

# CHILDREN'S HEALTH, THE NATION'S WEALTH: ASSESSING AND IMPROVING CHILD HEALTH

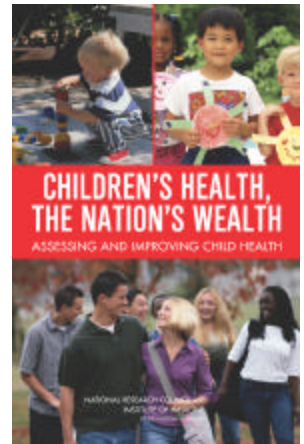
Children represent our nation's future—they will create the families, power the workforce, and make American democracy work in the years ahead. Their health today, important in its own right, also will have a profound effect on their health as adults.

Scientific and public health advances have reduced infant mortality and morbidity from infectious diseases and accidental causes, improved access to health care, and reduced the effects of environmental contaminants such as lead. Yet, childhood obesity, diabetes, and asthma rates in the United States—each affected by a range of individual, environmental, and behavioral factors—are among the highest in the world. One in ten children has a significant mental health impairment. There are notable disparities in health across various groups of children. Promoting health today requires consideration of the overall status of children, not just identification and treatment of specific diseases or injuries.

Yet major questions remain about how to define children's health, how to assess the status of children's health, what health influences to monitor, and how to apply appropriate measurement tools. The National Research Council and the Institute of Medicine, in response to a congressional request and with funding from the U.S. Department of Health and Human Services (HHS), formed the Committee on Evaluation of Children's Health to consider these questions. The committee's report offers a new framework for the health measurement of children (ages 0 to 18 years) and provides a foundation for moving toward a comprehensive children's health measurement system that is better suited to today's concerns.

## WHAT DOES "CHILDREN'S HEALTH" MEAN?

Health is historically viewed as the absence of disease or premature mortality. Today, most health care providers agree that definitions of health should incorporate both disease prevention and



**Many things we need  
can wait. The child can-  
not. Now is the time  
his bones are being  
formed, his blood is  
being made, his mind  
is being developed.  
To him we cannot say  
tomorrow, his name is  
today.**

**-Gabriela Mistral**

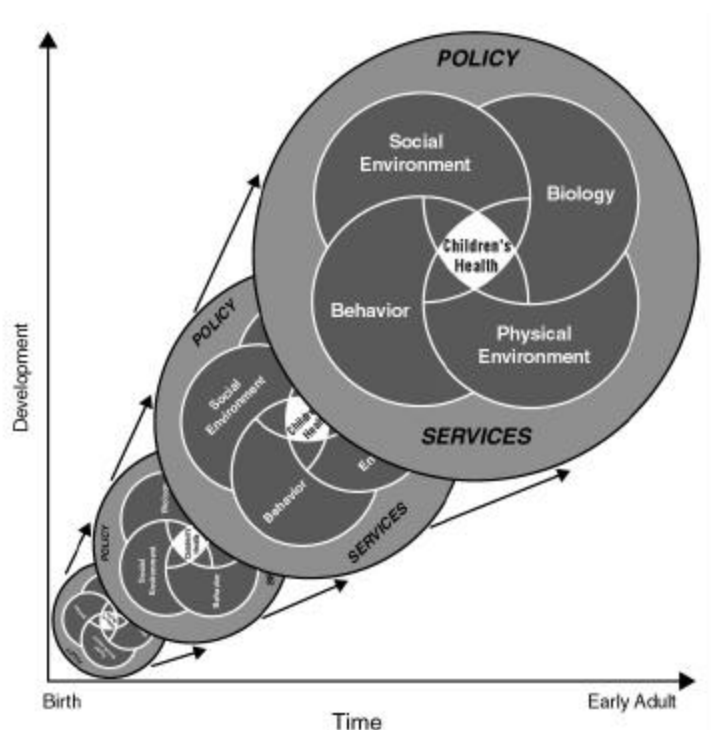
health promotion views that embrace positive aspects of health. Building on views of health expressed at the 1986 Ottawa Charter, the committee recommends a new definition of health:

Children's health should be defined as the extent to which an individual child or groups of children are able or enabled to: a) develop and realize their potential; b) satisfy their needs; and c) develop the capacities that allow them to interact successfully with their biological, physical, and social environments.

The committee also proposes three domains to translate this broader definition of health into measurable categories. The first, *health conditions*, captures the traditional notions of health measured by disorders or illnesses of body systems. The second, *functioning*, assesses how health affects one's daily life. The final domain, *health potential*, involves the identification of assets and positive aspects of health such as competence, capacity, and developmental potential.

Today's threats to healthy childhood result from complex interactions of influences in children's biological, behavioral, social, and physical environments. In contrast to simple cause-and-effect disease models, future models of health must consider a complex chain of interactions that persistently affect the child's health trajectory in both positive and negative directions throughout the lifespan. Health at each stage of development sets the stage for and affects future health. The committee proposed a new model that portrays these dynamic interactions over time and their effects on health throughout different stages of childhood (Figure 1).

**FIGURE 1. A New Model of Children's Health and Its Influences**



Although most children are healthier today than a century ago, worrisome disparities in health remain among particular racial, ethnic, and socioeconomic groups within the child population. The precise mechanisms that explain these disparities remain a mystery. But the systematic nature of health disparities calls for concerted efforts to collect data that can guide studies of the underlying causes, relationships, and influences.

## WHO PAYS ATTENTION TO CHILDREN'S HEALTH?

Many federal agencies are dedicated to improving children's health by financing or conducting original research, data collection, or children's health programs. Five units within HHS, the lead federal agency on health issues, administer surveys that collect children's health data. Other federal agencies including the Departments of Education, Labor, and Housing and Urban Development; the U.S. Census Bureau; and the U.S. Environmental Protection Agency (EPA) also collect relevant data. An overview of some of these data collection efforts is included in Box 1.

### BOX 1. Key National Sources of Data on Children's Health by Sponsor

#### Department of Health and Human Services

##### *Centers for Disease Control and Prevention/National Center for Health Statistics*

- Vital Statistics
- National Health Interview Survey (NHIS)
- National Health and Nutrition Examination Survey (NHANES)
- State and Local Area Interview Telephone Survey (SLAITS)

##### *Centers for Disease Control and Prevention/National Center for Chronic Disease Prevention and Health Promotion*

- Youth Risk Behavior Survey (YRBS)
- Behavioral Risk Factor Survey (BRFS)

##### *Maternal and Child Health Bureau/Health Resources and Services Administration*

- National Survey of Children with Special Health Care Needs (NSCSHCN)
- National Survey of Children's Health (NSCH)
- National Survey of Early Childhood Health (NSECH)

##### *Agency for Healthcare Research and Quality*

- Medical Expenditure Panel Surveys (MEPS)

##### *National Institute of Child Health and Human Development*

- National Longitudinal Survey of Adolescent Health (Add-Health)

#### Department of Education

##### *National Center for Education Statistics*

- Early Childhood Longitudinal Study - Kindergarten Class of 1998-99 (ECLS-K)
- Early Childhood Longitudinal Study - Birth Cohort (ECLS-B)
- National Household Education Surveys (NHES)

#### Department of Labor

- National Longitudinal Survey of Youth (NLSY)

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## **WHAT SHOULD FEDERAL, STATE, AND LOCAL ENTITIES DO TO IMPROVE CHILDREN'S HEALTH MEASUREMENT?**

The committee formulated several recommendations to strengthen the nation's ability to monitor positive and negative aspects of children's health. First, the Secretary of HHS should designate one unit with lead responsibility for assessing children's health and for coordinating interagency efforts to standardize, coordinate and develop new data. Using the committee's framework of health conditions, functioning, and health potential, the lead data collection agency within HHS should establish mechanisms to monitor each of the three domains, with particular attention to patterns and trajectories that may emerge over time. This type of data collection will inform efforts to understand complex interactions and the relative effects of multiple influences on children's health over time.

Second, the federal government should facilitate state and local efforts to complement the efforts of federal entities. The committee recommends that HHS support efforts to improve the capacity of state and local communities to monitor children's health and its influences through demonstration projects, data element standards, and technical assistance efforts. Although most children's health survey data are collected at the national level, states and localities have an opportunity to develop policies and implement programs that directly affect children's lives. In addition, states collect a wealth of administrative data in the course of delivering health care and other services. Integrated use of state and local administrative datasets would help inform and direct program and policy efforts to improve children's health.

Third, the committee recommends that governors, mayors, and county executives designate a central entity within each municipality, county, and state to measure and monitor children's health. These designated units can then take on the roles of reporting on progress in addressing children's health issues, identifying opportunities to integrate and use existing health data, and developing new data collection strategies.

Finally, the committee recommends continued and improved collection of local-level data by the U.S. Census Bureau, the EPA and other data collection offices. Improved collection of local-level factors and the use of geographic identifiers, such as neighborhood tract, could enable compilation of data at the local level and opportunities to match environmental data to data gathered in surveys and administrative records. Improved coordination among federal agencies such as the EPA and the U.S. Census Bureau would also improve state and local efforts to understand and respond to physical and social environmental influences on health.

## **WHAT SHOULD BE COLLECTED TO MEASURE CHILDREN'S HEALTH AND ITS INFLUENCES?**

The committee recognizes that radical changes in the current children's health measurement system are difficult. Incremental changes in the existing system can make substantial progress even in the absence of the development of a new, more comprehensive



children's health measurement system. Key areas for change identified by the committee include:

- Improved data collection in the most comprehensive current national surveys;
- Improved monitoring of the origins and development of health disparities among children and youth;
- Continued collection of local-area data and linking local health data with other data sources;
- Increased inclusion and availability of geographic identifiers in health-related surveys and administrative data;
- Improved access to survey and record-based sources of health information by the research and planning communities; and
- Increased federal support of state and local monitoring of children's health and its influences.

Current comprehensive surveys (e.g., NHIS, NHANES, ECLS) tend to measure either health or influences on health, but not both. Adding new data on the functioning and health potential domains of children's health to these surveys to reflect the committee's broader view of health would improve the nation's capacity to move toward comprehensive monitoring of health. Systematic collection of data on race, ethnicity, immigration, and socioeconomic status will also advance our understanding of the origins, distribution, and disparities in health among special populations of children. But it is important to develop strategies that can provide ready access to population datasets while also protecting the legal and ethical rights of individual children and their families.

## **HOW CAN FUTURE RESEARCH ADVANCE CHILDREN'S HEALTH?**

While substantial knowledge has been gained over the past several decades, much has yet to be learned about how intervening in children's health can modify trajectories to adult health. The precise effect and interaction of a variety of influences that begin in childhood and continue to adulthood are of particular interest. Understanding the differences between transient and enduring health conditions requires comprehensive longitudinal surveys, ideally with multiple cohorts, and sufficient sample sizes to capture prevalent health conditions as well as rare disorders. Improved measures of functioning and health potential are also needed to achieve a comprehensive, positive vision of children's health. Topics of particular interest include the biopsychosocial pathways of development, the role of genetic biomarkers, the effect of environmental toxins and other environmental health hazards, and the unique susceptibilities of children to a variety of chemical and other exposures. Improved understanding of the reasons and remedies for health disparities among ethnic, racial, and socioeconomic groups is another priority area for future research. Finally, development of profiles and integrative measures of children's health that incorporate each of the three domains of health will improve the quality of children's health measurement.

In summary, strengthening the nation's ability to nurture and develop our children with all their inherent richness and potential requires new strategies and new partnerships to improve the comprehensive assessment of children's health.

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## FOR MORE INFORMATION...

Copies of the report, *Children's Health, The Nation's Wealth: Assessing and Improving Child Health*, are available for sale from the National Academies Press at (800) 624-6242 or (202) 334-3313 (in the Washington, D.C. metropolitan area) or via the NAP homepage at [www.nap.edu](http://www.nap.edu). Full text of the report and a free pdf copy of the Executive Summary are also available at [www.nap.edu](http://www.nap.edu). The study was funded by the Office of Disease Prevention and Health Promotion and this brief was funded by the National Institute of Child Health and Human Development, both at HHS. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect those of HHS.

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