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**Chronic Disease**  
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**Prevalence of Asthma in Farm Children: Comparison of Parental Report  
and Medical Record Review**

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**Background:** Methods of ascertaining and defining asthma in epidemiologic research vary, and the extent of agreement between such measures is not clearly understood. Within a broader investigation of early life farm exposures and risk of childhood asthma and other atopic conditions, we sought to generate and compare population-based estimates of asthma prevalence among farm children using several definitions, based on both parental report and medical chart review.

**Methods:** The Marshfield Epidemiologic Study Area (MESA) is a geographically defined, population-based cohort that receives nearly all health care from Marshfield Clinic and affiliated institutions. The region includes about 2200 farms. Over 9,500 children aged 5-17 years who were born in the region served as the study population. A stratified random sample of 1000 over-selected for likely farm resident children. Parents of 553 children completed the survey and gave permission to review medical records. Informative records were available for 531 (96%). A weighted analysis provided estimates for the full study population. Asthma ascertainment included parental report of past asthma diagnosis, history of wheezing, and asthma medication use, as well as documentation of asthma diagnoses and medication use in the medical chart.

**Results:** Prevalence of asthma among farm children using a broad composite definition was 24.8%. Prevalence based on parental report of a specific asthma diagnosis was 11.2%, while medical chart documentation of a past asthma diagnosis was found for 10.1% of farm children. Only 71% of parental reports were validated in the charts, and only 80% of chart-confirmed diagnoses were reported by the parent. Basing asthma prevalence for farm children on history of asthma medication use gave somewhat higher estimates than did history of a diagnosis. Of farm children, 19.2% ever reported wheezing or whistling in the chest, with 8.1% in the past year.

**Conclusions:** Observational research on asthma can be heavily influenced by ascertainment methods and case definitions. While prevalence estimates based on a past asthma diagnosis were quantitatively similar for parental report and chart confirmation, agreement on specific cases between the two sources was less than expected. Care should be taken to clearly describe asthma case definitions when reporting results.