

Background

In 2005, the Michigan Newborn Screening Program expanded newborn screening from 8 to >40 conditions with tandem mass spectrometry (TMS). The translation of TMS into clinical practice dramatically increases the number of positive results generated. Michigan's recent expansion provides a natural experiment to evaluate the economic, medical and psychological impact of this innovative translation of technology.

Specific Aims

1. To measure utilization of inpatient and outpatient healthcare services during the first year of life for infants with both true and false positive newborn screening results who are insured by Blue Cross/Blue Shield (BCBSM) or Medicaid.
2. To compare the utilization and costs for infants testing positive (true and false) with those receiving normal newborn screening results.
3. To examine parental experiences during and after the clinical evaluation of a positive newborn screening result during the first year of life.
4. To assess variation in healthcare utilization, cost of healthcare services and parental experiences for infants with true and false positive results and to explore the association of this variation with disease type/familiarity, payer, socio-demographic and geographic factors.

Methods

We will identify all infants with true or false positive newborn screening results in 2006 and match these infants with their respective claims in the BCBSM and Medicaid databases to determine charges and volume of services for outpatient evaluations, inpatient evaluations, and diagnostic testing from the initial positive screen until age one year. We will compare these results between the following: children who screened positive for an expanded panel condition, children who screened positive for a pre-expanded panel condition, a randomly selected group of age and zip code matched healthy infants with normal screens. In addition, we will measure parental stress and child vulnerability using validated measures and conduct semi-structured interviews of parents to examine parental experiences with the evaluation of positive newborn screening results during the first year of life.

Assessing the impact of expanded newborn screening in Michigan is funded by the Michigan Institute of Clinical and Health Research.

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