-1993

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SUMMARY AND RECOMMENDATIONS

An analysis was undertaken to characterize the occurrence of asthma in children in Michigan. There are no readily available sources of data concerning the prevalence of asthmatic children or the incidence of asthmatic attacks, so hospital discharge and death certificate data were used for the analysis.

During the five year period 1989 to 1993, there were 35,697 children under 15 years of age discharged from Michigan hospitals with the principle diagnosis of asthma. The rate was 34 per 10,000 children. The rate for children under 5 was approximately 3 times that for children 5 to 14, and the boy's rate was 1.7 times higher than girls.

The rate for black children(81.3/10,000)was about three times higher than white children(25.6/10,000). The rates appear to be gradually increasing for black children over this period but not for white children.

The peak incidence of hospitalization for asthma was in September, with a smaller peak around March. This pattern was more pronounced in children 5 to 14. December, January, June and July were the lowest months.

The length of hospital stay averaged 2.7 days for the five year period. The average has gradually declined over the period from 2.95 days to 2.55. Two areas, Berrien and Cass Cos. and Jackson Co., had lengths of stay longer than other counties.

Three groups of counties had rates above the overall state rate: four counties in the southeast (Wayne, Washtenaw, Lenawee, Jackson), four counties around Saginaw Bay (Bay, Saginaw, Genesee, Huron), and two counties in the southwest (Berrien, Cass). Although these included counties with urban areas, they also included rural areas, and some counties with urban areas did not have high rates.

Two areas had patterns that differed from the usual: Berrien and Cass Cos. and Jackson Co. They had high overall rates, disproportionately high rates in children under

5, distinctly longer lengths of hospital stay, and seasonal patterns that emphasized the January through March period.

During the ten year period, 1985 to 1994, there were 62 deaths in children due to asthma for an annualized rate of 3 per million. The rates were much higher in black children and those 10 to 14 years old. Sixty percent, or 37, of the deaths were in Wayne Co. children, which is disproportionately high considering their rates of hospitalization. Six counties had two deaths and 13 had one deaths each.

Overall, Medicaid was the source of payment for 37% of childhood hospitalizations for asthma. The length of stay in the hospital was longer for children supported by Medicaid. In low incidence counties, Medicaid supported 34% of the hospitalizations. In the high incidence counties of the southwest and Saginaw Bay areas, Medicaid supported 54% of the hospitalizations. In the high incidence southeast counties, Medicaid supported 35% of the hospitalizations, but 23% were from sources other than Medicaid or private insurance, including "free".

It is recommended that:

- Review of all deaths in children under 15 due to asthma be instituted to help develop interventions to prevent serious complications of asthma, and particularly death.
- A trial of preschool "roundups" of children with asthma be developed in a few counties or communities to determine whether such an educational activity would be useful in dealing with the increased incidence of serious asthma after school starts. The educational material would deal with standard guidelines for dealing with asthma attacks at home and at school modified as necessary by consultation with local physicians as to the methods they prescribe.
- A record review of a sample of hospital admissions for asthma in high incidence areas be instituted to determine what type of interventions would be most important for the population of asthmatic children in the community during different periods of the year. It is particularly recommended for Berrien, Cass and Jackson Counties. The assistance of physicians experienced in the diagnosis and treatment of childhood asthma should be involved in these reviews.
- Analysis continue to better pinpoint the areas of high incidence of hospitalization and their characteristics.

To obtain a copy of the full report, please contact:

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