

Identify

SHARED RESPONSIBILITIES

Tools for Improving Quality of Care for
Children with Special Health Care Needs

Summary Description of NHP Algorithm

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Boston, Massachusetts, May 2001

An Administrative Data Algorithm for Identifying
Children with Special Health Care Needs



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Background

Health plans may choose to begin identifying the children with special health care needs (CSHCN) population by using existing member-level administrative data including information gathered prospectively at the time of enrollment as well as retrospective sources such as claims based information on utilization and costs. Administrative data may also include authorized procedures, specialized provider ID numbers, or facilities uniquely identified with specialized pediatric services, as additional indicators of special needs. The identification scheme developed by one health plan can serve as a framework and be adapted by other plans in accordance with their individual data systems. In general, combining multiple data types will produce a more accurate set of children who are likely to meet the CSHCN definition.

Neighborhood Health Plan, a Massachusetts managed care organization with more than 135,000 members, has used several approaches to identifying CSHCN enrolled in their plan including the development of an algorithm uniquely designed to take advantage of their own administrative data warehouse. The algorithm was originally conceived as a strategy for using existing administrative data to operationalize the consequence-based definition of CSHCN described in the Shared Responsibilities Toolkit. Early attempts to avoid the use of diagnostic codes were eventually replaced with a combined methodology that uses ICD-9 diagnosis codes as well as a range of other indicators that a child may have *a chronic physical, developmental, behavioral or emotional condition expected to last twelve months or more, and also requires health and related services of a type or amount beyond that required by children generally.*

The algorithm was originally applied to estimate the number of children and youth less than nineteen years old likely to meet the CSHCN definition and to develop a list of these members in order to survey a sample of families caring for CSHCN for quality improvement purposes. When using the algorithm, each child's administrative record is analyzed for a set of indicators of special need and chronicity of that need over a twelve-month period. Administrative claims are searched for a set of diagnoses that would imply the likelihood of a special need, service utilization including behavioral health, pharmaceuticals, specialized service or equipment authorizations, as well as indicators of state agency involvement or special rating categories for public insurance programs indicating disability. A weighting scheme for stratification is also included. In consideration of the importance of early identification, continuous enrollment is not required. Members are included if they are enrolled on the last day of the twelve month reporting period.

The algorithm has not been validated for the purpose of individual identification of CSHCN. An initial run of the algorithm allowed the health plan to identify the top twenty primary care sites serving CSHCN. Future plans include additional validation, and use of the algorithm to provide information to primary care providers as a network directed tool to assist in identification. The administrative algorithm is one of multiple strategies to be used to develop a roster of CSHCN that can be used for program planning, outreach, targeted member education and quality improvement initiatives.

Indicators

Diagnosis: Qualifying diagnosis codes are those developed by the Foundation for Accountability (FACCT), considered to be the industry standard codes by NCQA for its reporting year 2002 HEDIS Measure for CSHCN. The diagnosis codes are primarily general to three digits, yet specific to the fifth or sixth digits in some cases. Only the primary diagnosis for each encounter is collected; secondary and tertiary diagnosis codes can also be used. Thirty-five diagnosis categories are used. Some categories have more than one ICD-9 code, e.g. Infectious Diseases includes 15 codes. Others such as Developmental Delay are represented by only one code. Members are considered to have multiple diagnoses only if their qualifying codes cross more than one category. Some of the diagnoses, such as ADHD and Asthma also require a minimum number of utilization criteria in addition to the presence of the diagnosis code.

Utilization: Procedure codes for medical services, behavioral health and pharmaceuticals are selected based on repeated analyses of high use services. Examples of services include: adaptive equipment (orthotics, hearing aids, speech equipment), disposable medical supplies, durable medical equipment, home nursing, hospice services, nutritional supplements, OT, PT, skilled nursing, and speech therapy. A duration criteria is defined for each service to infer chronicity.

High Cost: Children whose annual costs are in the top 1% and 5% of all child enrollees are identified. Costs include those submitted from medical, ancillary, pharmaceutical and behavioral health claims combined. Pharmaceutical costs include total costs to all parties (professional fees, ingredients costs, administrative fees and co-payments by members).

Hospitalization: Children who had a total number of hospital days of 30 or more are identified.

Rating Category: Children who are designated as part of a particular enrollment category signifying disability through the Medicaid program are identified as a qualifying set of CSHCN.

Agency Involvement: Members using Department of Mental Health services are identified. Other state agencies such as Department of Mental Retardation, Department of Public Health, will be identified when added to the data system.

Stratification

CSHCN have differing levels of severity and complexity in their medical and other service needs. This administrative algorithm stratifies the population by the number of indicators met per member.

- Level 1 - Low need: children with one indicator
- Level 2 - Medium need: children with two indicators
- Level 3 - High need: children with three or more indicators.

Forced Estimate

Statistical analyses were developed to force the proportion of the membership identified to fit the national benchmark of approximately 15% of the pediatric population enrolled in the health plan, using current epidemiological estimates as a guide.

**For additional information on the Administrative Algorithm
for Identifying CSHCN, please contact:**

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