



Health Indicators

*A Review of Reports
Currently in Use*

Conducted for The State of the USA

By

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1.0 Background

The State of the USA (SUSA) is a comprehensive key indicator system planned for launch early in 2009. It will feature indicators from all sectors of American life, and provide a rich information environment that seeks to be the “first and final word for information on progress.” Several of SUSA’s stated aims have implications for the selection of indicators. SUSA requires indicators that are relevant, and those that resonate with users in order to build their brand and interest. The site must feature indicators that are supported by the highest quality data sources and statistics to support SUSA’s aim to be the first place many Americans go to both *frame* and *answer* serious questions.

A review of health indicator reports was prepared for SUSA to support the process of indicator selection, specifically, to provide background information to a committee of the Institute of Medicine charged with the task of selecting 20 health indicators for the launch of the SUSA web site. Although challenging, this committee’s work will benefit from decades of collective experience in the development and use of health indicators in the U.S. and abroad. Indicators are powerful tools for monitoring and communicating critical information about health. They have been used in the health arena in varied ways, in support of planning, community engagement, and health policy development. They have been used successfully to promote accountability among governmental and nongovernmental agencies and to engage partners in civic efforts. This review will provide a broad range of working examples of such indicators as obtained from reports and systems primarily in the U.S. and also internationally.

2.0 Methods

Sample Selection

Reports at the national level, compiled by federal agencies and private foundations, were supplemented with state, local, and international reports in order to analyze and present a variety of examples of health indicator content, topics, and conceptual and communication approaches. Reports were selected for review on the basis of the following features: They had to be created from high-quality and currently available data, relevant to important health problems, and created through the use of participatory processes and involving reputable individuals and organizations. An effort was made in the selection process to represent different geographic regions and to avoid redundancy in approach or content. All reports in the sample were designed for broad dissemination. A small group of project advisors—individuals knowledgeable about health indicators and reports, data sources, and the use of health indicators—provided input to address potential gaps in the report selection (see Acknowledgements).

The review drew upon conceptual models in widespread use to allow the broadest sample of indicators to be captured in a practical manner. Conceptual models of health are based upon the weight of peer-reviewed science about the major contributing factors to health. Those referenced in this review were developed and/or promulgated in conjunction with the Institute of Medicine, Healthy People and the Federal Interagency Forum, and other reputable processes. The primary models of interest to the review included the broad determinants of health (Section 5.0, Figure 1), those with a special focus on social determinants (Figure 2), life course (Figure 3, Figure 4), and key dimensions of the health care system (Figure 5 and Figure 6). These conceptual approaches were supplemented with other approaches, including those used to monitor health equity, quality of life (comprehensive key indicator systems) and aspects of health system performance to more fully represent the landscape of health indicator sets.

Many health indicator sets are developed using a broad health determinants approach, shown in Figure 1 (Evans and Stoddart, 1990). This approach is based upon the understanding that patterns of health and disease are influenced by conditions in the social and physical environment as well as by personal behaviors, biology, and availability and use of medical care. This model is also consistent with changing definitions of health over the past half century, which have shifted toward concepts of well-being, quality of life, and ability to function fully and to adapt to changing circumstances. Broad health determinants have been used to inform public health interventions to improve individual and population health (IOM, 2007). The social determinants of health approach is related, and focused on those societal conditions (institutions, surroundings, and social relationships) that affect health, as shown conceptually in Figure 2 (Anderson, et al, 2003).

The Life Course conceptual model emphasizes health optimization throughout the life course, and is primarily focused on health and development early in life. During the prenatal period through age five, biology, social relationships and environments interact “continuously and dynamically” to influence health and well-being (Shonkoff 2000). Prenatal and early life exposures to toxins, economic and social stress, and interactions with one’s environment profoundly influence health during childhood. A large body of research has shown that brain, cognitive, and behavioral health during early childhood are strongly linked to an array of important health outcomes later in life, including many chronic diseases,

2.0 Methods

obesity, smoking, drug use, and depression—conditions that account for a major portion of preventable morbidity and premature mortality in the United States (Braveman, 2008).

The conceptual model for Life Course Health Development (IOM, 2004a) features indicators related to family, institutional, and community social environments, characteristics of the care systems with which children and families interact, as well as physical environmental exposures. The time periods of exposure to these risk and protective factors are considered critical in this approach, as there are specific biologic and developmental stages where interactions with these factors have greater or lesser impact (Halfon 2002). Life course and social determinants indicators are often merged, because of the magnified influence of these social factors on health development early in life (Section 5.0, Figure 4).

The Committee on the Quality of Health Care in America (IOM, 2001) proposed six aims for a 21st century health care system that form the conceptual approach for indicators related to health system performance. These six dimensions state that health care should be safe, effective, patient-centered, timely, efficient, and equitable (Section 5.0, Figure 5). The conceptual model developed by the Health Care Quality Indicators Project of the Organization for Economic Cooperation and Development (OECD) is consistent with these aims, however provides a more complete conceptual model (Arah, 2006) for health that includes non-medical health determinants, access, cost, and equity (Section 5.0, Figure 6).

These conceptual approaches were supplemented with three types of indicator sets to address gaps or enable a broader sample. First were indicators that track health care costs and spending, a critical component of health system performance. Growth health care costs and spending (due to inflation, intensity of resource use, public entitlements) has resulted in health care spending that will consume an estimated 20% of the entire U.S. GDP by 2015. The U.S. Comptroller has called for several dramatic measures to reign in costs and spending, not the least of which includes calls for key national indicators to better track and monitor spending and performance in the health sector (Walker, 2008).

The other indicator sets included were those focused on health equity, a conceptual lens that is applied to both medical and non-medical determinants of health to examine disparities in these determinants and outcomes. Last, quality of life, is a general approach used frequently by comprehensive indicator systems to provide a complete picture of life in communities and nations, including health. Such systems have played a role in the conceptual and practical development of The State of the USA (GAO 2003 and 2004).

Analysis and Organization of Findings

The sample of reports was reviewed for content (indicators, measures, and focus areas) and context (conceptual approaches, frameworks, and purposes of the indicators) with key themes from this analysis summarized in Section 3.1.

Next, an analysis at the individual indicator level examined the characteristics of the indicators based on representative sets of health indicators from sub-samples of the reports. Selected data sources and measures were also examined to aid in the committee's consideration of the analytical capabilities of the measures (e.g., ability to be disaggregated by geography, race-ethnicity, age, income, or other characteristics), availability of data, strengths and limitations of selected data sources, and ability to make international comparisons (see Section 3.2).

Communication aspects of health indicators were examined based on the reports and other informative sources. Presentation and framing approaches, measures used to translate complex statistics into meaningful information for broad audiences, graphical and other features were examined, and are described in Section 3.3. Observed gaps in indicators or data, and possible indicators to fill those gaps are presented in Section 3.4.

The next section of the report (4.0) is a summary of each report in the sample, including the indicator sets and focus areas, and other observations. Figures, references and technical data are provided in Sections 5.0 and 6.0, and in the Appendices.

3.0 Overview of Reports

3.1 Approaches

The sample, based on different conceptual approaches, resulted in a comprehensive set of associated indicators. Table 1 summarizes each indicator report including its compiling organization, focus areas, and key features. Table 1 is organized into four groups of reports.

National General Health Reports

The first group includes general population health indicator reports produced at a national level. These include *Community Health Status Indicators* (produced by the U.S. Centers for Disease Control and Prevention and reviewed in its current draft form), *America's Health Rankings* (produced by United Health Foundation, American Public Health Association and the Partnership for Prevention), *Healthy People 2010* Leading Indicators (produced by the National Academy in conjunction with the U.S. Department of Health and Human Services), and the Commission on a Healthier America (report titled *What Drives Health?*), a joint public and private effort (sponsored by the Robert Wood Johnson Foundation).

Although the focus varies somewhat, these four reports feature indicators consistent with a broad health determinants approach. The *Community Health Status Indicators* include the most comprehensive set of health indicators, and has been designed to provide data for local areas (counties) throughout the U.S. These reports share similar emphases on major health outcomes influenced by the major health determinants. Indicators include those for behaviors, such as smoking, physical activity, and alcohol and drug abuse, chronic health conditions, such as obesity and diabetes, injuries, and other outcomes such as mortality, health related quality of life, and health function. All with one exception include access to health care and appropriate use of clinically effective services, such as cancer screening, prenatal care. The degree that social determinants are emphasized in the health indicator reports varies. The Robert Wood Johnson Foundation's Commission for a Healthier America has compiled a set of 13 indicators based upon 6 social factors and three key health conditions (early childhood, obesity, and diabetes) impacted by these social factors, which include, for example, income/poverty and educational attainment. In addition, indicators related physical environmental health determinants are limited (examples of such indicators are provided later in this report). Specific indicators are shown in detail in Section 3.2.

The next three reports in this group focus on the general well-being of specific population groups, namely children and families and older Americans. *America's Children* and *Older Americans* are both produced by Federal Interagency Forums—one on Child and Family Statistics and the other on Aging-Related Statistics. *Kid's Count* (produced by the Annie E. Casey Foundation) focuses on the well-being of children and youth.

The child health indicators primarily reflect a combination of broad determinants and life course approaches. For children, measures of health and development are intertwined with safety, economic security, social and emotional well-being, and educational and developmental opportunities—all factors that optimize healthy development as well as influence short- and long-term health outcomes.

The Older Americans report constructs a “broad picture of well-being” in the later life stages—those starting at age 65 years and beyond. Indicators of health are reflective of a wider dimension of health outcomes, as compared to general health reports, reflective of the health experience of older persons, including the manifestations of normal aging as well as reduced health due to chronic conditions, physical and psychological impairments, and increased need for health care and supportive services. Health problems, ability to function independently, sensory impairments, and use of prescription medication and equipment, out-of-pocket medical costs, long term care, and health literacy, are examples.

State and Local Health Reports

General health reports from state and local health departments complement the first group of national reports with other approaches. Seattle-King County’s *Communities Count* and Los Angeles County’s *Key Health Indicators* each provide examples of the use of social indicators in health reports. Specifically, Seattle tracks societal resources for health (e.g., living wage, affordable housing and homelessness, social cohesion), and both include health indicators of family and community environments during in early childhood (e.g., child care needs and experience, parenting practices). Both of these indicator sets benefit from local surveys for their breadth.

Reports from the State of Georgia and New York City provide examples of indicators focused on health inequities or disparities. Variations in health determinants and health outcomes by income or geographic jurisdiction (i.e., counties, neighborhoods), and race or ethnic background are shown. *The Health of Wisconsin* grades health and disparities using few indicators per age group. The report is organized by life stage and uses grades to communicate how the state is doing as compared to selected states and among its own demographic sub-groups.

A local health report, *The Boston Paradox: Lots of health care; not enough health*, provides some contextual data that is unique to local health reports, and describes the health care economy and the juxtaposition of quality of life and better and more equitably distributed health, relative to costs and spending on health care.

3.1 Approaches

Quality of Life—Comprehensive Indicator Systems

Several examples of comprehensive indicator systems, from around the world and within the U.S. are based upon a *quality of life* approach. These were important to include as they directly relate to the evolution of the State of the USA model, which was informed by many comprehensive indicator systems that were the subject of a national indicators forum (GAO 2004). Health is usually one of a dozen or so components of overall societal well-being. For example, the Organization for Economic Cooperation and Development in its *Factbook: 2008 Economic, Environmental and Social Statistics* includes eleven categories (as shown in Section 5.0, Figure 7). Health is included under “Quality of Life” and includes just three indicators: life expectancy, infant mortality, and obesity. Another system, *Measures of Australia’s Progress* (MAP), outlines several dimensions of progress that are framed for “individuals” (includes health, education and training, work), “the economy and economic resources”, “the environment”, and “living together” (see Section 5.0, Figure 8). The MAP areas are similar to OECD’s cross-cutting categories (economic, environmental, social). In the Australian example, the indicator for health is life expectancy. *The Canadian Index of Well-being* is currently developing a similar comprehensive indicator system for the nation which includes eight categories (shown in Section 5.0, Figure 9), although constructs of each are not available.

The comprehensive systems vary greatly, but are generally used to promote civic engagement and problem solving on the part of communities, and responsiveness and accountability on the part of agencies and public leaders. Similar to the national indicator systems, health is one among several components contributing to the overall quality of life in these regions. Several of these systems were the subject of a forum and subsequent GAO review (GAO 2003; GAO 2004) and contributed to the evolution of the State of the USA. Examples of such systems include the Boston Indicators Project and the Jacksonville County Community Indicators.

Health System Performance Reports

This next section of reports includes indicators for the following broad dimensions of health system performance: access, cost of health care, and quality.

There are two transitional points worth noting here. First, is that *access to health care* is both a feature of general health reports as well as a key dimension of health system performance. Nearly all of the general health reports include indicators regarding health insurance coverage, and several include measures of related to having a usual source of care or “medical home”. Many include indicators related to barriers to getting needed care (e.g., cost of care or other barriers such as waiting times). However, they rarely include measures related to fiscal and economic, structural, quality, and safety aspects of the health care system.

The State Scorecard on Health System Performance produced by The Commonwealth Fund uses indicators that are similar to those just described, and also creates a bridge between general health and health system performance reports. This report is focused on equity in access, quality, avoidable use of hospitals and costs of care, and mortality amenable to health care.

Another report plays a bridging role. The Older Americans, although included above with general health reports, links to the health system performance indicator reports for at least two reasons. The first is because the majority of those receiving health care services in the U.S. are older adults, and the majority of health care use by individuals occurs during the last two years of life. This report diverges from some of the standard health reports used in general to include indicators of long term care, sensory impairments, depressive symptoms, out-of-pocket health care expenditures, veterans' health care, personal assistance and equipment, and need for/use of residential services.

Indicator sets that track *costs and opportunities to reduce health care spending* include those from the Kaiser Family Foundation (KFF), *The Dartmouth Atlas of Health Care*, the Organization for Economic Cooperation and Development's (OECD) *Health Care Quality Indicators*, and *Health Care Costs 101* from the California HealthCare Foundation. These reports provide examples of indicators that quantify key measures and variations in health care expenditures, costs, intensity of health care resource use, and identify where spending could feasibly be reduced and greater efficiencies realized. The most recent release of *The Dartmouth Atlas of Health Care* is focused on the treatment of chronic conditions in the last two years of life, and includes indicators that reflect the intensity of health care resources use and explore unwarranted variations and costs between hospitals and types of services.

It is also important to consider indicators of cost from the perspective of consumers and businesses, as reflective of public concern. For example, among KFF's many indicators are those that speak to the increasing burden of health care costs on individuals and families due to increasing out-of-pocket costs, rising insurance premiums—also a burden for employers—and avoidance of needed care by millions due to cost, and among those without health care coverage.

The last broad dimension for indicators of health system performance is *quality*. One of the most extensive bodies of indicators work regarding health system quality comes from the Agency for Healthcare Research and Quality (AHRQ). Two reports produced by AHRQ are the *National Healthcare Quality Report* and the *National Healthcare Disparities Report*. Together, these reports provide one of the most comprehensive set of health systems measures related to quality. Both follow the six conceptual areas outlined by the IOM (Figure 4; IOM, 2001), although also acknowledge that indicators are not uniformly available for all of these dimensions. The first of these reports provides a set of 41 core measures of health care quality: use and delivery of effective care (screening, treatment, disease management), timely care, and patient centeredness. The *National Healthcare Disparities Report* adds indicators of access because disparities in quality are driven, in part, by differential access by race/ethnicity and income. The OECD also developed indicators based upon extensive review by participating countries for the purpose of facilitating international comparisons in health care quality. While fewer in number, these indicators are similar to AHRQ's.

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The Dartmouth Atlas uses domestic comparisons and benchmarking to show unwarranted variations—variation in clinical practice or spending that cannot be explained on the basis of illness, strong scientific evidence, or well-informed patient preferences—in spending and resource use. These variations contribute to poorer outcomes and quality (e.g., use of clinically effective care, patient experience) as well as inefficiency in health care.

The Institute for Healthcare Improvement (IHI), also a private sector leader in health care quality, is monitoring efforts to improve patient safety and reduce incidents of harm, in the context of its quality work. The “Five Million Lives” Campaign is a comprehensive health system reform initiative with goals to involve over 4,000 hospitals and prevent five million people from incidents of medical harm. Indicators are aligned with those from all of the major national health care improvement initiatives (see Exhibit 4.4.6; Five Million Campaign, 2007). Another example of a patient safety indicator set is provided by HealthGrades, which has produced a report card based on a composite index using the Agency for Healthcare Research and Quality’s Patient Safety Indicators (PSIs). Individual hospitals are ranked along with state on measures of patient safety.

Indicators addressing health system quality in terms of patient-centered care from the patient’s perspective are included in consumer-oriented sites such as Hospital Compare and Nursing Home compare, compiled by the Centers for Medicare and Medicaid Services. Many of these same indicators are drawn from surveys, such as the Consumer Assessments of Healthcare Providers and Systems (CAHPS), which also used by the Agency for Healthcare Research and Quality (AHRQ) in quality monitoring efforts.

TABLE 1: REPORTS INCLUDED IN REVIEW: FOCUS AND KEY FEATURES

NAME OF REPORT	COMPILING ORGANIZATION	FOCUS (NUMBER OF INDICATORS)	KEY FEATURES
GENERAL HEALTH REPORTS—NATIONAL			
1. America's Health Rankings	United Health Foundation, American Public Health Association, and the Partnership for Prevention	Determinants of health and outcomes: personal behaviors, community environment, public health and health policies, and clinical care. (20 indicators)	<ul style="list-style-type: none"> • Collaborative private effort – supported by prominent health organizations. • State rankings and state data. • Statistical and contextual data of high-quality (i.e., validated through peer review.)
2. Community Health Status Indicators (draft form)	CDC, NCHS, and other public partners.	Summary measures of health, national leading causes of death, measures of birth and death, relative health importance, vulnerable populations, environmental health, preventable infectious disease, preventive services use, access to care, risk factors for premature death (~ 60 indicators and ~200 measures)	<ul style="list-style-type: none"> • Indicators for 3,140 U.S. counties. • Comparative data (peer counties, Healthy People 2010) • Interpretive tools to facilitate broad use (e.g., rankings for relative health importance) and downloadable maps and brochures.
3. Healthy People 2010 Leading (max. set)	NCHS with federal, private partners.	Overall focus of objectives is to increase the quality of life and longevity, and reduce health disparities. Leading indicators corresponding to 26 objectives + cross cutting objectives.	<ul style="list-style-type: none"> • Objectives for health improvement in the U.S. (over 400). • Well regarded and broadly used. • Developed using consensus. • Indicators are suggested measures and are not always tracked uniformly.
4. Commission to Build a Healthier America—What Drives Health?	Robert Wood Johnson Foundation	Focus is on eight social factors: early life experience, education, income, work, housing, community, race and ethnicity, and the economy. Three health conditions: obesity, chronic disease, and early childhood.	<ul style="list-style-type: none"> • Emphasizes underlying causes of poor health and disparities. • Emphasizes social factors and community environments.

3.1 Approaches

TABLE 1: REPORTS INCLUDED IN REVIEW: FOCUS AND KEY FEATURES (continued)

NAME OF REPORT	COMPILING ORGANIZATION	FOCUS (NUMBER OF INDICATORS)	KEY FEATURES
GENERAL HEALTH—NATIONAL WITH FOCUS ON SPECIFIC AGE GROUPS (CHILDREN AND ELDERS)			
5. America's Children	Interagency Forum on Child and Family Statistics (over 40 federal departments, agencies and offices).	Seven sections that cover family and social environment (8), economic circumstances (3), health care (4), physical environment and safety (7), behavior (5), education (6), and health (6).	<ul style="list-style-type: none"> • Collaborative federal effort – broad agency support. • Broad approach – health and well being of children and youth in U.S. • Identifies data gaps
6. Kids Count	Annie E. Casey Foundation	Focus: Conditions of birth through young adulthood. Broad determinants.	<ul style="list-style-type: none"> • Data center that links with state and county-based data, where available. • User-friendly query system.
7. Older Americans 2008: Key Indicators of Well-Being	Interagency Forum on Aging-Related Statistics	Five focus areas (38 indicators total) including population (6), economics (7), health status (7), health risks and behaviors (8), health care (10).	The report also contains two additional focus areas on literacy and health literacy, and identifies data gaps.
GENERAL HEALTH—LOCAL AND STATE			
8. Communities Count (Seattle King County, Washington)	Seattle/King County Public Health with public and private partners	A set of 38 social, health, environmental and arts indicators: Basic Needs and Social Well-being (7), Positive Development through Life Stages (8), Safety and Health (19), Community Strength (4), Natural and Built Environment (5), and Arts and Culture (4).	<ul style="list-style-type: none"> • Indicators are framed by “valued conditions” as expressed by community residents through a periodic survey. • Breadth of social and health determinants. • Linked to community process/ civic agenda.
9. Georgia Health Disparities Report	State of Georgia Public Health	Social and economic well-being; Health status (disease, premature death); Quality and access to care; Health professional workforce.	<ul style="list-style-type: none"> • County profiles with grades (and criteria) and ranking/comparisons to other counties in the state.

TABLE 1: REPORTS INCLUDED IN REVIEW: FOCUS AND KEY FEATURES (continued)

NAME OF REPORT	COMPILING ORGANIZATION	FOCUS (NUMBER OF INDICATORS)	KEY FEATURES
GENERAL HEALTH—LOCAL AND STATE (continued)			
10. Los Angeles County Key Health Indicators	Los Angeles County Public Health	Broad determinants of health: social and environmental determinants, behaviors, health status and outcomes.	<ul style="list-style-type: none"> • Rich local data on social and environmental determinants especially related to early childhood, chronic disease prevention. • Indicators supported by large local survey. • Static report and limited on-line query system.
11. New York City Community Health Profiles	NYC Department of Health and Mental Hygiene	Comprehensive health report cards for New York's 42 neighborhoods. On line has quick maps and statistics for 42 boroughs on ten indicators.	<ul style="list-style-type: none"> • Indicators supported by large local survey. • On-line query system. • Related static reports. • Interesting organization of large amount (Ten "Take Care New York Goals")
12. New York City Health Disparities Report	NYC Department of Health and Mental Hygiene	Health disparities based on social inequities. Features grouped neighborhood comparisons of health outcomes (e.g., premature mortality, morbidity).	<ul style="list-style-type: none"> • Poor/affluent neighborhood comparisons. • Geographic, racial/ethnic (including some immigrant groups), gender disparities
13. Health of Wisconsin Report Card 2007	University of Wisconsin Population Health Institute	Focus is mortality and health-related quality of life in different life stages: Infants (<1 year); children and young adults (ages 1-24 years); working aged adults (25-64 years); and, older adults (age 65+).	<ul style="list-style-type: none"> • Grades are assigned for each age group by gender, educational attainment, type of county, and race/ethnicity, and for disparities. • Clear criteria for grading.
14. The Boston Paradox: Lots of healthcare; not enough health	New England Research Institute	Focus on broad health determinants	<ul style="list-style-type: none"> • Includes indicators related to the health care economy and investments in public health and research.

3.1 Approaches

TABLE 1: REPORTS INCLUDED IN REVIEW: FOCUS AND KEY FEATURES (continued)

NAME OF REPORT	COMPILING ORGANIZATION	FOCUS (NUMBER OF INDICATORS)	KEY FEATURES
QUALITY OF LIFE (COMPREHENSIVE INDICATOR SYSTEMS)			
15. OECD Factbook 2008: Economic, Environmental and Social Statistics	Organization for Economic Cooperation and Development	Quality of life framework includes health, leisure, society, transport.	<ul style="list-style-type: none"> Indicators suitable for international comparison among 23 countries currently.
16. Boston Indicators Project	The Boston Foundation; The John LaWare Leadership Forum; The City of Boston; Boston Redevelopment Authority; Metropolitan Area Planning Council	<p>Quality of life (10 sectors): civic vitality, cultural life and the arts, the economy, education, the environment, health, housing, public safety, technology, and transportation.</p> <p>Health framework: indicators organized around eight goals (20 indicator areas, and approximately 40 individual measures).</p>	<ul style="list-style-type: none"> Comprehensive indicator system. Public-private effort that supports civic agenda. Data paired with information about policies and other government and private initiatives.
17. Jacksonville Indicators for Progress—JCCI 2007 Quality of Life Report	Jacksonville County Community Indicators	Quality of life, progress (9 areas): education, economy, natural environment, social environment, arts and culture, health, government, transportation, and public safety. (100+ indicators)	<ul style="list-style-type: none"> Well regarded comprehensive local indicator report. Broad participation (i.e., businesses, community members, non-profit and governmental agencies). Community perceptions survey.

TABLE 1: REPORTS INCLUDED IN REVIEW: FOCUS AND KEY FEATURES (continued)

NAME OF REPORT	COMPILING ORGANIZATION	FOCUS (NUMBER OF INDICATORS)	KEY FEATURES
QUALITY OF LIFE (COMPREHENSIVE INDICATOR SYSTEMS) (continued)			
18. Australia's Measures of Progress	Australia Bureau of Statistics	Framework: individuals, economy and economic resources, the environment, and living together.	"Headline" dimensions of progress: Health, education, training, national income, economic hardship, national wealth, housing, productivity, the natural landscape, the air and atmosphere, oceans and estuaries, family, community, and social cohesion, crime, democracy, governance and citizenship. Supplementary dimensions: culture and leisure, competitiveness and openness, inflation, communication, and transport.
19. Canadian Index of Well-being (Prototype)	Atkinson Foundation (broad collaborative effort)	Focus areas: healthy populations, community vitality, time use, educated populace, ecosystem health, arts and culture, civic engagement, living standards.	<ul style="list-style-type: none"> • National comprehensive indicator system with parallels to SUSA. • Composite index will be created from focus areas.
HEALTH SYSTEM PERFORMANCE			
20. Commonwealth Fund State Scorecard on Health System Performance	Private researchers Commissioned by Commonwealth Fund in collaboration with Commission for Health System Performance Improvement.	Focus areas (number of indicators): access (4), quality (14), potentially avoidable use of hospitals and costs of care (9), equity, healthy lives (5)	<ul style="list-style-type: none"> • Improvement and equity focus. • Several measures comparable to developed countries (i.e., OECD)

3.1 Approaches

TABLE 1: REPORTS INCLUDED IN REVIEW: FOCUS AND KEY FEATURES (continued)

NAME OF REPORT	COMPILING ORGANIZATION	FOCUS (NUMBER OF INDICATORS)	KEY FEATURES
21. Dartmouth Atlas of Health Care	Dartmouth Institute for Health Policy and Clinical Practice, Dartmouth Medical School	Focus: Medicare spending, resource allocation and use, and patient outcomes at state, regional and hospital levels.	<ul style="list-style-type: none"> • Interactive data tools providing comprehensive statistics on health system performance. • Comparative statistics and benchmarks by hospital, hospital referral area, county, state, and nation. • Emphasis on Medicare beneficiaries with serious chronic illness and patients with severe chronic illnesses in their last two years of life.
22. National Healthcare Quality Report	Agency for Healthcare Quality and Research with the U.S. Department of Health and Human Services (HHS)	<p>Focus is effectiveness, patient safety, timeliness, patient-centeredness, and efficiency of health care services.</p> <p>Dimension of efficiency is explored in the 2007 report.</p>	<ul style="list-style-type: none"> • Uses highest quality data available, which is not yet uniformly available across all dimensions or service sectors. • 42 core measures • Effectiveness of prevention, diagnosis, treatment, management for nine clinical conditions/care settings. • State snapshots (online) compare quality trends for selected composite measures.
23. National Healthcare Disparities Report	Agency for Healthcare Quality and Research (same as above)	Focus is disparities in effectiveness, patient safety, timeliness, and patient-centeredness of health care services.	<ul style="list-style-type: none"> • Disparities by race/ethnicity, socio-economic status, and within/between other priority population. • 42 measures of quality and 8 measures of access
24. OECD Health Care Quality Index	Organization for Economic Cooperation and Development +	Health care quality improvement (13 measures).	<ul style="list-style-type: none"> • Indicators suitable for international comparison. • Health care system performance measures—comparable statistics on clinical quality of care and outcomes for 23 countries.

TABLE 1: REPORTS INCLUDED IN REVIEW: FOCUS AND KEY FEATURES (continued)

NAME OF REPORT	COMPILING ORGANIZATION	FOCUS (NUMBER OF INDICATORS)	KEY FEATURES
HEALTH SYSTEM PERFORMANCE (continued)			
25. Five Million Lives	Institute for HealthCare Improvement	12 interventions in 4,000 U.S. hospitals to reduce incidents of patient harm by 5 million over a two year period.	<ul style="list-style-type: none"> • Large private campaign to transform health care system. • Possible indicators cut across to describe participation (adoption of actions by hospitals) and number of incidents of harm prevented.
26. Patient Safety in America Hospitals Study	HealthGrades	Patient Safety Report card for U.S. hospitals based upon AHRQ methodology (16 patient safety indicators).	<ul style="list-style-type: none"> • Composite safety score and ranking of all states. • Analysis of best performing hospitals/systems. • Trends in medical error and costs.
27. Hospital Compare	Centers for Medicare and Medicaid Services	Focus in four areas: process of care, outcomes of care, patient experiences with care, and Medicare payment and volume.	Comparisons to average of all U.S. hospitals and hospitals in state or region.
28. Trends and Indicators in the Changing Health Care Marketplace Chartbook	Kaiser Family Foundation	Focus on trends in health care spending and costs, including prescription drugs, health insurance enrollment, health insurance premiums, health insurance benefits, structure of the health care marketplace, health plan and provider relationships, and implications of health market, and trends for consumers and the safety net.	<ul style="list-style-type: none"> • Approximately 80 indicators. • Describes increasing costs and disparities in among the uninsured and by payer type. • On-line chart book; regularly updated.
29. World Health Organization	World Health Organization Information System	<p>Focus of Ten Statistical Highlights: Risk Factors, National Health Accounts, Health Systems</p> <p>Focus of report: health status (mortality, morbidity), health services coverage, risk factors, health systems, inequities in health, demographic and socioeconomic statistics.</p>	<ul style="list-style-type: none"> • Comparative statistics for 193 countries. • “Ten statistical highlights”

3.1 Approaches

TABLE 1: REPORTS INCLUDED IN REVIEW: FOCUS AND KEY FEATURES (continued)

NAME OF REPORT	COMPILING ORGANIZATION	FOCUS (NUMBER OF INDICATORS)	KEY FEATURES
30. Health Care Costs 101	California HealthCare Foundation	Trends in health care spending (dollar amounts, growth, spending categories and payment sources, drivers of g) in the U.S. (selected data for California).	User-friendly snapshot of health care spending.
OTHER—FRAMING APPROACHES AND GAPS			
31. Trust for America’s Health: Top 10 priorities for prevention (Framework example)	Trust for America’s Health – A coalition of 130+ organizations.	Ten priorities: Promoting disease prevention; combating the obesity epidemic; preventing tobacco use and exposure; preventing and controlling infectious diseases; preparing for potential health emergencies and bioterrorism attacks; recognizing the relationship between health and U.S. economic competitiveness; safeguarding the nation’s food supply; planning for changing health care needs of seniors; improving the health of low-income and minority communities; reducing environmental threats; plus a cross-cutting recommendation for holding government accountable for protecting the health of Americans.	<ul style="list-style-type: none"> • Ten components of an effective national prevention strategy provides framework for consideration.
32. Prevention Institute—Good Health Counts (Prototype)	The Prevention Institute (Commissioned and published by the California Endowment)	Framework: Environments (social and physical) that promote health and prevent health problems.	<ul style="list-style-type: none"> • Potential use for addressing gaps in indicators for healthy community conditions--physical and social environments that optimize health.

TABLE 1: REPORTS INCLUDED IN REVIEW: FOCUS AND KEY FEATURES (continued)

NAME OF REPORT	COMPILING ORGANIZATION	FOCUS (NUMBER OF INDICATORS)	KEY FEATURES
OTHER—FRAMING APPROACHES AND GAPS (continued)			
33. Environmental Public Health Indicators Project	U.S. Centers for Disease Control and Prevention, National Center for Environmental Health, Environmental Hazards and Health Effects Program	Physical environmental determinants of health.	<ul style="list-style-type: none"> • Topics: Based upon Healthy People 2010 and pathways or sources, agents, and events. • Type of indicators (hazard, exposure, health effect, and intervention) • Tiers of indicators (core, optional, and developmental). • Potential use for addressing gaps in physical environmental determinants.
34. Early Childhood Indicators—Project Thrive (Prototype)	National Center on Childhood Poverty	Focus of measures: overarching outcomes, population-based risks, health and medical home, special needs, social-emotional development and mental health, early care and education, family support and parenting.	<ul style="list-style-type: none"> • Comparisons of data available in major national indicator sets. • Potential use for addressing gaps in indicators for early childhood—social determinants and policy/systems interventions. • Uses results-based accountability approach.
35. Big Cities Health Inventory	National Association of City and County Health Officials	Focus of measures: trends and city rankings in health outcomes by gender, race/ethnicity.	<ul style="list-style-type: none"> • 54 largest cities in the U.S. • Health outcomes and status (mortality, birth data, and reportable diseases). • City socio-demographic data.

3.2 Health Indicators and Data Sources

3.2 Health Indicators and Data Sources

This section describes indicators from selected reports, and highlights key data sources for those indicators. Tables 2 and 3 compare indicators from a sample of national general health indicator reports, and Table 4 shows several data sources used to create those indicators. Tables 5, 6 and 7 compare indicators of health system performance (access, cost, and quality, respectively) and Table 8 is the companion data source summary. This summary is illustrative, and points out some general similarities and differences among the various indicators as well as some of the data source capabilities. Indicators from each of the individual reports are provided in Section 4.1–4.5 of this report. Technical information from a sample of reports is provided in Appendix B.

General Health Indicators and Data Sources

Table 2 shows the areas of greatest similarity between the indicators used in general health indicator reports. Most use comparable measures related to birth and death. Indicators for life expectancy, premature mortality (measured in Years of Potential Life Lost or YPLLs), and health early in life (low birth weight, or adequacy of prenatal care, social characteristics of the family or mother such as age of educational attainment) are very robust, and are available from the National Vital Statistics System. These data benefit from completeness of reporting and support demographic subgroup and small geographic level analysis (e.g., to the county level).

Another commonly-used type of indicator measures health-related quality of life. Self-assessments of overall health status by individuals or their proxies (e.g., health-related quality of life assessed using a measure of poor health days or self-rated health status) are very reliable measures and have an extensive literature about their usefulness in capturing morbidity, early mortality, and use of health care services. Composite measures that capture multiple dimensions of health, such as healthy life expectancy, quality-adjusted life years, and disability-adjusted life years, are used in studies but less often in indicator reports at the present time. (See Agwunobi, 2006, and references provided in Appendix A.)

Typical indicators for health risks/behaviors include obesity, smoking, physical inactivity, and alcohol and drug abuse, lack of insurance coverage.

Social indicators and risks that are standard to most (if not all) reports include educational attainment or completion of high school, crime, violence, and poverty as important determinants of health. All reports include indicators for race/ethnicity or emphasize disparities, although how this is presented varies depending on the focus of the report.

Table 3 illustrates how indicators used in various reports diverge in emphasis. For example, CHSI emphasizes outcomes—specific health conditions and disease, including health risks and protective factors. These indicators largely mirror the availability of national data at local (county) levels for health. Other reports, such as the Robert Wood Johnson Foundation report, emphasize social indicators, a number of which are available to support state and county-

level analyses. Indicator reports that are focused on child and family well-being also emphasize social indicators and a range of experiences and exposures to children (e.g., parental educational attainment).

Examples of data sources for *Social and Environmental Determinants* are shown in Table 4. There are several high quality data sources that provide data for social, economic, educational and social indicators (e.g., household income, educational attainment, household and family size and composition, languages spoken, including English proficiency, and employment) from Census products. For example, in addition to the decennial Census, the American Community Survey now provides annual estimates for populations of 65,000 or greater. Estimates for smaller areas or sub-groups within regions may be obtained by combining years. The survey was designed to provide annual data to local areas and replaces the “long form” that was formerly conducted every ten years. Design and sampling features, for example, a 15% sample of the U.S. households and very high response rates, make this a very robust data source.

Another Census product, the Current Population Survey, also provides high-quality annual household data but reliable disaggregation is limited to the state level (and selected large sub-state areas). The CPS is an important source of data regarding children’s health insurance coverage, income, and food security.

Examples of data sources for *Health Outcomes* are also shown in Table 4. Data for birth and death are available in any jurisdiction in the U.S. from the Vital Statistics Reporting System. The data are considered to be high-quality and accompanying demographic data support sub-group analysis.

Data sources for health outcomes throughout the life course (health behaviors, risks, status) are primarily from surveys and disease reporting systems, which vary in analytical potential. While all are respected data sources at the national level, each will have limitations for producing local estimates or conducting geographical and/or sub-group analyses. For example, the Behavioral Risk Factor Survey System (BRFSS; sample size approximately 350,000) is comprehensive and representative, and is able to support state and large MMSA analyses. Reliable estimates at the county level depend on population size, sample (denominator) and prevalence estimate (numerator). To illustrate this point, estimates of the number of counties reportable from aggregation of BRFSS surveys were tabulated for the CHSI project (available in methods documents for this source). The number of reportable U.S. counties ranges from 2,719 counties for diabetes, as compared to 687 counties for Pneumonia vaccine for persons ages 65 years and older. (See Community Health Status Indicators). National Health Interview Survey (NHIS) produces excellent national-level data. Its sampling frame is also used by other studies, such as the Medical Care Expenditure Panel’s Household component. It also provides child-related health data through its substantial sample of children.

Several issues apply to the quality and representativeness of different surveys, which are beyond the scope of this review. There are many helpful resources for assessing the strengths and limitations of different survey methods and quality of data. For example, Fahimi, et al (2008) compares estimates from the BRFSS, NHIS and NHANES in light of declining telephone survey response rates. Additional references for reviewing data sources are provided in Appendix A for the committee’s reference and consideration, depending on the indicators selected.

3.2 Health Indicators and Data Sources

There are many instances where an indicator may be considered important, but not be able to produce reliable state or local estimates. For example, if the committee selects childhood overweight as an indicator, it will be currently be limited to self-reported data (by a parent/legal guardian) from the National Survey of Children's Health (NSCH) or National Health Interview Survey (NHIS). Height/weight measures, provide more accurate data, but are available only from the National Health and Nutrition Examination Survey (NHANES), which pairs interview data with clinical exams. While a valid national sample, NHANES is limited to national estimates (although state estimates can be obtained by combining multiple years). The problem of indicators for childhood overweight may improve as other data sources become available, however. For example, the use of school-based testing has become a valuable source of surveillance for child overweight, and is becoming more common. In California, for example, height/weight measures for 5th, 7th, and 9th grade students who attend public schools are available from the California Department of Education as part of its fitness testing program (Simon and Lee 2005).

A different but related issue is in the many possible cases where multiple data sources are available for the similar indicators. Such a case would be with health insurance coverage, which is most often obtained from the Current Population Survey, the National Health Interview Survey, and the Medical Expenditures Panel Survey. However, in all these examples, health insurance coverage is asked and can be quantified in multiple ways, with different implications for the indicator. For example, asking whether anyone in the household was without health insurance at some point during the past year will yield a higher proportion than asking whether the respondent is currently (or recently) uninsured. While the former may quantify the extent of the problem more fully, the latter may provide more accurate point-in-time estimates. (See Understanding Estimates of Uninsured.) Appendix A includes a table with examples of health insurance indicators and data sources.

TABLE 2: SELECTED INDICATORS COMMON TO GENERAL HEALTH SETS

CHSI	AHR	HP2010 (Lead)	RWJ	America's Children	Older Americans
Life expectancy Mortality by age Infant mortality Leading causes of death and preventable death (injury, violence).	Premature death (YPLL)	Preventable deaths (could be specified with YPLL or major causes of premature death)	Life expectancy	Preventable deaths (injury, violence)	Life expectancy, mortality
Measures of Birth (Births to women < 18 years, unmarried women, low/very low birth weight and premature births).	Infant mortality	Low birth weight	Infant mortality, low birth weight	Mortality (infants, children, youth) low birth weight, adolescent births	
Risk factors (smoking, drinking, physical inactivity, fruit and vegetable eating).	Binge drinking, obesity, smoking	Substance abuse, physical activity, weight, tobacco use.	Physical inactivity, smoking	Smoking, alcohol use, illicit drug use	Smoking, physical activity, obesity
Health care (health insurance, preventive services use—cancer screening, immunization).	Lack of health insurance, immunization	Health care access, Health insurance, Immunization		Immunization, health insurance	Vaccination
HRQL (poor health days, self-rated health status).	Poor physical/mental health days		Self-reported health status, activity limitation		Self-rated health status
No HS diploma, recent drug use.	HS graduation, violent crime, children in poverty	Violence, poverty		Poverty	
Race/ethnicity	Race/ethnicity	Disparities	Race/ethnicity	Race/ethnicity	

3.2 Health Indicators and Data Sources

TABLE 3: SELECTED INDICATORS COMMON TO GENERAL HEALTH SETS

CHSI	AHR	HP2010 (Lead)	RWJ	America's Children	Older Americans
Major chronic conditions (obesity, diabetes, hypertension)	CHD and cancer death	Preventable deaths (could be specified with YPLL or major causes of premature death)	Adult chronic conditions (obesity, diabetes, CHD)	Preventable deaths (injury, violence) Asthma	Chronic health conditions Sensory impairment, oral health, depressive symptoms, Functional limitations
Severe work disability	Occupational fatalities	Disability	Activity limitation due to chronic conditions	Emotional/behavioral difficulties Child maltreatment	
Major depression	Preventable hospitalizations			Family and social: Parent educational attainment, language spoken at home, difficulty speaking English, child living arrangements.	Diet quality—HEI
Physician/health care provider supply	Adequacy of prenatal care	Hypertension screening, diabetic eye exam, cancer screening/detection	Usual source of care	Education: Family reading to young children, math and reading achievement, HS academic counseling, youth not in school or working, college enrollment)	Use of health care services, mammography, prescription drugs
Dentist supply	Oral health.		Social factors, housing, community, work, the economy, income		Health care expenditures, Sources of payment for health care services.
Toxic chemicals/air quality standards	Physical environment			Economic circumstances: Stable parent employment, food insecurity and diet quality-Healthy Eating Index (HEI).	Cost of care (out of pocket expenditures), veteran's health care, nursing home care
Unemployed individuals.	Per capita public health spending	Cognitive development	Health care expenditures (OECD countries)	Physical Environment and Safety: Drinking water quality, housing problems, youth victims of serious crime. Child and adolescent injury	Literacy, health literacy

TABLE 4: NATIONAL DATA SOURCES

NATIONAL DATA SOURCES	EXAMPLES OF INDICATORS/MEASURES	GEOGRAPHIC DRILL DOWN				APPROXIMATE SAMPLE SIZE; GEOGRAPHIC AND SUB-GROUP ANALYSES; OTHER CAPABILITIES
		INT'L	NATION	STATE	COUNTY	
Social and Environmental Health Determinants						
American Community Survey US Census Bureau	Population and demographic characteristics (e.g., age, sex, race/ethnicity, income, poverty, children living in poverty, educational attainment, household size and composition)	X	X	X	X	ACS sample provides annual estimates to populations of 65,000 or greater
Current Population Survey US Census Bureau	Children's health insurance coverage, income, food security, employment, labor force characteristics		X	X		Approximate sample is 60,000 households (from year 2001 forward); state-based sample design
National Assessment of Educational Progress US Dept. of Education	Educational achievement (e.g., math, reading, science proficiency)		X	X		Large urban districts
American Housing Survey	Housing		X	X		Large metro areas
Physical Environment						
Air Quality System, EPA	Outdoor air quality (pollutant concentrations, total suspended particulate)		X	X	some	Data collected by state and regional air quality monitoring agencies
NHANES	Indoor air quality		X			(see below)
Toxics Release Inventory, EPA	Toxic chemical releases into environment		X	X	some	

3.2 Health Indicators and Data Sources

TABLE 4: NATIONAL DATA SOURCES (continued)

NATIONAL DATA SOURCES	EXAMPLES OF INDICATORS/MEASURES	GEOGRAPHIC DRILL DOWN				APPROXIMATE SAMPLE SIZE; GEOGRAPHIC AND SUB-GROUP ANALYSES; OTHER CAPABILITIES
		INT'L	NATION	STATE	COUNTY	
Health Outcomes: Birth and Death						
National Vital Statistics System— Birth File and Linked Birth-Death File NCHS	Birth (infant mortality, low birth weight, adequacy of prenatal care, educational attainment of parents)	X	X	X	X	Data for most jurisdictions. Low prevalence events limited for sub-group analysis and single year reporting
National Vital Statistics System— Mortality and Multiple Cause of Death Files NCHS	Cause-specific mortality, Premature mortality (e.g., YPLL), Life expectancy	X	X	X	X	Data for most jurisdictions. Aggregate measures and leading causes generally available for sub-group analysis and single year reporting.
Health Outcomes: Health Status, Risks, Behaviors						
Behavioral Risk Factor Survey System (BRFSS) CDC	Health-related quality of life (poor health days, etc.), health conditions (asthma, diabetes), obesity/overweight, use of recommended health care services, health behaviors (e.g., smoking, physical activity), and access to care		X	X	some	Variable by population size and prevalence estimate* (see note); Annual sample size approx. 350,000. Oversamples available. 170 metropolitan and micropolitan statistical areas (MMSAs)
Disease Surveillance Systems CDC	Infectious diseases (HIV/AIDS, TB, Hepatitis, Sexually Transmitted Disease)	some	X	X	X	All jurisdictions; variable completeness of reporting some international comparisons
Monitoring the Future	Drug, alcohol, cigarette use, attitudes, and perceptions among youth (in 8th, 10th, and 12th grades)		X			Approximately 48,500 students in 410 schools were surveyed in 2006
*Highly variable depending on population size, sample (denominator) and prevalence estimate (numerator). Estimates of the number of counties reportable from aggregation of BRFSS surveys were tabulated for the CHSI project. For example, the number of reportable counties ranged from 2719 counties for diabetes to 687 counties for Pneumonia vaccine for persons ages 65 years and older.						

TABLE 4: NATIONAL DATA SOURCES (continued)

NATIONAL DATA SOURCES	EXAMPLES OF INDICATORS/MEASURES	GEOGRAPHIC DRILL DOWN			APPROXIMATE SAMPLE SIZE; GEOGRAPHIC AND SUB-GROUP ANALYSES; OTHER CAPABILITIES	
		INT'L	NATION	STATE		COUNTY
Health Outcomes: Health Status, Risks, Behaviors (continued)						
National Health Interview Survey CDC	Illnesses, injuries, activity limitations, health insurance coverage, use of health services, health conditions, smoking, alcohol use, vaccination, cancer screening, and other general health topics		X			Adult and child data; Recent surveys have oversampled Black and Hispanic persons. Detailed demographic data enables sub-group analyses. Sample size (completed interviews) is approximately 35,000 households containing about 87,500 persons. No reliable state-level estimates.
National Health and Nutrition Examination Survey (NHANES) CDC and NHCS	Chronic diseases (including undiagnosed conditions) and conditions, obesity, serum cholesterol, blood pressure, physical fitness, diet and nutrition, smoking, exposure to tobacco smoke, immunization status, mental health, oral health		X			Nationally representative sample; Annual continuous sampling (from 1999 forward). Approx. sample size is 9,000-10,000 for 2003-04. Oversample of some sub-groups; limited racial/ethnic sub-group analyses.
National Immunization Survey NCHS, CDC, NIP	Immunization during childhood for vaccine-preventable disease		X	X		Sample size is approximately 27,000 children ages 19-35 months. Data available by state and approx. 30 urban areas by poverty, race/ethnicity.
National Survey of Children's Health (NSCH) (Analyzed by CAHMI) NCHS	Health and functional status (emotional, behavioral, health, developmental problems among children; childhood overweight, asthma); Early childhood (parenting practices), middle childhood and adolescence (sleep, exercise, reading, social/emotional difficulties, school engagement); Family functioning (family activities, stress); Parent health, Neighborhood conditions.		X	X		HRSA regions. Reliability of funding?
Youth Risk Behavior Survey CDC	Overweight, physical activity, diet, school food environment.		X	some		Data for selected areas (e.g., prevalence of overweight for 29 states and 14 large metro districts)

3.2 Health Indicators and Data Sources

Indicators and Data Sources for Health System Performance

Table 5, Table 6, and Table 7 provide examples of indicators of health system performance, organized by access, cost, and quality.

Indicators of *access to health care* primarily relate to insurance coverage, usual (or regular) source of care, difficulties/delays in the receipt of needed care due to cost, physician supply, and physician/dental visits (Table 5). Reports focused on disparities diverge slightly, with Georgia emphasizing provider supply and diversity, linguistic isolation, and the availability of federally qualified health centers. Kaiser Family Foundation also provides measures related to the health care safety net. The National Healthcare Disparities Report, unlike its companion report also from AHRQ, includes indicators of access to health care as a contributor to poor quality.

Table 6 shows examples of indicators related to *health care costs and efficiency*. Health care costs are measured in several reports using comparable measures for the nation as a whole and for governmental spending (e.g., per capita health care spending, annual growth in spending, percentage of GDP, spending by category, etc.); several of these measures are comparable to those in OECD countries, and are appropriate for international comparisons. In addition to national spending, costs are measured from other perspectives such as employer costs (e.g., insurance premiums) and costs to consumers (out-of-pocket spending on prescription medication, co-payments) in both the Kaiser and the California HealthCare Foundation reports.

Another category related to cost is unnecessary spending and avoidable care. Indicators like avoidable hospitalizations (e.g., ambulatory care sensitive conditions, readmission rates) are shown in the State Scorecard as well as AHRQ reports. These measures are often linked to poor access to outpatient care or variation in hospital capacity. Other indicators measure variations in expenditures (use and cost of health care) among Medicare recipients during the last two years of life relative to national or regional benchmarks, as shown in the Dartmouth Atlas. These indicators represent huge costs in terms of Medicare reimbursements. The Atlas uses several measures to identify patterns of care that, if changed, would generate savings and improve quality and the receipt of effective care.

Efficiency measures are important, but not widely available. However, two reports use composite indexes to quantify relative efficiencies of hospitals. The first, published by the Dartmouth Atlas's is the "hospital care intensity index" or HCI (Section 5.0, Figure 10). The HCI index can be generated to show or compare any hospital referral region, county, or state using an interactive feature on the web site or other query tools. The second is AHRQ's "relative index of hospital cost efficiency", which is considered developmental at this point.

Table 7 shows indicators related to *quality*, including the use of clinically effective care, patient safety, receipt of timely and patient-centered care, and patient perspectives on experience with receipt of health care services. One of the main sources of quality indicators is the National Healthcare Quality Report from AHRQ, the result of a broad consensus and technical process involving agencies throughout HHS. The majority of measures are for use of effective care in

the detection, treatment, and management of chronic conditions as well as acute health events. Fewer measures are available for receipt of timely and patient-centered care.

In terms of patient safety, indicators from HealthGrades employ patient safety indicators (PSIs) developed by the AHRQ in a composite measure that can be used to compare performance in different hospitals and states, as done in their report card. The PSIs, however, may represent a limited spectrum of patient safety indicators. By contrast, IHI's Five Million Lives campaign sets a broader quality framework for improvements in patient safety, and may offer indicators to monitor the impact of the system improvements that result in decreased incidents of medical error and patient harm. (See Five Million Lives, 2007).

Examples of data sources for *Health System Performance* indicators are shown in Table 8. Many data sources come from individual reports from hospitals and providers, for example, hospital discharge and billing data, and represent data that are voluntarily reported as well as mandated. In some cases, the data are designed for other purposes and may be incomplete (e.g., data on medical error and patient safety as derived from discharge codes) but still represent the most valid data available. Indicator reports that provide summary measures of U.S. health care costs are based on data from several sources, including the Centers for Medicare and Medicaid Services (CMS) Office of the Actuary, which publishes data on total national health expenditures.

While the focus of this review is largely on available data collected at a national level and disaggregated to state and local level, many indicators worthy of consideration may be limited in their ability to be disaggregated geographically or by population groups (age, racial/ethnic groupings). The review attempts to be sufficiently broad as to be useful for informing future data development or collection efforts.

In addition, local jurisdictions often analyze state and local information for their indicator efforts, and many such examples are noted in the individual report summaries. Such sources include local surveys or assessments, administrative data from state or local service systems, or geographic level data about community conditions. While this review is limited to national data sources that can be disaggregated to local levels, it is acknowledged that part of the challenge to the committee and to SUSA will be sorting out what state/local data may be standardized enough to roll up (or scale) to the national level.

Selection criteria

Last, selection criteria are related to all aspects of indicator reports. Selection criteria are critical for evaluating whether the indicators themselves represent a vital health issue, and multiple dimensions of an important health problem. Selection criteria are relevant to the data sources and ability to measure the condition of importance, and whether the data can be analyzed in a way as to be meaningful (e.g., geographic, racial/ethnic, or other sub-groups). And selection criteria apply to communication and whether people intrinsically understand the indicator as communicated. An example of standard selection criteria for health indicators is provided in Section 5.0, Figure 11.

3.2 Health Indicators and Data Sources

TABLE 5: SELECTED INDICATORS FOR HEALTH SYSTEM PERFORMANCE: ACCESS TO CARE

Trends and Indicators in a Changing Health Care Marketplace Chartbook (Kaiser Family Foundation)	National Healthcare Disparities Report (AHRQ)	State Scorecard on Health System Performance (The Commonwealth Fund)	Georgia Health Disparities Report
Trends in health insurance enrollment	People under 65 with health insurance	Adults under age 65 insured	Access to providers—
Trends in health insurance premiums	People uninsured all year	Children insured	Federal Health Professional Shortage Areas for primary care, mental health and dental health
Trends in health insurance benefits	People who have a specific source of ongoing care	Adults visits to doctor in past two years	Health professional diversity (physicians)
Trends in the structure of the health care marketplace	People who have a usual primary care provider	Adults without a time when they needed to see a doctor but could not because of cost	Health insurance coverage
Trends in health plan and provider relationships	People who experience difficulties or delays in obtaining health care or do not receive needed care		Persons living in linguistically isolated households
Implications of health market trends for consumers	People who experience difficulties or delays in obtaining health care due to financial or insurance reasons		Health care available for uninsured people (primary care safety net)
	Dental visit in past year		
	Potentially avoidable hospital admissions		
	Mental health and alcohol/drug treatment and counseling		

**TABLE 6: SELECTED INDICATORS FOR HEALTH SYSTEM PERFORMANCE:
COST AND EFFICIENCY OF CARE**

Organization for Economic Cooperation and Development	Health Care Costs 101 (California HealthCare Foundation)	Dartmouth Atlas (Dartmouth Institute for Health Policy and Clinical Research)	State Scorecard on Health System Performance (The Commonwealth Fund)	National Healthcare Quality Report (AHRQ)
<p>Health care expenditures: Total expenditure on health, % GDP Total expenditure on health, Per capita US dollars</p> <p>Public expenditure on health, % total expenditure on health</p> <p>Pharmaceutical expenditure, % of total expenditure on health</p> <p>Health care resources: Practicing physicians, nurses: density per 1,000 population</p> <p>Medical graduates, nursing graduates: density per 1,000 practicing physicians/nurses.</p> <p>Acute care beds, density per 1,000 population.</p> <p>MRI units per million population CT Scanners per million population</p>	<p>Total Health care spending</p> <p>Health care as share of GDP</p> <p>Per capita spending</p> <p>Growth in spending (total and per capita)</p> <p>Contributors to spending Payment sources</p> <p>Spending categories Growth in spending by major spending categories</p> <p>Annual out-of-pocket spending per capita</p>	<p>Medicare spending on patients with chronic illness in the last 2 years of life:</p> <p>Composite measure of intensity of healthcare resource use in last 2 years of life (HCI) relative to benchmark.</p> <ul style="list-style-type: none"> - Total spending - Resource inputs per 1,000 patients - Care Intensity - Terminal care - Comparisons to benchmark <p>Reimbursements per decedent; hospital days per decedent; and reimbursement per day; dollar amounts and ratio of spending to benchmark.</p>	<p>Avoidable Hospitalizations (Ambulatory Care Sensitive Conditions - ACSCs): Admissions for pediatric asthma</p> <p>Asthmatics with an emergency room or urgent care visit</p> <p>Medicare hospital admits for ACSC's</p> <p>Medicare 30-day hospital readmission rate</p> <p>Nursing Home residents with a hospital admission or readmission within 90 days.</p> <p>Total single premium per enrolled employee at private sector establishment.</p> <p>Total Medicare (A&B) reimbursement per employee.</p>	<p>Costs of potentially avoidable hospital admissions</p> <p>Relative index of hospital cost efficiency</p>

3.2 Health Indicators and Data Sources

TABLE 7: SELECTED INDICATORS FOR HEALTH SYSTEM PERFORMANCE: QUALITY—EFFECTIVE CARE, PATIENT SAFETY

Health Care Quality Report (AHRQ)	Health Care Quality Index (OECD)	Patient Safety: HealthGrades	Five Million Lives Campaign—Interventions
Breast Cancer: Early screening and treatment, mortality	Cancer: Breast cancer survival Mammography screening Cervical cancer survival Cervical cancer screening Colorectal cancer survival	Composite score based upon 16 Patient Safety Indicators from AHRQ: proportion of high/low performing hospital;	Deploy rapid response teams to patients at risk of cardiac or respiratory arrest.
Diabetes: Management of diabetes and end-stage renal disease		Deaths due to Medial error	Deliver reliable, evidence-based care for acute myocardial infarction
Heart Disease: Counseling on risk factors, treatment of AMI and acute heart failure, deaths per 1,000 hospital admissions with AMI.	Acute Myocardial Infarction (AMI) 30-day mortality rate	Number of states adopting NQF's patient safety guidelines.	Prevent adverse drug events through drug reconciliation (reliable documentation of changes in drug orders)
HIV/AIDS: prevention of new cases.	Stroke 30-day case fatality rate Smoking rates		Prevent central line infections
Maternity care: Timely prenatal care (in first trimester), Infant birth weight			Prevent surgical site infections
Child health: receipt of vaccinations by 35 months, treatment of gastroenteritis, receipt of preventive health care, dental visit.	Vaccine preventable diseases: Coverage for basic vaccination		Prevent ventilator-associated pneumonia
Mental Health and Substance Abuse: treatment for depression, substance abuse.			Prevent pressure ulcers
Respiratory disease: Pneumonia Immunization and treatment, unnecessary antibiotic use (for colds).	Asthma mortality rate Influenza vaccination for adults over 65		Reduce methicillin-resistant Staphylococcus aureus (MRSA) infection
Asthma management Tuberculosis treatment		Consumer Quality Indicators CMS/CAHPS/Hospital Compare	Prevent harm from high-alert medications
Nursing Home, Home Health and Hospice Care: Harm during stays in nursing facilities, outcomes of home health care.		Composite quality score (all Medicare/Medicaid enrollees)	Reduce surgical complications
Timeliness: Getting appointments for care.	Waiting time for femur fracture surgery	Patient ratings of experience during last hospital stay.	Deliver reliable, evidence-based care for congestive heart failure.
Patient Centeredness: Patient experience of care.			Get boards on board.

TABLE 8: HEALTH SYSTEM PERFORMANCE DATA SOURCES

DATA SOURCE	EXAMPLES OF INDICATORS/MEASURES	GEOGRAPHIC DRILL DOWN				NOTES
		INT'L	NATION	STATE	COUNTY	
Consumer Assessment of Health Providers and Systems (CAHPS) AHRQ	Patient experiences while in the hospital or in ambulatory care settings		X	X		Supports standardized surveys of consumer and patient experiences with health care. Available on Hospital Compare (CMS)
Healthcare Effectiveness Data and Information Set (HEDIS) NCQA	Measures of use of effective care, access to care, patient satisfaction in outpatient care settings		X	X	other	Used by Health plans that are accredited or certified (required for plans that accept Medicaid and Medicare). Data covers participating health care systems only. Report cards on individual plans.
Health Care Quality Indicators (HCQI) OECD	Measures of effectiveness, safety, and patient centeredness		X			Suitable for international comparisons with 23 OECD countries
Healthcare Cost and Utilization Project (HCUP) Public/Private	Hospital discharge data includes diagnoses and procedures, discharge status, patient demographics, and charges for all patients, regardless of payer (e.g., persons covered by Medicare, Medicaid, private insurance, and the uninsured)		X	X		The information is translated into a uniform format to facilitate both multistate and national-State comparisons and analyses. Some (~20) states also contribute emergency room admission data and ambulatory surgery data, and pediatric inpatient data.
Medicare Claims—CMS	Enrollment, use, cost, payments, detailed services, diagnoses, procedures, access to and quality of care. Data available for most providers and types of health care services (e.g., hospital, outpatient, nursing home, home health care, hospice).	Cost Quality	X	X	X	Data for all enrollees. County, city, hospital and hospital referral area via Dartmouth Atlas.**

3.2 Health Indicators and Data Sources

TABLE 8: HEALTH SYSTEM PERFORMANCE DATA SOURCES (continued)

DATA SOURCE	EXAMPLES OF INDICATORS/MEASURES	GEOGRAPHIC DRILL DOWN			NOTES	
		INT'L	NATION	STATE		COUNTY
Medical Expenditure Panel Survey (MEPS) AHRQ	Health care use, expenditures, source of payments, insurance coverage, and quality of care		X			Household, medical provider, and insurance components. 13–15,000 families annually.
National Hospital Discharge Survey HCUP	Preventable hospitalizations (e.g., America’s Health Rankings), Leading causes of hospital admission (e.g., Georgia Health Disparities). Patient Safety Indicators		X	X	X	By hospital. Reported by hospitals to state oversight agencies. State data collected via HCUP (a federal-state-private partnership that produces many databases related to hospital care).

** Note where secondary analysis was critical to indicator development

3.3 Communication—Presenting and Framing of Health Indicators

The central purpose of all of the indicator reports is to improve health through a variety of mechanisms—more informed citizens and decision makers, better planning and priority setting, better functioning systems, and targeted investments, for example. However, the indicators reviewed have varied abilities to communicate with broad professional, much less public, audiences.

A critical concern for the committee charged with selecting the indicators for the State of the USA is how the indicators will be communicated based on what the American public wants and needs to know. The choices as to how the indicators are framed and communicated will certainly need to be based upon pressing concerns in order to engage inquiry on the part of site visitors. How these concerns are defined is the subject of other work, however, at least three contextual considerations emerge from the landscape of health indicator reports reviewed:

- First, is that the current rate of spending on health is not sustainable. Furthermore, Americans and public officials at all levels of government are extremely concerned about rising health care costs and the impact on budgets as well as access.
- Second, is that our level of health, quality of life, and performance of our health system are not consistent with our level of spending. Nor is health always equitably distributed, especially among all racial/ethnic and income groups. Many opportunities for prevention, and increasing the health return on investment exist.
- Third, the evidence that social factors such as poverty, poor educational attainment, and degraded community environments contribute to poor health is increasingly acknowledged in health indicator reports. These factors also contribute to many other problems in our society, including crime and violence.

Some of the more engaging examples use goals or desired results to frame and select the indicators, and this can be accomplished in a variety of ways. Seattle-King County in *Community Counts*, used responses to a biennial public survey to frame “valued conditions” for their community, which then frame the indicators. Valued conditions as stated by the community differ from traditional conceptual frameworks, and include statements such as “People create a balanced daily lifestyle with adequate time for interaction with families, friends, for leisure activities, and for volunteer activities in the community”. Another is that businesses and corporations are “family and community friendly...” and “quality daycare is available for all who need it”. As such, these valued conditions form a compelling basis not only for indicators but for a collective agenda to address them.

Valued conditions share many similarities with Results-based Accountability (RBA; Friedman 2005), for example, where groups agree upon a set of goals. RBA provides a structure and definition for goals (e.g., conditions or status we want for our children, communities, etc.), indicators (e.g., how these conditions will be measured), and strategies (approaches based on evidence) and links these with performance measurement and budgeting measures (e.g., governmental or private performance and investments). Many local indicators efforts are summarized by Friedman, in addition to providing guidance as to various framing approaches. Project Thrive, a national effort to improve and

3.3 Communication—Presenting and Framing of Health Indicators

standardize indicators tracked by state early childhood programs, exemplifies the RBA approach. Friedman offers guidelines for assessing the qualities of indicators. In addition to “data power” and “proxy power,” “communication power” assesses whether you could stand in front of a crowd in the town square and make a statement about your indicator that will be readily understood by all. New York City’s “Take Care New York” community health profiles speak directly to lay persons in their indicator framing approach (see Exhibit 4.2.4).

Indicators can also be framed and linked with civic agendas, as is shown in the comprehensive indicator systems at the local level such as The Boston Indicators Project as well as the Jacksonville County Community Indicators Project. Whereas citizen’s interest feed into what is measured, what is measured feeds back to the community to join together to promote responses or interventions. For example, in Jacksonville, local meetings about what is and should be done in response to crime is a process organized in response to indicators of increased crime and community perceptions of being unsafe.

The Trust for America’s Health has developed “Top Ten Priorities for Prevention” (shown in Section 5.0, Figure 12). These priorities share similarities with the approaches described above in that they set goals as well as attach themselves to future directions and actions. The Prevention Institute has developed a prototype set of indicators for primary prevention framed around social indicators—equity of opportunity, people, place, and health system factors (Section 5.0, Figure 13). Sample indicators to accompany this framework are shown in Section 4.0, Exhibit 4.5.2.

Rankings/Grades

Several reports employ rankings by state, city, or county (e.g. *America’s Health Rankings*, *Kids Count*, *Big Cities Health Inventory*). *Kids Count* employs two sets of rankings for states, one for “Right Start” which is based upon 10 indicators related to birth outcomes, and another for *Kids Count* based upon 10 indicators related to children and youth. *Big Cities Health Inventory* includes rankings for the 54 largest cities in the U.S. An example of an effective graphic for a comparative ranking is shown in Section 5.0, Figure 14, which shows the percentage difference between lung cancer mortality rate and the Healthy People 2010 goal for each city. These can be useful as summary indicators for several individual indicators when comparing states or local areas.

The Health of Wisconsin report is broken down into four life stages: Infants (<1 year); children and young adults (ages 1–24 years); working aged adults (25–64 years); and, older adults (age 65 +). Within these categories, overall grades are assigned for health and disparity. Grades are also assigned for gender, educational attainment, type of county, and racial/ethnic categories (Section 5.0, Figure 15).

A more in-depth use of rankings is shown in the State of Georgia Health Disparities report which uses grades to rate each of the state’s counties on indicators of health disparities, and uses comparative rankings with other counties in Georgia (Section 5.0, Figure 16).

Use of the Index

The index is a useful means of communicating complex concepts in a single measure. Some indexes are useful for facilitating comparisons. An example of this kind of index that was mentioned earlier is in the Dartmouth Atlas, called the Health Care Intensity (HCI). The HCI provides one measure of the level of health care resources used during the last 2 years of life, and provides a basis upon which to make comparisons by type of service, hospital, geographic area or other categories of health care. It is useful for benchmarking because it varies greatly across different health care systems and locations, and a high HCI is associated with both excessive costs and poor outcomes (clinical and patient experience) (personal communication with John Wennberg). Another index is the composite measure of incidents of medical error used in HealthGrades report on patient safety. It allows the 16 patient safety indicators developed by AHRQ to be easily tracked over time and compared among different regions and hospital systems.

Recently, the Gallup-Healthways Index of Well-being made news with its “index of health and happiness” constructed from the results of daily surveys of 1,000 Americans (Index of Well-Being, 2008). It observed that while 49% of the U.S. adult population is happy and healthy, 47% are “struggling” and 4% are “suffering”. The ongoing survey that informs this index is being conducted all over the world with the hope of making regular international comparisons. The Child Well-being Index (Foundation for Child Development, 2007) is another effort to measure relative child well-being, while keeping cohort effects constant, and to facilitate national comparisons. On the one hand, while indexes are simple and profound (i.e., worries about money, food, jobs, poor health lead to suffering), they can oversimplify. Good indexes can also obscure important patterns of health and poor health obtained by capturing variation, and can also be insensitive to changes over time, depending on how they are constructed (i.e., quality and sensitivity of the variables that are included in them). Furthermore, it is at times difficult to attach meaning to a number—what does a child well-being result of “5” really mean?

3.3 Communication—Presenting and Framing of Health Indicators

Use of Maps and Geographic Information Systems

The availability of GIS has allowed for reliable health indicators, such as premature mortality and life expectancy, to be analyzed by geographic and demographic factors. GIS methods provide powerful tools for analyzing trends and disparities in county-level life expectancy (Ezzati, 2008) as well as relative gains and losses in health (mortality) by social factors such as income, a variable that is not available from Vital Records (Krieger, 2008). Such methods are not only important for research but provide examples about how to communicate complex patterns and trends in health in a manner that can be easily understood. Highlights from both studies were summarized in the *New York Times*, as shown in Section 5.0, Figure 17.

Several reports including *Community Health Status Indicators*, and New York City's *Community Health Profiles*, and *The Dartmouth Atlas* provide examples of the use of maps. *The Dartmouth Atlas* is perhaps the most prominent among efforts to show variation in measures of health services use and outcomes by geographical areas—jurisdictional, hospital service, or other boundaries. *Community Health Status Indicators* will also employ small area analysis at the county level, and will include peer county comparisons and maps on approximately 200 indicators. New York City *Community Health Profiles* show statistics and thematic maps based upon 10 health indicators for New York's 42 community areas.

Several reports serve as examples of presentation approaches that aid in the dissemination and communication of indicators. For example, RWJ's "What drives health" features charts that can be downloaded as PDFs or Powerpoint slides. CHSI compiles county and comparative statistics into a user-friendly brochure that can be used to duplicate for meetings or for groups without access to the Internet.

Indicators directed to Consumers

Examples of health system performance indicators designed for use by consumers include the *Hospital Compare* and *Nursing Home Compare* sets (CMS). The federal HEDIS health plan report cards also provide data for the consumers, and, although it is not included in this review, may be a possible indicator source for quality.

3.4 Gaps in Indicators

In spite of the importance of health and health data, many gaps in our national statistical system exist (NCVHS 2002). For example, while a large body of evidence has accumulated about the importance of conditions and experiences early in life, robust data sources on early childhood health and social and community environments are not well developed. The National Survey of Early Childhood health is an important effort to fill these gaps but has not received steady financial support. The National Center on Childhood Poverty's Project Thrive (Exhibit 4.5.4) is in its early stages and is attempting to fill the gap of indicators at the state (and national) level related to early childhood based upon potential early childhood indicators from major national and state sources. For youth, the YRBS provides very few state and local estimates.

Consistent with the growing interest in early childhood indicators (RWJ, 2008; IOM, 2003) are Life Course indicators, which would reflect optimized health over the entire life course. A modest set of life course can be found in the Healthy People 2010 leading indicators (Chrvala and Bulger [eds.], 1999). Social indicators to monitor "school readiness," focused on health and developmental optimization were used in Los Angeles County (Wold and Nicholas, 2007). And yet, practical examples of indicator reports organized by life course are not readily found. Table 9 shows a hypothetical example of indicators organized by life course. These indicators are focused on protective factors (e.g., safe, nurturing and positive social environments in families and in communities) and risks (maternal depression, family violence, social isolation) that are important determinants for child health and relate to improving health trajectories over time, well into adulthood, as depicted in Section 5.0, Figure 18 (Halfon, 2005).

Physical environmental conditions are also important determinants of health, although somewhat limited to monitored exposures and illness (e.g., lead poisoning) as well as drinking water and air quality—important, but small slivers of environmental health interactions. Environmental public health indicators from the National Center for Environmental Health are provided in a framework that is organized along a continuum of such interactions, including indicators related to hazards, exposures, health effects, and interventions related to the physical environment. Disaster preparedness planning may also be generating some important indicators related to human interactions with the natural physical environment (see Exhibit 4.5.3).

Another notable gap is related to older people and indicators of long term care needs, availability of services, and quality of services. Nursing Home Compare (CMS) is one attempt to provide such data, but represents a fairly narrow slice of the long term care universe. The need for indicators for health in aging is emphasized by projections that the number of people over 65 will more than double over forty years—from approximately 34 million in the year 2000 to 80 million by 2040.

3.2 Health Indicators and Data Sources

**TABLE 9: EXAMPLE INDICATOR SET—
MERGING LIFE COURSE AND DETERMINANTS APPROACHES**

Family and Community Conditions:

Poverty
 Income
 Violence
 Stable Employment
 Education
 Housing—exposure to toxins, crowding
 Food security
 Race/ethnicity—disparities in opportunities and above indicators
 Parental educational attainment at birth and early in childhood
 Parent less than age 18 years
 Parenting practices
 Parental depression or emotional/behavioral problems

Interactions with health care system (early in life and throughout):

Adequate prenatal care
 Immunization
 Receipt of well-child care, developmental support,
 Receipt of preventive services
 Management of chronic conditions
 Avoidable hospitalization

Interactions with other systems—early in life and throughout (child care, educational, juvenile justice, child welfare systems):

Pre-school attendance
 Low/High performing schools
 High school completion
 College attendance
 Perpetrator/victim of crime
 Child maltreatment
 Parent or family member in criminal justice system

Health Trajectory and Outcomes:

Smoking
 Alcohol/Drug abuse
 Physical activity
 Diet and nutrition
 Activity limitations
 Poor health days
 Obesity
 Asthma
 Injuries
 Infectious Disease
 Chronic Health Conditions
 Premature Death
 Life expectancy

4.0 Summary of Health Reports

4.1 General Health—National Reports

4.1.1 AMERICA'S HEALTH RANKINGS: A CALL TO ACTION FOR PEOPLE AND THEIR COMMUNITIES

Compiled by: United Health Foundation, American Public Health Association, and the Partnership for Prevention

Last published: 2007

<http://www.unitedhealthfoundation.org/media2007/shrmediakit/ahr2007.pdf>

Context: *Stated purpose: The ultimate purpose of America's Health Rankings is to stimulate action by individuals, communities, public health professionals, health industry employees and public administration and health officials to improve the health of the population of the United States.*

Framework: Determinants of health and health outcomes. Focus is on four areas “that we can affect” combined with outcomes related to those four determinants, which are stated as follows:

- 1. Personal behaviors...everyday decisions we make that affect our personal health. It includes habits and practices we develop as individuals and families that have an effect on our personal health and on our utilization of health resources.*
- 2. Community environment reflects the reality that the daily conditions in which we live our lives have a great effect on achieving optimal individual health.*
- 3. Public and health policies are indicative of the availability of resources and the extent of reach of public and health programs into the general population.*
- 4. Clinical care reflects the quality, appropriateness and cost of the care we receive at doctors' offices, clinics and hospitals.*

Content:

Number of indicators: 20

Number of measures: 20

Indicator selection criteria: Indicators represent a broad range of issues that affect a population's health; individual components need to use common health measurement criteria; data had to be available on a state level; and data had to be current and updated periodically. The selection of indicators and measures used a reputable process and individuals. For example, there was a rigorous review by a scientific advisory committee.

4.1 General Health—National Reports

Primary measures:

All states are ranked on measures – comparisons among states and statistics within each state.

Trend analysis provides historical context and perspective on selected indicators.

Disparities by race/ethnicity in premature death (YPLL) shown.

Comments: Report includes commentaries from The Commonwealth Fund (State Health System Performance), the California Medical Association Foundation (Addressing Health Disparities by Engaging Ethnic Physicians); The National Alliance for Hispanic Health (A Call to Action for Healthier Communities); and the National Business Group on Health (The Nation’s Quality of Life and Standard of Living are at Serious Risk: We Must Act Now).

EXHIBIT 4.1.1: AMERICA’S HEALTH RANKINGS—HEALTH INDICATOR SET

Personal Behavior

Smoking
Binge drinking
Obesity
High school graduation

Community Environment

Violent crime
Occupational fatalities
Infectious disease
Children in poverty

Public and Health Policies

Lack of health insurance
Public health spending (per capita)
Immunization coverage

Clinical Care

Adequacy of prenatal care
Primary care physicians
Preventable hospitalizations

Outcomes

Poor mental health days
Poor physical health days
Infant mortality
Cardiovascular deaths
Cancer deaths
Premature deaths

Additional:

Analysis of health disparities by selected indicators.

4.1.2 COMMUNITY HEALTH STATUS INDICATORS—CHSI (DRAFT FORM)

Compiled by: U.S. Centers for Disease Control and Prevention

Link to test site: <http://chsi.primescapesolutions.net/HomePage.aspx>

Context: This system was initially developed in 2000. It is scheduled for launch in July 2008, now funded by a new partnership that includes the Centers for Disease Control and Prevention (including NCHS and ATSDR), the National Institutes of Health/National Library of Medicine, the Health Resources Services Administration, the Public Health Foundation, the Association of State and Territorial Health Officials (ASTHO), National Association of County and City Health Officials (NACCHO), National Association of Local Boards of Health (NALBOH), and Johns Hopkins University School of Public Health.

The report uses a determinants of health framework and has the stated purpose of making “health data available to local areas throughout the U.S.”

Stated goal of Community Health Status Indicators (CHSI) is to provide an overview of key health indicators for local communities and to encourage dialogue about actions that can be taken to improve a community’s health. The CHSI report was designed not only for public health professionals but also for members of the community who are interested in the health of their community.

Content:

Focus areas: Summary Measures of Health, National Leading Causes of Death, Measures of Birth and Death; Relative Health Importance; Vulnerable Populations; Environmental Health; Preventable infectious disease; Preventive Services Use; Access to Care; and, Risk Factors for Premature Death.

Number of indicators: 60+

Number of measures: 200+

Primary measures: Each CHSI report includes comparisons of a given county to peer counties, U.S. rates, and Healthy People 2010 targets. The re-launch of CHSI includes 3,141 county health status profiles representing each county in the United States excluding territories. CHSI will include updated data, mapping capabilities of health indicators, and a website where the public can access and download the data and information.

4.1 General Health—National Reports

Comments: The CHSI report is accompanied by a companion document entitled Data Sources, Definitions, and Notes. This document gives detailed descriptions on data estimations, definitions, caveats, methodology, and sources.

In addition to the web pages, community profiles can be displayed on maps or downloaded in a brochure format. The CHSI mapping capability allows users to visually compare similar counties (termed peer counties) as well as adjacent counties with their county. The downloaded CHSI report allows broad dissemination of information to audiences that may not have access to the internet.

EXHIBIT 4.1.2: COMMUNITY HEALTH STATUS INDICATORS

Summary Measures of Health

Life Expectancy
All Cause Mortality
Self-rated Health Status
Unhealthy Days

National Leading Causes of Death

Complications of Pregnancy/Birth

Birth defects
Injuries
Homicide
Cancer
Suicide
Heart Disease
HIV/AIDS

Measures of Birth and Death

Low birth weight
Very low birth weight
Premature births
Births to women under 18
Births to women over 40
Births to unmarried women
No care in first trimester

Relative Health Importance

(Comparative statistics; comparisons to peer counties)

Vulnerable Populations

No HS diploma
Unemployed individuals
Severe work disability
Major depression
Recent drug use

Environmental Health

Infectious Disease
Toxic Chemicals
Air quality standards

Preventable infectious disease

AIDS
Tuberculosis
Haemophilus influenzae B
Hepatitis A
Hepatitis B
Measles
Pertussis
Congenital Rubella Syndrome
Syphilis

Preventive Services Use

Preventive Services Use—children (lead, immuniz, dental caries n/a)
Preventive services use—adults

Pap
Mammogram
Sigmoidoscopy
Pneumonia vaccine
Flu vaccine

Access to Care

Uninsured individuals
Medicare beneficiaries
Medicaid beneficiaries
Primary care physicians
Dentists
Community health centers
Health professional shortage areas

Risk Factors for

Premature Death

No exercise
Few fruits/vegetables
Obesity
High blood pressure
Smoker
Diabetes

4.1.3 HEALTHY PEOPLE 2010—LEADING HEALTH INDICATORS

Compiled by the National Center for Health Statistics

Partners: Federal agencies (13), Healthy People Consortium (over 400 organizations, local health departments, etc.), and MOU partners.

Context: Maximum set of leading indicators combines determinants, prevention, and life course sets: Each indicator exists as an objective in one or more of the 28 HP2010 focus areas. The three proposed indicator sets focus on some of the most significant determinants of health disparities as well as the six priority areas of the President’s Initiative on Race, and the U.S. Department of Health and Human Services’ initiative, *Eliminating Racial and Ethnic Disparities in Health*.

Goal: Healthy People 2010 has four enabling goals (Promote Healthy Behaviors, Promote Healthy Communities, Prevent and Reduce Diseases and Disorders, Improve Systems for Personal and Public Health) and one cross-cutting goal (Reduce health disparities).

Approach: The process of selecting the Leading Health Indicators mirrored the collaborative and extensive efforts undertaken to develop Healthy People 2010. The process was led by an interagency work group within the U.S. Department of Health and Human Services. Individuals and organizations provided comments at national and regional meetings or via mail and the Internet. A report by the Institute of Medicine, National Academy of Sciences, provided several scientific models on which to support a set of indicators. Focus groups were used to ensure that the indicators are meaningful and motivating to the public.

Content:

Leading indicators: 20

Objectives: 28

Measures: Approximately 430

Comments: Healthy People 2010 provides a broad framework for more detailed measures. The process of defining health indicators for HP2020 is currently underway.

**EXHIBIT 4.1.3: HEALTHY PEOPLE 2010 LEADING INDICATORS—
HEALTH INDICATOR SET (MAXIMUM SET)**

Poverty	Cancer screening and detection	Cognitive development
Tobacco use	Physical environment	Violence
Disability	HS graduation	Low birth weight
Physical activity	Weight	Childhood immunization
Preventable deaths	Health Insurance	Hypertension screening
Health care access	Substance Abuse	Diabetic eye exam

4.1 General Health—National Reports

4.1.4 ROBERT WOOD JOHNSON FOUNDATION— COMMISSION TO BUILD A HEALTHIER AMERICA

Title: What drives health?

<http://www.commissiononhealth.org/WhatDrivesHealth.aspx>

Context: The stated purpose of the Robert Wood Johnson Foundation Commission to Build a Healthier America: *A national, independent, non-partisan group of leaders that will raise visibility of the many factors that influence health, examine innovative interventions that are making a real difference at the local level and in the private sector, and identify specific, feasible steps to improve Americans' health. America's public debate on "health" has mostly centered on access to and affordability of care, even though a large body of evidence tells us that, in most cases, whether or not a person gets sick has little to do with seeing a doctor. This Commission will focus on those factors beyond medical care that have an enormous influence on health and will ask what we can do about it.*

Content: Charts and slides showing relationship between social factors—including income level, educational attainment, and race/ethnicity. Focus is on three health conditions (or risks): early life experience, adult chronic disease, and obesity. OECD country comparisons in infant mortality rankings (1980 and 2002) and health care expenditures vs. life expectancy are provided.

Number of indicators: 13 (shown in approx. 30 charts on web site)

EXHIBIT 4.1.4: COMMISSION ON A HEALTHIER U.S.

Social Factors

- Income
- Work
- Housing
- Community
- Race and ethnicity
- The Economy

Key Health Conditions

- Infant and Child Health
- Obesity
- Adult Chronic Disease

Indicators

- % federal poverty level (4 categories)
- child poverty (OECD countries)
- educational attainment (self and parental)
- life expectancy
- infant mortality
- self-reported health status (adults and children)
- activity limitation (HRQL)
- activity limitation due to chronic condition
- health care expenditures (OECD countries)
- prevalence of diabetes
- prevalence of chd
- physical inactivity
- smoking

4.1 General Health—National Reports

4.1.5 AMERICA'S CHILDREN

Compiled by: **Interagency Forum on Child and Family Statistics** (over 40 federal departments, agencies and offices).

Link to 2007 report: <http://www.childstats.gov/americaschildren/>

Context: Stated Purpose and rationale: *“America’s Children: Key National Indicators of Well-Being, 2007 is a compendium of indicators—drawn from the most reliable official statistics—illustrative of both the promises and the difficulties confronting our Nation’s young people. The report presents 38 key indicators on important aspects of children’s lives. These indicators are easily understood by broad audiences, objectively based on substantial research, balanced so that no single area of children’s lives dominates the report, measured regularly so that they can be updated to show trends over time, and representative of large segments of the population rather than one particular group.”*

As stated, America’s Children draws upon several conceptual frameworks to characterize the well-being of a child and influence the likelihood that a child will grow to be a well-educated, economically secure, productive, and healthy adult.

Criteria for indicator selection stated that indicators should be:

- easily understood by broad audiences;
- objectively based on substantial research connecting them to child well being, and easily estimated based upon reliable data;
- balanced so that no single area of children’s lives dominates the report; measured regularly; and,
- representative of large segments of the population.

Content: Focus areas (number of indicators): Seven sections that cover family and social environment (8), economic circumstances (3), health care (4), physical environment and safety (7), behavior (5), education (6), and health (6).

Total number of indicators: 39

Number of measures: Approximately 65

Overall geographic level: nation with some breakdowns by race/ethnicity and income (% of Federal Poverty Level).

Uses standard categories for race and ethnicity and includes category for two or more races as reported in the Census.

Comments: Identifies critical data gaps or indicators needed and challenges the agencies involved to “do better” at providing the data. This process has been ongoing with several improvements to data noted over the ten years of collaboration, including data for child maltreatment, drinking water quality, and the mental health of children. Data gaps are noted for each focus area are noted and include data on child homelessness, long-term poverty, disability, and early development.

EXHIBIT 4.1.5: AMERICA'S CHILDREN—INDICATOR SET**Family and Social**

Family structure and child living arrangements
 Births to unmarried women
 Child care
 Presence of a foreign-born parent
 Language spoken at home and difficulty speaking English
 Adolescent births
 Child maltreatment

Economic Circumstances

Child poverty and family income
 Stable parent employment
 Food insecurity and diet quality

Health Care

Health insurance
 Usual source of care
 Immunization
 Oral health

Physical Environment and Safety

Outdoor and indoor air quality
 Drinking water quality
 Exposure to lead
 Housing problems
 Youth victims of serious violent crimes
 Child and adolescent injury
 Mortality

Behavior

Regular cigarette smoking
 Alcohol use,
 Illicit drug use
 Sexual activity
 Perpetration of serious violent crime.

Education

Family reading to young children
 Math and reading achievement
 High school academic counseling
 High school completion
 youth not in school nor working
 College enrollment

Health

Low birthweight
 Infant mortality.
 Emotional or behavioral difficulties
 Overweight
 Asthma

4.1 General Health—National Reports

4.1.6 KIDS COUNT

Compiled by the Annie E. Casey Foundation

Link to Kids Count Ten leading indicators, Right Start Indicators, and City, State, Regional Profiles:

<http://www.kidscount.org/datacenter/compare.jsp?pc=kc>

Context: Casey collects and publishes data on the condition of kids and families nationally and for every state through their network of state grantees; in some cases, these grantees provide county and city-level data. Kids Count is updated annually, and the website provides interactive databases and display tools to create customized charts for a wide variety of applications.

Content: As stated on the web site:

The new KIDS COUNT Data Center, launched in January 2008, contains... the most recent data available on Education, Employment and Income, Poverty, Health, Basic Demographics, and Youth Risk Factors for the U.S., all 50 states, D.C., Puerto Rico and the U.S. Virgin Islands and features data for the 50 largest U.S. cities. Depending on availability, three to five years of trend data is currently available for most indicators. [The] online database allows you to generate custom reports for a geographic area (Profiles) or to compare geographic areas on a topic (Ranking, Maps, and Line Graphs).

Geographic level: Data on children and families at the county-level can be found on the Community-Level Information on Kids System (CLIKS). Additional information for many other geographies including congressional districts, American Indian homelands, state legislative districts, etc. are available from the 2000 Census on the KIDS COUNT Census Data Online

Number of indicators: Kids Count (10); Right Start (10) and more than 100 in the Data Center.

Comments: The foundation believes strongly in the promotion of results-based accountability through its commitment to data-driven planning and innovations in system reform and community building.

EXHIBIT 4.1.6: KIDS COUNT—INDICATOR SETS

Right Start

Births, by race
Births to foreign-born mothers
Percent births to females less than 20 years of age
Teen births to women who were already mothers
Births to unmarried women
Births to mothers with less than 12 years of education (1989 standard birth certificate)
Births to women receiving late or no prenatal care (1989 standard birth certificate)
Births to mothers who smoked during pregnancy (1989 standard birth certificate)
Low-birthweight babies
Preterm births

Kids Count Data Book - Leading Indicators

Low-birthweight babies
Infant mortality
Child deaths
Teen deaths from all causes
Teen births, by age group
Teens who are high school dropouts
Teens not attending school and not working
Children living in families where no parent has full-time, year-round employment
Children in poverty (100%)
Children in single-parent families

Focus Areas (at birth and throughout childhood):

Children in Immigrant Families
Education
Employment and Income
Health
Health Insurance
Population and Family Characteristics
Poverty
Youth Risk Factors

4.1 General Health—National Reports

4.1.7 OLDER AMERICANS 2008: KEY INDICATORS OF WELL-BEING

Compiled by: Interagency Forum on Aging-Related Statistics

http://agingstats.gov/agingstatsdotnet/Main_Site/Data/Data_2008.aspx

Context: As stated in the introduction: *The Forum hopes that this report will stimulate discussions by policymakers and the public, encourage exchanges between the data and policy communities, and foster improvements in Federal data collection on older Americans. By examining a broad range of indicators, researchers, policymakers, service providers, and the Federal government can better understand the areas of well-being that are improving for older Americans and the areas of well-being that require more attention and effort.*

Stated selection criteria for the indicators:

- Easy to understand by a wide range of audiences.
- Based on reliable, nationwide data (sponsored, collected, or disseminated by the Federal government).
- Objectively based on substantial research that connects them to the well-being of older Americans.
- Balanced so that no single area dominates the report.
- Measured periodically (not necessarily annually) so that they can be updated as appropriate and show trends over time.
- Representative of large segments of the aging population, rather than one particular group.

Content: Focus areas: Five focus areas including population (6), economics (7), health status (7), health risks and behaviors (8), health care (10), plus one special indicator (literacy/health literacy).

Number of Indicators: 39

Number of Measures: Approximately 80

Comments:

EXHIBIT 4.1.7: OLDER AMERICANS**Population**

Number of older Americans
 Racial and ethnic composition
 Marital status
 Educational attainment
 Living arrangements
 Older veterans

Economics

Poverty
 Income
 Sources of income
 Net worth
 Participation in the labor force
 Total household expenditures
 Housing problems

Health Status

Life expectancy
 Mortality
 Chronic health conditions
 Sensory impairments and oral health
 Self-reported health status
 Depressive symptoms
 Functional limitations

Health Risks and Behaviors

Vaccinations
 Mammography
 Diet quality
 Physical activity
 Obesity
 Cigarette smoking
 Air quality
 Use of time

Health Care

Use of health care services
 Health care expenditures
 Prescription drugs
 Sources of health insurance
 Out-of-pocket health care expenditures
 Sources of payment for health care services
 Veterans' health care
 Nursing home utilization
 Residential services
 Personal assistance and equipment

Special Feature

Literacy
 Health literacy

4.2 General Health—State and Local Reports

4.2 General Health—State and Local Health Reports

4.2.1 COMMUNITIES COUNT—SEATTLE/KING COUNTY, WASHINGTON

Compiled by: Public Health—Seattle and King County.

Context: Communities Count is a partnership between public and private organizations, including the following founding partners: City of Bellevue Parks and Community Services Department, City of Seattle Human Services Department, King county Children and Family Commission, Public Health–Seattle and King County, Sustainable Seattle, The Seattle Foundation, and United Way of King County.

The 2005 report is the third (first report release in 2000). It provides “a common set of 38 social, health, environmental and arts indicators for use by all city and county governments, public agencies, foundations, human service funders, non-profit agencies, community-based organizations, and residents.” The following three stated principles guided the project:

1. Prevention and a long-term view of change are emphasized.
2. A data-based approach informs our understanding of what creates and sustains healthy communities and families.
3. Effective efforts involve citizens and experts, different disciplines, different parts of government, private and public sectors.

Content:

Focus areas (number of indicators): Basic Needs and Social Well-being (7), Positive Development through Life Stages (8), Safety and Health (19), Community Strength (4), Natural and Built Environment (5), and Arts and Culture (4), plus a description of the data on “valued conditions” relating to each focus area.

Number of indicators: Approximately 47

Number of measures: Approximately 150

Comments: The following description regarding the community input process is excerpted from the report:

Through an extensive process, residents expressed their opinions on what they value in their families and communities, what they think creates and sustains healthy people and strong neighborhoods, and what social, health and economic problems they are concerned about. Over 1,500 King County residents participated through a random digit dial telephone survey, a series of focus groups, and seven public forums held across the county. Their opinions were recorded and are expressed as “valued conditions.”

The following information concerning the integrity of the data was excerpted from the report:

At the same time, technical advisors were discussing the scientific side of choosing a strong list of social and health indicators. They considered the valued conditions expressed by residents and were concerned with the scientific quality of the information available issues of validity, reliability, consistency of measurement, whether data are available for the county only or for smaller areas, such as school districts, cities, regions, or for different age groups, ethnic groups, income levels and genders. The indicators selected were the most meaningful to residents and those considered most important to the overall health and wellbeing of people and communities.

EXHIBIT 4.2.1: COMMUNITY COUNTS—INDICATOR SET

Safety and Health

Perceived neighborhood safety
Crime—violent crime rate
Crime—murder rate
Family violence—domestic violence
Family violence—CPS referrals
Motor-vehicle crash deaths
Motor-vehicle crash hospitalizations
Pollution in neighborhoods
Infant mortality
Teen births
Stress
Tobacco and alcohol—adult tobacco use
Tobacco and alcohol—youth tobacco use
Tobacco and alcohol—adult alcohol use
Tobacco and alcohol—youth alcohol use
Physical activity and weight—activity
Physical activity and weight—weight
Restricted activity due to poor physical/mental health
Health insurance coverage and access

Community Strength

Neighborhood social cohesion
Involvement in community organizations
Institutional support for community service
Ease of access to shops and services

Natural and Built Environment

Air quality
Water quality
Land cover
Farmland treated with chemicals
Commute choices

Arts and Culture

Participation in arts and culture
Presence of arts and culture
Employment in arts and culture
Funding for arts and culture activities

4.2 General Health—State and Local Reports

4.2.2 GEORGIA HEALTH DISPARITIES REPORT

Compiled by: State of Georgia Public Health

http://dch.georgia.gov/vgn/images/portal/cit-1210/21/33/111684019Georgia_Health_Equity_Initiative_Health_Disparities_Report_2008.pdf

Context: The approach of the report is to “look holistically at the major factors that influence differences in health status and their relationship to racial and ethnic characteristics.” The report provides a statewide and county-by-county assessment for the indicators. Each indicator is graded for each county on the basis of how much inequity (or disparity) by race and ethnicity exists.

Content: Four focus areas: Social and economic well-being; Health status (disease, premature death); Quality and access to care; Health professional workforce.

Number of indicators: Approximately 16

Rates for indicators are provided by race/ethnicity, graded, and compared to grouped (peer) county averages using an inequality ratio.

The report provides clear criteria as to the meaning of the grade and how that grade might be improved as well as action steps—guidelines for how to use and disseminate the data.

Comments: Limited or no information is available at the county level about disparities in groups other than Black/White due to data limitations.

EXHIBIT 4.2.2: GEORGIA HEALTH DISPARITIES REPORT: INDICATOR SET

Social and Economic Indicators

Poverty

Percent of families living below the federal poverty level

Percent unemployed

Median family income

Percent of homes owner occupied

Education

Percent less than 9th grade education

Percent linguistically isolated

Mortality

Age-adjusted death rate

YPLL (due to premature death)

Quality and Access to Care

Health professions diversity—physicians

Health professional shortage areas (primary care, mental health, dental health)

Access/insurance disparities

Rate of uninsured

Health care available for uninsured people (safety net clinics)

Emergency room and hospitalization disparities

Avoidable emergency room visits

Avoidable hospitalizations

4.2 General Health—State and Local Reports

4.2.3 LOS ANGELES COUNTY PUBLIC HEALTH

Report: Key Indicators of Health

Compiled by: Los Angeles County Public Health

Most recent publication 2007 (updated every 2 years):

http://publichealth.lacounty.gov/ha/reports/Key05Report_FINAL.pdf

Context: Purpose of the report is to monitor key health conditions and to engage a broad community of stakeholders in health improvement work. The framework used is broad health determinants (including Social and Physical Environments, Health Behaviors, Health Status, Health Outcomes). The indicators emphasize social determinants, especially those related to child well being and the prevention of chronic conditions, and well as health status and outcomes.

The criteria for the selection of indicators was based on standard criteria and involved a consensus process with health department and key stakeholders.

Content:

Focus areas: Social and Physical Environments, Health Behaviors, Health Status, and Health Outcomes.

Number of indicators: 60

Number of measures: Approximately 75

Disparities for each indicator are shown along with a comparative measure as to whether the indicator is statistically different--better or worse—in each of the sub-county areas as compared to the county average. Racial/ethnic disparities and other important findings by age, income or other factors are provided in the narrative.

Comments: Availability of social indicators including parenting practices, child care, community conditions as well as indicators for health behaviors, health related quality of life, and mental health are unique because of the availability of large local survey data. Data are more rich given that this is a large local health department and the critical importance of providing sub-county data—eight “Service Planning Areas”, many of which are larger than most U.S. states.

EXHIBIT 4.2.3: LOS ANGELES COUNTY KEY HEALTH INDICATORS

Health Behaviors

Alcohol and Drug Use
 Tobacco Use
 Overweight Children
 Overweight/obese adults
 Physical activity
 Nutrition

Social and Physical Environment

Air quality
 Poverty
 Neighborhood safety
 Places to play
 Education
 Reading to child
 TV viewing
 Parental support
 Child care

Health Status

Perceived health
 Activity limitation among adults
 Disability—adults
 Disability and special health care needs—children

Health Care Access

Insurance
 Regular source of care
 Preventive health services
 Prenatal care
 Immunizations
 Colorectal cancer screening
 Cervical cancer screening
 Mammography
 Access to dental care

Health Outcomes

Asthma
 Diabetes
 Hypertension
 Depression
 AIDS
 Syphilis
 Tuberculosis
 Low birth weight
 Teen birth
 Infant mortality
 Cancer mortality
 Breast cancer mortality
 Cervical cancer mortality
 Lung cancer mort
 Cardiovascular disease mortality
 Diabetes mortality
 Stroke mortality
 Suicide
 Unintentional injury
 Homicide

4.2 General Health—State and Local Reports

4.2.4 NEW YORK CITY COMMUNITY HEALTH PROFILES

Compiled by: New York City Department of Health and Mental Hygiene

<http://www.nyc.gov/html/doh/html/data/data.shtml>

Context: Indicators for local report cards were generated based upon priorities for public health intervention. The measures are based upon high-quality data primarily from the NY City Department of Health.

The approach was to engage broad audiences with health indicators, and included a series of community meetings. The report is prepared to serve as a brochure suitable for dissemination to community stakeholders including the lay public.

Report cards for 42 neighborhoods, or communities, framed around the following “Take Care New York” goals:

1. Have a regular doctor
2. Be tobacco free
3. Keep your heart healthy
4. Know your HIV status
5. Get help for depression
6. Live free of alcohol and drugs
7. Get checked for cancer
8. Get the immunizations you need
9. Make your home safe and healthy
10. Have a healthy baby

Content:

Number of indicators: 12

Number of measures: Approximately 36

Ranked comparisons to other neighborhoods (low average, average, or above average) are provided in addition to comparisons to sub-regions of the City and to New York City as a whole.

Comments: NY City conducts a periodic health survey which makes the local data related to these goals very rich.

EXHIBIT 4.2.4: NEW YORK CITY COMMUNITY PROFILES**INDICATORS**

How residents rate their own health
Premature death

GOALS:

Have a regular doctor or other HCP

Be Tobacco Free

Keep your heart healthy

Know your HIV Status

Get help for Depression

Live free of dependence on alcohol and drugs

Get checked for Cancer

Get Immunizations you Need

Make your home Safe and Healthy

Have a Healthy Baby

Neighborhood health highlight
(highlighted health issue for single neighborhood)

MEASURES

Self-reported health status
Death rates
Premature death (Leading YPLL)

No personal doctor
Go to ED when sick or need advice
Health insurance status

Smoking
Attempting to quit

Heart disease hospitalizations
Heart disease mortality
Obesity
Diabetes
Physical activity

HIV/AIDS cases
HIV testing
Condom use

Psychological distress (self-reported)
Hospitalizations for mental illness

Binge drinking
Alcohol-related hospitalizations
Drug-related hospitalizations
Drug-related deaths

Cervical cancer screening (Pap)
Breast cancer screening (mammogram)
Colon cancer (colonoscopy)
Cancer death rate (leading types)

Flu (age 65+)
Pneumococcal (age 65+)
Lead poisoning cases among children

Asthma (adults and children)
Asthma hospitalizations (adults and children)

Prenatal care in first trimester
Births to teens
Low birth weight
Infant mortality rate

Example: Rabies

4.2 General Health—State and Local Reports

4.2.5 NEW YORK CITY HEALTH DISPARITIES REPORT

Compiled by: New York City Department of Health and Mental Hygiene

<http://nyc.gov/html/doh/downloads/pdf/epi/disparities-2004.pdf>

Context: Approach: Health determinants and health disparities by geographic community, income, and race/ethnicity. Differences that are statistically significant are highlighted.

Content:

Number of indicators: Approximately 20

Number of measures: Approximately 45

Analysis of neighborhood variation is conducted by categorizing neighborhoods into four groups based on average (median) household income. Health indicators are compared in some cases for all four groups and in some cases by showing the indicator for the highest and lowest income neighborhoods. Ratios are also used to describe the excess burden experienced by one or the other group—usually the lowest.

Other indicators are presented for the major racial/ethnic groups. Selected indicators where significant sub-group differences were observed (or possible to analyze) are shown, for example, differences in life expectancy among Puerto Ricans vs. other Hispanics.

Comments: Introductory material includes careful explanation about how social factors are measured and about the relationship of income, race/ethnicity, and living in poor neighborhoods and health.

EXHIBIT 4.2.5: NEW YORK CITY DISPARITIES REPORT

Income and Race/ethnicity

Income and poverty
Neighborhood income
Race and ethnicity
Immigration

Disparities in Health

HIV/AIDS
Smoking
Exercise, obesity, and diabetes
Cardiovascular disease
Cancer
Asthma
Infant and maternal health
Health behaviors among adolescents

Disparities in the Social and Physical Environment

Access to Medical Care
Housing

4.2.6 HEALTH OF WISCONSIN REPORT CARD 2007

Compiled by: University of Wisconsin Population Health Institute

http://www.pophealth.wisc.edu/UWPHI/research/report_card_2007/report_card_2007.htm

Context: Stated purpose of report:

“Overall, the health of Wisconsin residents is improving. However, the creators of the report noticed that Wisconsin’s rankings relative to other states were dropping. Furthermore, they considered the need to understand and address health disparities.”

Content: The report uses a limited number of measures (age-specific mortality and health related quality of life based upon poor health days). Focus is overall health and health in different life stages: Infants (<1 year); children and young adults (ages 1-24 years); working aged adults (25-64 years); and, older adults (age 65 +). Within these categories, overall grades are assigned for health and disparity. Grades are also assigned for the same two health measures (mortality and unhealthy days) by gender, educational attainment, type of county, and race/ethnicity.

Number of Indicators: 2

EXHIBIT 4.2.6: HEALTH OF WISCONSIN REPORT CARD

Health Related Quality of Life

Unhealthy days

Mortality

Age-specific death rates

4.2 General Health—State and Local Reports

4.2.7 THE BOSTON PARADOX: LOTS OF HEALTH CARE; NOT ENOUGH HEALTH. INDICATORS OF HEALTH, HEALTH CARE AND COMPETITIVENESS IN GREATER BOSTON.

Compiled by: New England Healthcare Institute for The Boston Foundation

Context: Unique pairing of health care economic information and health determinants.

Content: 30 indicators

Comment: The following excerpts from the report describe the juxtaposition of the state of the health care economy and the state of physical well-being explored through the indicators:

“To remain competitive in our increasingly global economy, we must have the resources to invest wisely in innovation of all kinds, and that requires us to understand and meet the challenge contained within this report. The Boston Paradox describes a double threat—to our physical health, and also to our economic wellbeing, as the cost of a rising tide of preventable chronic illness threatens to submerge other crucial priorities, including education, transportation and the quest for affordable housing.

Greater Boston and the Commonwealth are vulnerable to this trend because we have an older workforce, as well as persistent racial, ethnic and socio-economic health disparities. On the economic side, we have a cost of living that already makes Greater Boston the most expensive place in the country to live for a family of four. And health costs are rising faster than our economic growth. Unless we can reverse these trends, Greater Boston will lose ground, becoming less healthy and less competitive.

How can it be that here, in the hub of American medicine, we enjoy a world-class health care system, and yet do not have enough health? As this report details, some of the most important health strategies, are preventative, including good diet and exercise. The Boston Paradox demonstrates that it is now imperative for Greater Boston to become as innovative in public health strategies as we have been in medical technologies.”

EXHIBIT 4.2.7: THE BOSTON PARADOX: LOTS OF HEALTH CARE; NOT ENOUGH HEALTH.

Determinants of Health

Education
Median Income
Clean Air
Clean Water
Community Safety: Violent Crime, Youth Violence
and Domestic Violence
Tobacco Use
Exercise and Fitness
Diet and Nutrition
Overweight and Obesity
Access to Health Care: Health Insurance Coverage

Health Status

Low Birth Weight
Hypertension
Diabetes
Heart Disease
Cancer
Asthma

Sources of Health Care Funding

Employer-sponsored Health Insurance
Cost of Employer-sponsored Health Insurance
State Expenditures for Health and Health Care
Federal Expenditure for Health and Health Care
Uses of Health Care Funding
Public Health Programs
Physician Services

Uses of Health Care Funding

Hospital Services
Prescription Drugs
Home Health Care
Nursing Home Services

Related Industries

Health Insurance Industry
Medical and Nursing Education
Health-related Research and Technology Transfer
Life Science Industries

4.3 Quality of Life (Comprehensive Indicator Systems)

4.3 Quality of Life (Comprehensive Indicator Systems)

4.3.1 QUALITY OF LIFE FACTBOOK 2008

Compiled by: The Organization for Economic Cooperation and Development (OECD)

<http://www.oecd.org/dataoecd/58/45/40327657.pdf>

EXHIBIT 4.3.1: OECD QUALITY OF LIFE—HEALTH INDICATORS

Life expectancy

Infant mortality

Obesity

4.3.2 BOSTON INDICATORS PROJECT

Compiled by The Boston Foundation

The partners for the Boston Indicators Project include: The Boston Foundation; The John LaWare Leadership Forum; The City of Boston, Thomas M. Menino, Mayor; the Boston Redevelopment Authority; and the Metropolitan Area Planning Council.

<http://www.bostonindicators.org/IndicatorsProject/Health/AtAGlance.aspx?id=3532>

Comprehensive indicator system with the following stated purpose:

The Boston Indicators Project offers new ways to understand Boston and its neighborhoods in a regional context. It aims to democratize access to information, foster informed public discourse, track progress on shared civic goals, and report on change in 10 sectors: Civic Vitality, Cultural Life and the Arts, the Economy, Education, the Environment, Health, Housing, Public Safety, Technology, and Transportation.

Focus areas: The health framework is organized around eight goals, 20 indicator areas, and approximately 40 individual measures.

Comments: The presentation is very different from more static reports. The Boston Indicators system presents both health data and contextual information (e.g., links to other information resources) in a navigable snapshot.

4.3 Quality of Life (Comprehensive Indicator Systems)

One of a four-part civic agenda is “World class human resources” which prioritizes high-quality early care and education, and reducing obesity and its attendant disease burden.

<http://www.bostonindicators.org/IndicatorsProject/SummaryReport.aspx?id=4764>

EXHIBIT 4.3.2: BOSTON INDICATORS PROJECT: HEALTH INDICATOR SET

Retaining the Region’s Competitive Edge in the Health Sector

Research funding, Massachusetts and metro Boston
“Right Start” rank in child health outcomes, Boston
vs. 50 largest U.S. cities

Unimpeded Access to Health Care

Residents without health insurance
Mental health services capacity for children and
adults
Language spoken at major hospitals and health
centers

Low Rates of Disease and Mortality

Leading causes of hospitalization and death
Drug and violence related injuries
Drug and violence related deaths
STDs
Hepatitis C
AIDS mortality

Elimination of Racial/Ethnic Health Disparities in Health Outcomes

Infant mortality
Birth weight
Asthma hospitalizations
Hospitalization by race/ethnicity
Mortality by race/ethnicity

Investment in Healthy Children and Adolescents

Adequate prenatal care
Up-to-date vaccination
Suicide rates among youth
Youth who engage in risky behaviors
Youth who report a strong relationship with a
parent or adult mentor

Healthy Behavior

Residents who engage in healthy behavior

Low Rates of Environmental Hazards

Location of children and recreational areas v.
exposure

Public Funding for Public Health

Trends in city, state, and federal public health
funding levels

4.3 Quality of Life (Comprehensive Indicator Systems)

4.3.3 JACKSONVILLE QUALITY OF LIFE PROGRESS REPORT

Compiled by: Jacksonville County Community Indicators

<http://www.jcci.org/statistics/statistics.aspx> (2007)

Context:

Framework: Quality of life, progress. JCCI has been collecting data and tracking trends for 22 years.

Stated purpose:

Measuring progress towards building a better community.

JCCI is a nonpartisan civic organization that engages diverse citizens in open dialogue, research, consensus building, advocacy and leadership development to improve the quality of life and build a better community in Northeast Florida and beyond.

Content: Over 100 indicators in nine areas of quality of life: education, economy, natural environment, social environment, arts and culture, health, maintaining a responsive government, moving around efficiently (transportation), and public safety.

Comments: An annual survey, donated by American Public Dialogue, provides additional information on the community's perception of the quality of life. Detailed reference data, including charts and graphs, are also provided for those who wish to explore these trends further.

EXHIBIT 4.3.3: JACKSONVILLE QUALITY OF LIFE PROGRESS REPORT

Sustaining a Healthy Community

Deaths due to heart disease (per 100,000)	Jacksonville health care rates as high quality
Cancer deaths (per 100,000)	Newly diagnosed AIDS cases per 100,000 people
Newborns with healthy birth weights	HIV/AIDS related deaths
Early prenatal care	Racial disparity in HIV
Infant death rate (per 1,000)	Sexually transmitted disease reports
Racial disparity in infant deaths	Packs of cigarettes sold per person
Senior citizen suicide rate	Lung cancer deaths per 100,000 people
Seniors who feel safe in their neighborhood	Alcohol use reported by youth
People with no health insurance	

4.3.4 AUSTRALIA'S MEASURES OF PROGRESS

Compiled by: Australian Bureau of Statistics

[http://www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/1383.0.55.001Main%20Features32008%20\(Edition%201\)?opendocument&ctabname=Summary&prodno=1383.0.55.001&issue=2008%20\(Edition%201\)&num=&view=](http://www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/1383.0.55.001Main%20Features32008%20(Edition%201)?opendocument&ctabname=Summary&prodno=1383.0.55.001&issue=2008%20(Edition%201)&num=&view=)

Framework for “headline” dimensions of progress are individuals, the economy and economic resources, the environment, and living together. Health is one of three indicators for the progress of individuals as measured in life expectancy at birth, educational attainment, and workforce participation.

(See Section 5.0, Figure 8 for a description of the framework.)

4.3.5 CANADIAN INDEX OF WELL-BEING

<http://www.atkinsonfoundation.ca/ciw/>

Compiled through broad collaborative effort by the Atkinson Foundation

Public launch anticipated in 2008

The stated purpose of the The Canadian Index of Wellbeing (CIW) is to report on the wellbeing of Canadians. Although currently a work-in-progress, when the CIW is fully developed, it will chart and provide unique insights into how Canadians' lives are getting better—or worse—in areas that matter: health, standard of living, quality of the environment, time use, education and skills, community vitality, civic engagement, and arts and culture. Most importantly, the CIW will shine a spotlight on how these important areas are interconnected. How, for example, changes in income are linked to changes in health, or how community engagement and living standards are connected.

Comment:

(See Section 5.0, Figure 9 for a description of the CIW framework.)

4.4 Health System Performance

4.4 Health System Performance

4.4.1 COMMONWEALTH FUND STATE SCORECARD ON HEALTH SYSTEM PERFORMANCE

Compiled by: The Commonwealth Fund

http://www.commonwealthfund.org/usr_doc/StateScorecard.pdf?section=4039

Context: Stated purpose of State Rankings:

Developed to follow the *National Scorecard on U.S. Health System Performance*, published in 2006, the *State Scorecard* assesses state variation across key dimensions of health system performance: access, quality, avoidable hospital use and costs, equity, and healthy lives. The findings document wide variation among states and the potential for substantial improvement—in terms of access, quality, costs, and lives—if all states approached levels achieved by the top states. [These improvements are then translated into tangible returns, e.g., number of lives saved, and other metrics.] Leading states outperform lagging states on multiple indicators and dimensions; yet, all states have room to improve. The report presents state performance on 32 indicators, with overall rankings as well as ranks on each dimension. The findings underscore the need for federal and state action in key areas to move all states to higher levels of performance and value.

Content:

Focus areas (number of indicators): Access (4); Quality (14); Potentially avoidable use of hospitals and costs of care (9); Equity; Healthy Lives (5).

Total Indicators: 32

Types of measures:

Geographic: state

Comments:

Indicators used to compare U.S. with other OECD countries summarized here:

Supplement to the Columbia journalism review march 2008

http://www.commonwealthfund.org/usr_doc/CJR_insert_final.pdf?section=4039

Commonwealth fund—health measures for journalists

http://www.commonwealthfund.org/publications/publications_show.htm?doc_id=671629

EXHIBIT 4.4.1: COMMONWEALTH FUND STATE SCORECARD ON HEALTH SYSTEM PERFORMANCE

Health Care Access

Adults <65 uninsured
 Children uninsured
 Adult visited a doctor in past 2 yrs
 Adults—unmet need

Quality

Adults 50+ received preventive care
 Diabetics received preventive care
 Children 19-35 months rec'd vaccination
 Children med dental health visits
 Children emotional behavioral developmental needs
 Surgical patients received antibiotics
 Adults with a usual source of care
 Children medical home
 Heart failure written instructions
 Patient satisfaction

Potentially Avoidable use of Hospitals and Costs of Care

Hospital admissions for pediatric asthma
 Asthmatics with an emergency room or urgent care visit
 Medicare hospital adm for ACSC's
 Medicare 30 hosp readmission rate
 Nursing Home residents with a hospital admission
 Nursing Home residents with a hospital readmission within 90 days
 Total single premium per enrolled employee at private sector establishments
 Total Medicare (A&B) reimbursements per employee

Equity

Income level
 Race/ethnicity
 Type of insurance

Healthy lives

Mortality amenable to health care
 Infant morality rate
 Breast ca mortality
 Colon ca mortality
 Adult with activity limitations

4.4 Health System Performance

4.4.2 THE DARTMOUTH ATLAS OF HEALTH CARE

Compiled by: Dartmouth Institute for Health Policy and Clinical Practice, Dartmouth Medical School

<http://www.dartmouthatlas.org/>

Executive Summary for 2008 release:

http://www.dartmouthatlas.org/atlas/2008_Atlas_Exec_Summ.pdf

Full 2008 report: *Tracking the Care of Patients with Severe Chronic Illness*

Context: The Dartmouth Atlas is a major research effort that for more than 20 years has documented variations in how medical resources are distributed and used in the U.S.

As stated: The project uses Medicare data to provide comprehensive information and analysis about national, regional, and local markets, as well as individual hospitals and their affiliated physicians. These reports, used by policymakers, the media, health care analysts and others, have radically changed our understanding of the efficiency and effectiveness of our health care system. This valuable data forms the foundation for many of the ongoing efforts to improve health and health systems across America.

Content:

Major focus areas: Conditions and procedures (medical and surgical hospital discharges), end-of-life care (hospital use, intensive care use), Medicare reimbursements (overall, inpatient stays, outpatient services, Part B reimbursements, home health services, hospice services, skilled nursing facilities). [The 2008] edition of the Dartmouth Atlas of Health Care describes how care for Medicare beneficiaries with serious chronic illness varies across U.S. states, regions and hospitals. The focus is on Medicare beneficiaries who have severe chronic illnesses and are in their last two years of life.

Comments: The Dartmouth Atlas of Health Care web site was listed as one of the “Top Five Health Care System Web Resources” by ABC News, the Kaiser Family Foundation and USA Today in the special series “Prescription for Change.” Dartmouth Atlas Data were used to launch a national campaign by the Robert Wood Johnson Foundation to improve the quality of health care with intensive projects funded in 14 communities.

<http://www.rwjf.org/files/research/statedatasheet.pdf>

The Atlas website provides access to all reports and publications, as well as interactive tools to allow visitors to view specific regions and perform their own comparisons and analyses.

EXHIBIT 4.4.2: DARTMOUTH ATLAS

Components of the Basic Reports for Medicare Patients with At Least One of Nine Common Chronic Conditions:

THE MEDICARE SPENDING REPORT:

Spending per Medicare patient during the last two years of life
 Total Medicare spending
 Inpatient site of care
 Outpatient site of care
 Skilled nursing/long-term care facility
 Home health care
 Hospice care
 Durable medical equipment

THE RESOURCE ALLOCATION REPORT:

Resource inputs per 1,000 Medicare patients during the last two years of life
 Hospital beds
 Intensive care unit (ICU) beds
 High-intensity ICU beds
 Intermediate-intensity ICU beds
 Full-time equivalent (FTE) physician labor
 All physicians
 Primary care physicians
 Medical specialists
 Registered nurses (RNs) required under proposed federal standards

THE PATIENT EXPERIENCE REPORT:

Care during the last six months of life
 Average number of days spent in hospital per patient
 Average number of physician visits per patient
 Percent of patients seeing ten or more physicians
 Terminal care
 Percent of deaths associated with intensive care
 Percent of patients enrolled in hospice
 Average patient co-payments for physician care and durable medical equipment during the last two years of life

4.4 Health System Performance

4.4.3 NATIONAL HEALTHCARE QUALITY REPORT

Compiled by: The Agency for Healthcare Quality and Research

U.S. Department of Health and Human Services (HHS) in collaboration with an HHS-wide Interagency Work Group

Link to report from:

<http://www.ahrq.gov/qual/qrdr07.htm>

Link to PDFs

<http://www.ahrq.gov/qual/nhqr07/nhqr07.pdf>

Context: The following is the stated purpose of the National Healthcare Quality Report:

Since 2003, the Agency for Healthcare Research and Quality (AHRQ), together with its partners in the Department of Health and Human Services (HHS), has reported on progress and opportunities for improving health care quality. With this fifth annual *National Healthcare Quality Report* (NHQR), these reports will have provided more than 50,000 data points about health care quality in the United States. Has it made a difference? Have Federal and State governmental agencies, provider organizations, insurers, and employers made progress in improving health care quality and safety? While every previous release of the NHQR has attempted to summarize the direction in which health care quality is going, this fifth report tries to summarize the progress that has been made and the remaining challenges to improve health care quality in this Nation.

The NHQR is built on 218 measures categorized across four dimensions of quality—effectiveness, patient safety, timeliness, and patient centeredness. This year's report focuses on the state of health care quality for a group of 41 core report measures that represent the most important and scientifically credible measures of quality for the Nation, as selected by the HHS Interagency Work Group. The distillation of 42 core measures for the 2007 report provides a more readily understandable summary and explanation of the key results derived from the data. While the measures selected for inclusion in the NHQR are derived from the most current scientific knowledge, this knowledge base is not evenly distributed across health care. The analysis in the following pages centers on measures for which data are available from the baseline year of 2000 or 2001 and the comparison year of 2004 or 2005.

Content:

EXHIBIT 4.4.3: NATIONAL HEALTHCARE QUALITY REPORT

(see indicators at <http://www.ahrq.gov/qual/nhqr07/Core.htm>)

4.4.4 NATIONAL HEALTHCARE DISPARITIES REPORT

Compiled by: The Agency for Healthcare Quality and Research

on behalf of the U.S. Department of Health and Human Services (HHS) and in collaboration with an HHS-wide Interagency Work Group

Link to both reports from: <http://www.ahrq.gov/qual/qdr07.htm>

Context: The National Healthcare Disparities Report states as its purpose the following: The NHDR provides a comprehensive national overview of disparities in health care among racial, ethnic, and socioeconomic groups in the general U.S. population and within specific priority populations, and it tracks the progress of activities to reduce disparities. The NHDR tracks disparities related to the quality of and access to health care.

This fifth report attempts to answer the following question: Are we getting better at addressing disparities in the quality of and access to health care for priority populations in America? To do this, the report examines a set of 42 measures of quality and 8 measures of access. For each measure, the 2007 NHDR attempts to present a snapshot of the gaps between each racial, ethnic, and socioeconomic priority group and a comparison group. More importantly, where gaps exist, this report attempts to systematically discuss whether these gaps are getting bigger or smaller.

Measures of health care quality address the extent to which providers and hospitals deliver evidence-based care for specific services, as well as the outcomes of the care provided. They are organized around four dimensions of quality—effectiveness, patient safety, timeliness, and patient centeredness—and cover four stages of care—staying healthy, getting better, living with illness or disability, and coping with the end of life. Measures of health care access include assessments of how easily patients are able to get needed health care and their actual use of services. They are organized around two dimensions of access—facilitators and barriers to care and health care utilization.

The NHDR is complemented by its companion report, the *National Healthcare Quality Report* (NHQR), which uses the same quality measures as the NHDR to provide a comprehensive overview of the quality of health care in America. Both reports measure health care quality and track changes over time, but with different orientations. The NHQR addresses the current state of health care quality and the opportunities for improvement for all Americans as a whole

Content:

EXHIBIT 4.4.4: NATIONAL HEALTHCARE DISPARITIES REPORT

(see indicators at <http://www.ahrq.gov/qual/nhdr07/Core.htm>)

4.4 Health System Performance

4.4.5 ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT— HEALTH CARE QUALITY INDEX

http://www.oecd.org/document/34/0,3343,en_2825_495642_37088930_1_1_1_1,00.html

Methods report (January 2006), including conceptual framework:

<http://www.oecd.org/dataoecd/1/34/36262514.pdf>

Context: The HCQI Project states that it will eventually represent “the largest effort, in terms of the number of quality indicators and the number of countries, to assess international health care quality that has ever been undertaken.” The objective of the HCQI is to track health care quality by developing a set of indicators that are:

- Based on comparable data.
- Can be used to raise questions for further investigation in quality differences across countries.
- Build upon two pre-existing international collaborations (organized by The Commonwealth Fund of New York (5 countries) and the Nordic Minister Council Working Group on Quality Measurement (6 countries) and currently involves the following 23 countries: Australia, Austria, Canada, Czech Republic, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, Portugal, Slovak Republic, Spain, Sweden, Switzerland, United Kingdom, and the United States.

Conceptual approach is referenced in Section 5.0, Figure 6.

The stated criteria for indicator selection (explained fully in the methods report cited above) includes three main criteria:

“...the importance of what is being measured; the scientific soundness of the measure; and, the feasibility/cost of obtaining data. [The] methods paper reviews types of indicators, the proposed scope of the measure set, criteria for selecting indicators and other issues such as: geographical coverage (national representativeness), overall number of indicators to be considered, changes in the set of indicators over time and composite measures.”

Content:

Focus: Effectiveness, Safety, and Responsiveness of health care.

Number of Indicators: 13

Comments: Methods paper reviews concepts used to frame health system performance that were considered during the process of selecting the focus areas and indicators (see Arah 2006).

**EXHIBIT 4.4.5: OECD—HEALTH CARE QUALITY INDEX
(COMPARABLE AMONG 23 COUNTRIES)**

Breast cancer survival

Mammography screening

Cervical cancer survival

Cervical cancer screening

Colorectal cancer survival

Vaccine preventable diseases

Coverage for basic vaccination

Asthma mortality rate

Acute Myocardial Infarction (AMI)

30-day mortality rate

Stroke 30-day case fatality rate

Waiting time for femur fracture surgery

Influenza vaccination for adults over 65

Smoking rates

4.4 Health System Performance

4.4.6 FIVE MILLION LIVES

Compiled by: The Institute for Healthcare Improvement

In partnership with hospitals throughout the U.S.

Context: Based upon twelve interventions to prevent medical harm, the five million lives campaign seeks to prevent five million of the estimated 15 million incidents of medical harm expected to occur over a two year period.

Comments: This is a large private system effort to improve the quality and safety of the U.S. hospital care. It is aligned with national health care improvement initiatives from the IOM, AHRQ, CMS, JCAHO, National Hospital Quality Measures (JCAHO and CMS), American Heart Association, CDC, National Patient Safety Foundation, and others. (See IHI website for a listing of quality/safety indicators used by these organizations.)

EXHIBIT 4.4.6: FIVE MILLION LIVES CAMPAIGN

Domains (interventions):

1. Deploy rapid response teams to patients at risk of cardiac or respiratory arrest
2. Deliver reliable, evidence-based care for acute myocardial infarction
3. Prevent adverse drug events through drug reconciliation (reliable documentation of changes in drug orders)
4. Prevent central line infections
5. Prevent surgical site infections
6. Prevent ventilator-associated pneumonia
7. Prevent pressure ulcers
8. Reduce methicillin-resistant *Staphylococcus aureus* (MRSA) infection
9. Prevent harm from high-alert medications
10. Reduce surgical complications
11. Deliver reliable, evidence-based care for congestive heart failure
12. Get boards on board

Possible Measures

Number of incidents prevented
Number of hospitals participating

See AHRQ and others, for specific measures on patient safety, effective care, patient centered care, etc.

4.4.7 PATIENT SAFETY IN AMERICAN HOSPITALS STUDY

Compiled by: HealthGrades

<http://www.healthgrades.com/media/dms/pdf/patientsafetyinamericanhospitalsstudy2006.pdf>

Context: Indicators for patient deaths and errors in U.S. hospitals. First report card to evaluate and publish safety indicators for each state and every non-federal hospital. Study based upon research by the Agency for Healthcare Research and Quality (AHRQ) to define and develop methods for identifying medical error. Evaluation of patient safety performance used 16 Patient Safety Indicators (PSIs) developed by the AHRQ.

Content:

Focus: 16 PSIs, a composite measure to rank states and the performance of individual hospitals, cost of medical errors.

EXHIBIT 4.4.7: PATIENT SAFETY IN AMERICAN HOSPITALS STUDY

Patient safety indicators:

Accidental puncture or laceration	Post-operative hip fracture
Complications of anesthesia	Post-operative physiologic and metabolic derangement
Death in low mortality DRGs	Post-operative pulmonary embolism or deep vein thrombosis
Decubitus ulcer	Post-operative respiratory failure
Failure to rescue	Post-operative sepsis
Foreign body left in during procedure	Post-operative abdominal wound dehiscence
Iatrogenic pneumothorax	Transfusion reaction
Selected infections due to medical care	
Post-operative hemorrhage or hematoma	

4.4 Health System Performance

4.4.8 HOSPITAL COMPARE

Compiled by: Centers for Medicare and Medicaid Services

<http://www.hospitalcompare.hhs.gov/Hospital/Search/Welcome.asp?dest=NAV|Home|Search|Welcome#TabTop>

Context: Consumer information about hospital quality and results on measures of effective care.

Stated purpose: [Hospital Compare is a tool that] *provides you with information on how well the hospitals care for all their adult patients with certain conditions or procedures. This information will help you compare the quality of care hospitals provide.*

Hospital Compare was created through the efforts of the Centers for Medicare & Medicaid Services (CMS), the Department of Health and Human Services, and other members of the Hospital Quality Alliance: Improving Care Through Information (HQA). Information on the website has been provided by hospitals that have voluntarily agreed to submit quality information for Hospital Compare to make public.

Content: Focus of indicators is in four areas: process of care, outcomes of care, patient experiences with care, and Medicare payment and volume. Comparisons to average of all U.S. hospitals and hospitals in state or region.

Comments:

Patient ratings provided by HCAHPS survey.

- All short-term, acute care, non-specialty hospitals are invited to participate in the HCAHPS survey. Most hospitals choose to participate.
- Hospitals that treat only certain types of patients or medical problem, called specialty hospitals, are not included in the HCAHPS survey. Examples include psychiatric hospitals or children's hospitals. Children's hospitals are not included because the HCAHPS survey asks about adult care only.

EXHIBIT 4.4.8: HOSPITAL COMPARE (CMS) INDICATOR SET

Hospital Process of Care Measures:

- Eight measures related to heart attack care
- Four measures related to heart failure care
- Seven measures related to pneumonia care
- Five measures related to surgical infection prevention

Hospital Outcome of Care Measures:

- 30-day mortality (following discharge)

Survey of Patients' Hospital Experiences:

(Ten topics related to communication, responsiveness, respect, environment, pain control, follow-up care, overall rating)

Medicare Payment and Volume:

- Average Medicare payments
- Range of payments—25th–75th percentiles

4.4 Health System Performance

4.4.9 TRENDS AND INDICATORS IN THE CHANGING HEALTH CARE MARKETPLACE CHARTBOOK

Compiled by: The Kaiser Family Foundation

<http://www.health08.org/insurance/7031/index.cfm>

Context: Information on key trends in the health care marketplace including health spending, the structure of the health care marketplace, and health plan and provider relationships.

Content: Focus areas: Seven sections including Trends in Health Care Spending and Costs (Including Prescription Drugs), Trends in Health Insurance Enrollment, Trends in Health Insurance Premiums, Trends in Health Insurance Benefits, Trends in the Structure of the Health Care Marketplace, Trends in Health Plan and Provider Relationships, and Implications of Health Market Trends for Consumers and the Safety Net.

Number of indicators: Approximately 80.

EXHIBIT 4.4.9: TRENDS AND INDICATORS IN A CHANGING HEALTH CARE MARKETPLACE CHARTBOOK

(see indicators at <http://www.health08.org/insurance/7031/ti2004-list.cfm>)

4.4.10 WORLD HEALTH ORGANIZATION'S WORLD HEALTH STATISTICS

Includes “Ten statistical highlights in global public health”

Compiled by: WHO Information Systems

Context:

Internationally comparative health statistics.

On-line statistics.

Content: Focus of Ten Statistical Highlights: Risk Factors, National Health Accounts, Health Systems

Focus of Report: Health status (mortality, morbidity), Health Services Coverage, Risk Factors, Health Systems, Inequities in health, Demographic and socioeconomic statistics.

Number of indicators: Approximately 75.

Comments: Selected statistics are comparable among over 190 countries.

EXHIBIT 4.4.10: WORLD HEALTH ORGANIZATION: TEN KEY INTERNATIONAL MEASURES (COMPARABLE TO 193 COUNTRIES)

Risk Factors

Children <5 stunted
 Children <5 underweight
 Children <5 overweight
 Low Birth Weight newborns
 Obesity—age > 15 years
 Drinking water sources—access to improved
 Sanitation—access to improved

National Health Accounts

Total expenditure on health (% of GDP)
 Total government health expenditure (% of government spending)
 Per capita total expenditure on health at international dollar rate

Health Systems

Health workforce
 Health expenditure ratios
 Health expenditure aggregates
 Coverage of vital registration—deaths
 Hospital beds

4.4 Health System Performance

4.4.11 HEALTH CARE COSTS 101

Compiled by: The California Healthcare Foundation

<http://www.chcf.org/topics/healthinsurance/index.cfm?itemID=133630>

EXHIBIT 4.4.11: HEALTH CARE COSTS 101

National Health Spending total (in billions)

as a share of GDP

per person

Major Programs as Share of Budget
Spending in Developed Countries
Spending Distribution by Category
Spending Summary
Spending Distribution by Contributors
Contributors, Spending Detail
Payment Sources, Contributor Detail
Historic Payment Sources

Spending Distribution: by payor

public vs. private

Out of Pocket vs. Private Insurance
Annual Growth Rates
in National Health Spending
spending vs. inflation
Drivers of Spending Growth
Cumulative Impact of Growth Rates
Annual Growth Rates by Health Spending Categories
Prescription Drugs by Sources of Payment
Impact of Medicare Part D
Annual Growth: Private Premiums vs. Annual
Growth
Annual Out-of-Pocket Spending

4.5 Other—Framing Approaches/Gaps/Frameworks

4.5.1 10 TOP PRIORITIES FOR PREVENTION

Compiled by: Trust for America’s Health

<http://healthyamericans.org/docs/?DocID=126> (last accessed June 16, 2008)

Comments: See Section 5.0, Figure 12

4.5.2 GOOD HEALTH COUNTS: A 21ST CENTURY APPROACH TO HEALTH AND COMMUNITY IN CALIFORNIA—PROTOTYPE INDICATOR SET

Compiled by: The Prevention Institute

http://www.preventioninstitute.org/documents/GoodHealthCounts_Final.pdf (last accessed June 16, 2008)

Comments: See Figure 13

EXHIBIT 4.5.2 CHOICE: CHANGING HEALTH OPPORTUNITIES IN COMMUNITY ENVIRONMENTS

CHOICE: Changing Health Opportunities in Community Environments <i>Prototype</i>		
EQUITABLE OPPORTUNITY FACTORS: Does everyone have access to opportunities?		
Elements of Community Health	Sample Indicators	Community Rating Options
Racial justice	Racially balanced schools; Discrimination; Infant death disparities; Workplace discrimination; Ethnic diversity of teachers; Equity in justice; Perceptions of racism	For each element or indicator: <ul style="list-style-type: none"> • Priority (high, medium, low) • How well the community is doing • Degree of freedom/opportunity to attain
Jobs and local ownership	Business ownership; New business development; Living wage; Unemployment/employment rates; Salaries; Community reinvestment; Local ownership of assets; Access to capital; Investment opportunities (e.g., loans); Community members with requisite skills	
Education	Reading level; School success (dropout/graduation); Teacher quality; Adult literacy; Readiness to learn; High school dropout rates; Teachers with advanced degrees; School readiness; People ready for employment; Percentage of parents reading daily to their children; Vocational training	

(Exhibit 4.5.2 continues on next page)

4.5 Other—Framing Approaches/Gaps/Frameworks

Elements of Community Health	Sample Indicators	Community Rating Options
PEOPLE FACTORS: Are people connected and engaged?		
Social networks and trust	Neighborhood involvement; Local/indigenous leadership; Willingness to intervene on behalf of the common good; Sense of community; Commitment to community among its members; Perceptions of social cohesion; Organizational resources and relations; Reciprocity/mutual obligation; Trust; Neighborhood social cohesion; Teen pregnancy; Single parent households	For each element or indicator: <ul style="list-style-type: none"> • Priority (high, medium, low) • How well the community is doing • Degree of freedom/opportunity to attain
Participation and willingness to act for the common good	Voter activity; Union activity; Understanding tax system; Commuting; Library participation; Volunteerism; Feeling of community; Involvement in community organizations; Institutional support for community service; Tendency to intervene or act to achieve community aims; Ability to solve problems; Access to resources	
Acceptable behaviors and attitudes	Belief in the moral order; availability of alcohol and/or cigarettes to minors; Drinking/driving arrests; Teen smoking rates; Teen pregnancy	
PLACE FACTORS: Is the community environment conducive to health?		
What's sold and how it's promoted	Residents who eat 5 servings of fruits and vegetables; Adequate food; # & types of supermarkets; Alcohol outlet density; Ease of access to shops and services; Perceived availability of certain products; Billboard ads; Availability and promotion of safe, healthy, affordable, culturally appropriate products and services (e.g., books and school supplies, sports equipment, arts and crafts supplies, and recreational items); Limited promotion and availability, or lack, of potentially harmful products and services (e.g., tobacco, firearms, alcohol and other drugs)	For each element or indicator: <ul style="list-style-type: none"> • Priority (high, medium, low) • How well the community is doing • Degree of freedom/opportunity to attain
Look, feel and safety	Tree planting; Well-maintained; Blight; Abandoned buildings; Life on the street (foot traffic, etc.); Nightlife; Local shops; Tree-lined streets; Architectural aesthetic; Community plan; Response times; Shelters, Community networks	
Parks and open space	Conservation and park land; Places to play; Public land; Wildlife habitat; Outdoor recreation; Open space near urban villages; Safe, clean parks; Green space; outdoor space that is accessible to the community; Natural/open space that is preserved through the planning process	
Getting around	Public transit use; Bikeable streets; Walkable streets; Pedestrian and bicycle friendly streets; Access to transportation; Public transport availability; Transportation for people with disabilities; Commute times; Travel time to work; Average weekday bus ridership per 1,000	
Housing	Housing affordability; Housing availability; Owner-occupied; Rental costs; Density; People per unit; Commute times	
Air, water and soil	Local wild salmon runs; Resident toxic exposure; Asthma rates; Air quality; Beach closures; Water use; Recycling; Water quality; Pollution in neighborhoods; Farmland treated with chemicals	
Arts and culture	Employment in arts and culture; Participation in life-enriching activity; Murals and exhibitions; Participation in arts and culture; Funding for arts and culture	

4.5 Other—Framing Approaches/Gaps/Frameworks

Elements of Community Health	Sample Indicators	Community Rating Options
MEDICAL SERVICES: Do medical services meet the needs of the community?		
Preventive services	Prenatal care; Immunization rates; Vaccination rates for flu and pneumonia; Mammography; Wellness care; Dental cleanings and exams; Number of preventable ER visits; Number of preventable hospitalizations	For each element or indicator: <ul style="list-style-type: none"> • Priority (high, medium, low) • How well the community is doing • Degree of freedom/opportunity to attain
Access	Health insurance rates; Access to dental care; Regular source of care; Relationship with a doctor or physician	
Treatment quality, disease management, in-patient services and alternative medicine	Number of preventable ER visits; Number of preventable hospitalizations; Length of stay	
Cultural competence	Race/ethnicity of providers, race/ethnicity of providers matches community; Cultural barriers; Language of providers/translators	
Emergency response	Response times; Call-response rates	

4.5 Other—Framing Approaches/Gaps/Frameworks

4.5.3 ENVIRONMENTAL PUBLIC HEALTH INDICATORS

Compiled by: U.S. Centers for Disease Control and Prevention, National Center for Environmental Health, Environmental Hazards and Health Effects Program

<http://www.cdc.gov/nceh/indicators/summary.htm> (last accessed June 16, 2008)

Comments: See prototype indicators in Exhibit 4.5.3 attached

EXHIBIT 4.5.3: SUMMARY OF CORE ENVIRONMENTAL PUBLIC HEALTH INDICATORS

Source: Environmental Public Health Indicators Project; CDC, NCEH, EHHE; January 2006

Topics:

Air, Ambient (Outdoor)
Air, Indoor
Disasters
Lead (Pb)
Noise
Pesticides
Sentinel Events
Sun and Ultraviolet Light
Toxics and Waste
Water, Ambient
Water, Drinking

Hazard Indicators (potential for exposure to contaminants or hazardous conditions):

Criteria pollutants in ambient air
Hazardous or toxic substances released in ambient air
Residence in non-attainment areas (for criteria air pollutants)
Motor vehicle emissions
Tobacco smoke in homes with children
Residence in a flood plain
Pesticide use and patterns of use
Residual pesticide or toxic contaminants in foods
Ultraviolet light
Chemical spills
Monitored contaminants in ambient and drinking water
Point-source discharges into ambient water
Contaminants in shellfish and sport and commercial fish
Exposure Indicator (biomarkers of exposure)
Blood lead level (in children)

Health Effect Indicators (occurrence of morbidity or mortality attributed to exposure):

Carbon monoxide poisoning
Deaths attributed to extremes in ambient temperature
Lead poisoning (in children)
Noise-induced hearing loss (non-occupational)
Pesticide-related poisoning and illness
Illness or condition with suspected or confirmed environmental contribution (a case or an unusual pattern)
Melanoma
Possible child poisoning (resulting in consultation or emergency department visit)
Outbreaks attributed to fish and shellfish
Outbreaks attributed to ambient or drinking water contaminants

Intervention Indicators (programs or official policies addressing environmental hazards):

Programs that address motor vehicle emissions
Alternate fuel use in registered motor vehicles
Availability of mass transit
Policies that address indoor air hazards in schools
Laws pertaining to smoke-free indoor air
Indoor air inspections
Emergency preparedness, response, and mitigation training programs, plans, and protocols
Compliance with pesticide application standards (among pesticide workers)
Activity restrictions in ambient water (health-based)
Implementation of sanitary surveys
Compliance with operation and maintenance standards for drinking water systems
Boil-water advisories

4.5.4 EARLY CHILDHOOD INDICATORS—PROJECT THRIVE PROTOTYPE

Compiled by: National Center for Childhood Poverty, Columbia University, Mailman School of Social Work

http://www.nccp.org/publications/pub_822.html (last accessed June 16, 2008)

Comments: See prototype indicators in Exhibit 4.5.4 attached.

Proposed Indicator Set for Early Childhood Comprehensive Systems (Draft 1-8-09)

Indicator / Performance Measure <i>(all rates/percents)</i>	MCHB [†]	IOM [†]	NCCP [†]	State School Readiness Project [§]	State ECCS	50-state data exist
LEGEND: ✓ yes * measure with same meaning						
Overarching Outcome Measures						
Children with reading proficiency in fourth grade as measured by the state's proficiency tests.				✓	✓	Y
Children ready in all five domains of development as measured by kindergarten surveys/assessments.					✓	
Children with newly diagnosed developmental delays at kindergarten entrance.					✓	
Population-based Risk Measures						
Children who have multiple risk factors (4 or more demographic risk factors – poverty, parent single and or non English speaking, less than HS education, no employment).			✓		*	Y
Children birth to six whose racial/ethnic origin is non-white, non-Hispanic.			✓		✓	Y
Children birth to six living in extreme poverty (family income at or below 50% of the federal poverty level).		✓	✓			Y
Children birth to six living in families with income below the poverty threshold.		✓	✓	✓	✓	Y
Births under 2500 grams (5.5 pounds)	✓			✓	✓	Y
Births to teens ages 15-17 per 1,000 girls.	✓			✓	✓	Y
Infants born to mothers who receiving late or no prenatal care.				✓	✓	

(Exhibit 4.5.4 continues on next page)

4.5 Other—Framing Approaches/Gaps/Frameworks

Indicator / Performance Measure <i>(all rates/percents)</i>	MCHB [†]	IOM [†]	NCCP [‡]	State School Readiness Project [§]	State ECCS	50-state data exist
LEGEND: ✓ yes * measure with same meaning						
Health and Medical Home Measures						
Children under age 6 without health insurance.			✓	✓	✓	Y
Children under age 6 with medical homes.		✓				
Percent of toddlers (ages 13 to 36 months) who receive at least one EPSDT periodic screen in a year.	*		✓		✓	Y
Young children (ages 19-36 months) who complete the basic series of age appropriate immunizations against Measles, Mumps, Rubella, Polio, Diphtheria, Tetanus, Pertussis, Haemophilus Influenza, and Hepatitis B. (series 4-3-1-3-3.)	✓				✓	Y
Children ages 2-6 years receiving dental care in the last 12 months.		✓			✓	Y
Children ages 2 to five receiving WIC services with a BMI at or above the 85th percentile.	✓				✓	Y
Mothers who breastfeed their infants at 6 months of age.	✓				✓	
Children hospitalized for asthma (ICD-9 Codes: 493.0-493.9) per 100,000 children less than five years of age.	✓				✓	Y
Children under age 6 with blood lead levels at or above 10 micrograms per deciliter.				✓	✓	Y
Children under 6 receiving developmental and behavioral screenings.						
Special Needs Measures						
Children birth to 3 years who receive Part C Early Intervention Services.			✓			Y
Children birth to age three with substantiated cases of abuse and neglect referred to Part C Early Intervention (based on CAPTA).		✓*	✓		✓	Y?
Children ages 3-5 enrolled in early childhood Part B Preschools special education programs.					✓	Y
Children with special health care needs age 0 to 6 who receive coordinated, ongoing, comprehensive care within a medical home.	✓				✓	Y?
Social-emotional Development and Mental Health Measures						
Substantiated cases of child abuse and neglect among children birth to age 6.		✓*		✓	✓	Y
Children birth to age 6 in out-of-home placement (foster care) that had no more than two placements in a 24-month period.				✓	✓	Y
Children under age 6 who are expelled from child care or preschools due to behavioral problems.					✓	
Mothers of children under age six who are screened and referred for depression.					✓	

Indicator / Performance Measure <i>(all rates/percents)</i>	MCHB [*]	IOM [†]	NCCP [‡]	State School Readiness Project [§]	State ECCS	50-state data exist
LEGEND: ✓ yes * measure with same meaning						
Early Care and Education Measures						
Children attending early care and education centers with high quality ratings (slots).					✓	
Children ages 3 and 4 years enrolled in a center-based early childhood care and education program (including child care centers, nursery schools, preschool programs, Head start programs, and pre-kindergarten programs).				✓	✓	Y
Children under age 6 receiving child care subsidies.			*	✓	✓	Y
Child care centers that have access to ongoing health or mental health consultation.				*		
Infants and toddlers (birth to age 3) in poverty who are enrolled in Early Head Start.				✓		Y
Early childhood teachers with a bachelor's degree and specialized training in early childhood.				✓	✓	
Child care centers accredited by the National Association for the Education of Young children (NAECY).				✓	✓	Y
Family child care homes accredited by the National Association for Family and child Care (NAFCC).				✓	✓	Y
Family Support and Parenting Measures						

* Maternal and Child Health Services Title V Block Grant Program. Title V Information System Measurement and Indicator Data.

<https://perfdata.hrsa.gov/mchb/mchreports/Search/core/measureindicatemenu.asp>

† Institute of Medicine. *Children's Health, The Nation's Wealth*.

‡ National Center for Children in Poverty. *Improving the Odds*.

§ State School Readiness Indicators Project.

4.5.5 BIG CITIES HEALTH INVENTORY—THE HEALTH OF URBAN USA

Compiled by: National Association of City and County Health Officials (NACCHO)

http://www.naccho.org/pubs/product1.cfm?Product_ID=202 (last accessed June 16, 2008)

Comments: See Section 5.0, Figure 14

5.0 Figures

FIGURE 1: DETERMINANTS OF HEALTH (EVANS AND STODDAT, 1990)

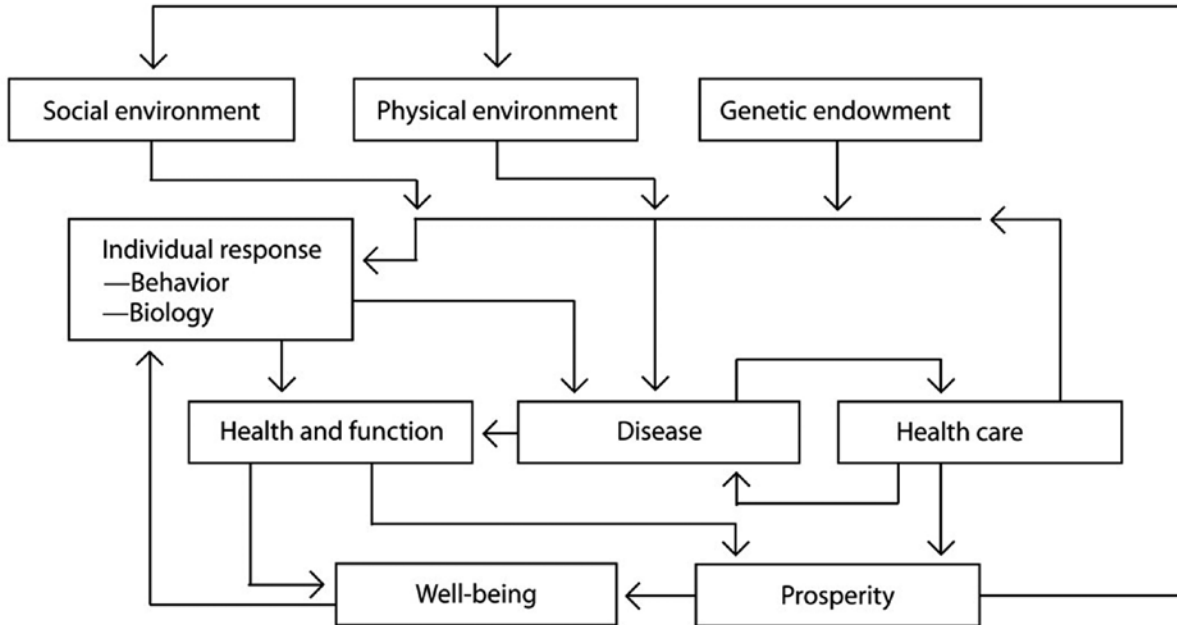


FIGURE 2: SOCIAL DETERMINANTS—COMMUNITY GUIDE (ANDERSON, 2003)

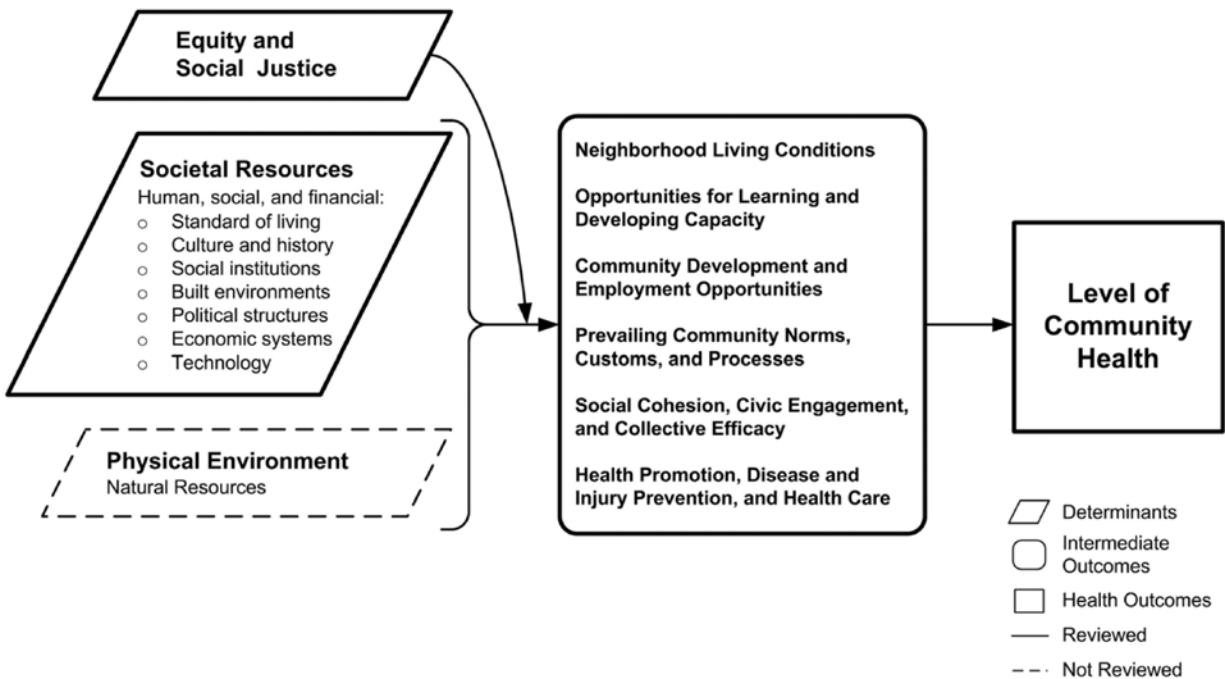


FIGURE 3: LIFE COURSE HEALTH DEVELOPMENT (IOM, 2004)

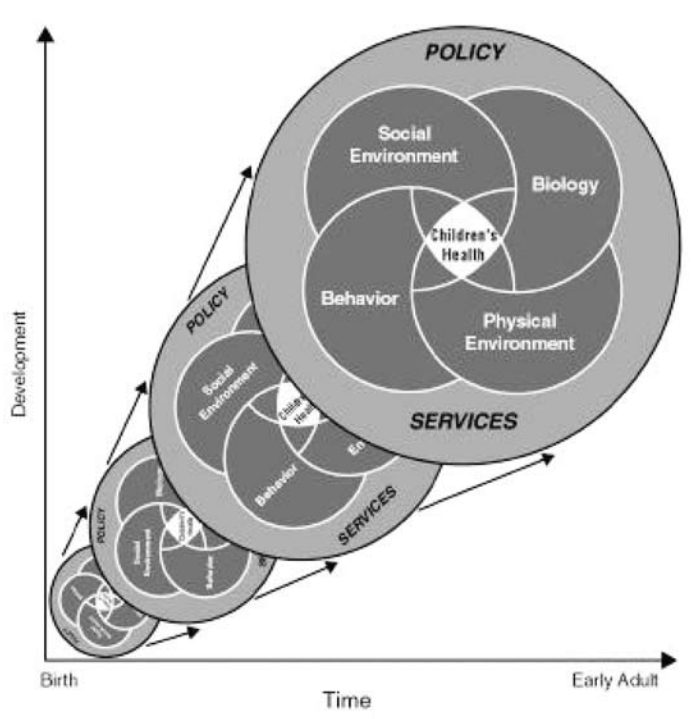


FIGURE 4: EARLY EXPERIENCES AND HEALTH (RWJ, 2008)



FIGURE 5: SIX KEY DIMENSIONS OF HEALTH CARE (IOM COMMITTEE ON THE QUALITY OF HEALTH CARE, 2001)

Establishing Aims for the 21st-century Health Care System

The committee proposes six aims for improvement to address key dimensions in which today's health care system functions at far lower levels than it can and should. Health care should be:

- *Safe*—avoiding injuries to patients from the care that is intended to help them.
- *Effective*—providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and overuse, respectively).
- *Patient-centered*—providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.
- *Timely*—reducing waits and sometimes harmful delays for both those who receive and those who give care.
- *Efficient*—avoiding waste, including waste of equipment, supplies, ideas, and energy.
- *Equitable*—providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status.

The CIW will treat beneficial activities as assets and harmful ones as deficits. It will, for example:

- distinguish between good things like health and clean air, and bad things, like sickness and pollution;
- promote volunteer work and unpaid care-giving as social goods, and overwork and stress as social deficits;
- put a value on educational achievement, early childhood learning, economic and personal security, a clean environment, and social and health equity; and,
- encourage a better balance between investment in health promotion and spending on illness treatment.

FIGURE 6: HEALTH SYSTEM PERFORMANCE—HEALTH CARE QUALITY INDEX (OECD)

Conceptual framework for OECD HCQI Project

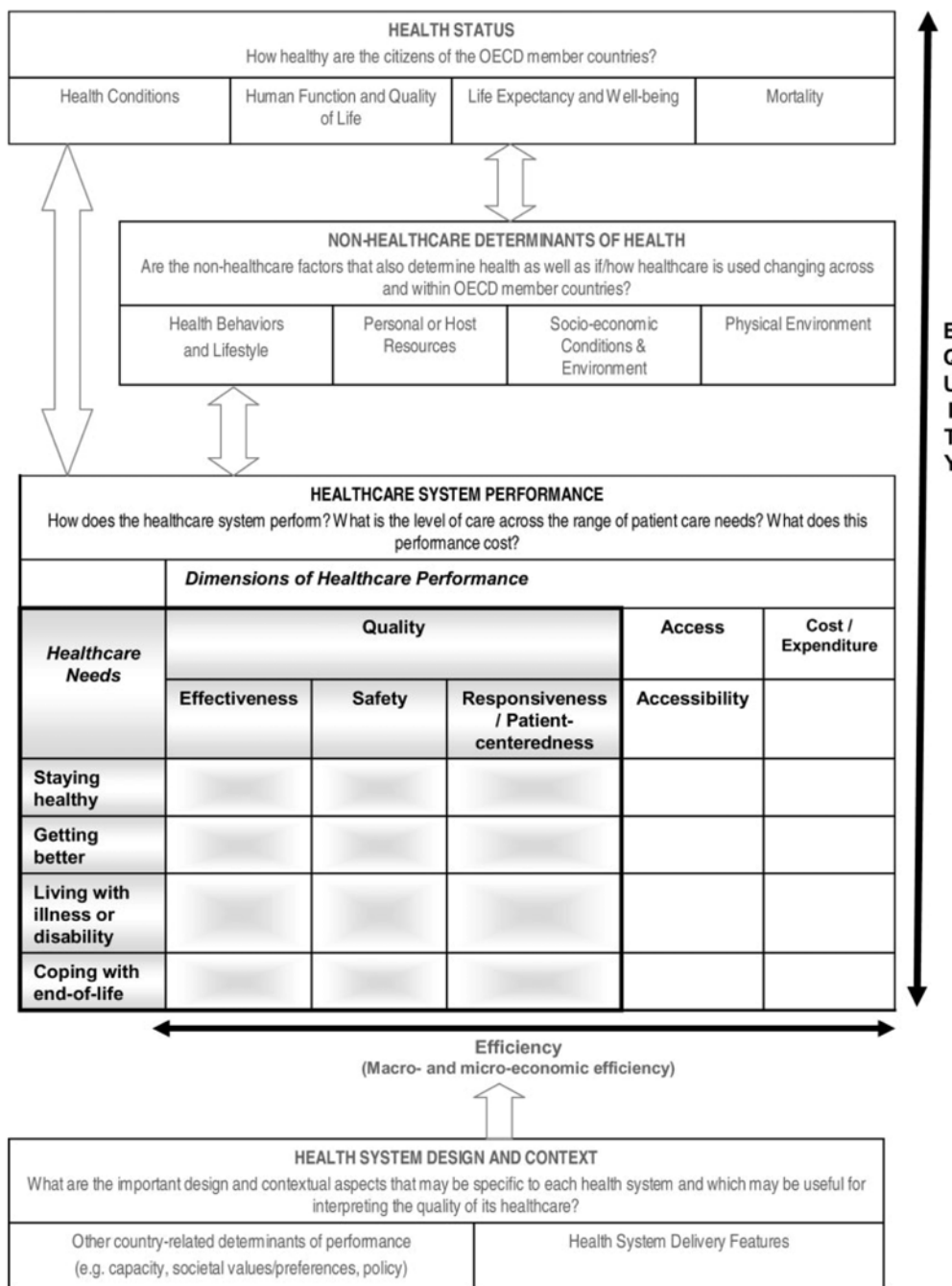


Figure 5 Conceptual framework for Organization for Economic Cooperation and Development Health Care Quality Indicator (HCQI) Project. The shaded area represents the current focus of the HCQI Project.

FIGURE 7: OECD FACTBOOK: QUALITY OF LIFE

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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- Infant mortality
- Obesity

LEISURE

- Tourism: Hotel nights
- Recreation and culture

SOCIETY

- Youth inactivity
- Income inequality
- Prison population

TRANSPORT

- Road network
- Road motor vehicles and road fatalities

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FIGURE 8: MEASURES OF AUSTRALIA'S PROGRESS

	Individuals	The Economy and Economic Resources	The Environment	Living Together
Headline dimensions	Health	National income	The natural landscape	Family, community and social cohesion
	Education and Training	Economic hardship	The air and atmosphere	Crime
	Work	National wealth	Oceans and estuaries	Democracy, governance and citizenship
		Housing		
		Productivity		
Supplementary dimensions	Culture and Leisure	Competitiveness and openness		Communication
		Inflation		Transport

FIGURE 9: CANADIAN INDEX OF WELL-BEING

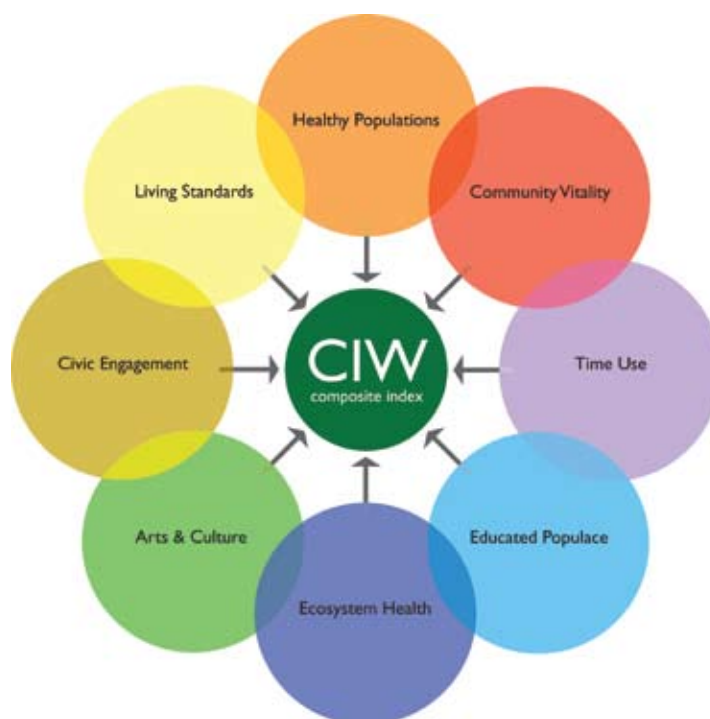


FIGURE 10: HOSPITAL CARE INTENSITY INDEX (THE DARTMOUTH ATLAS, 2008)

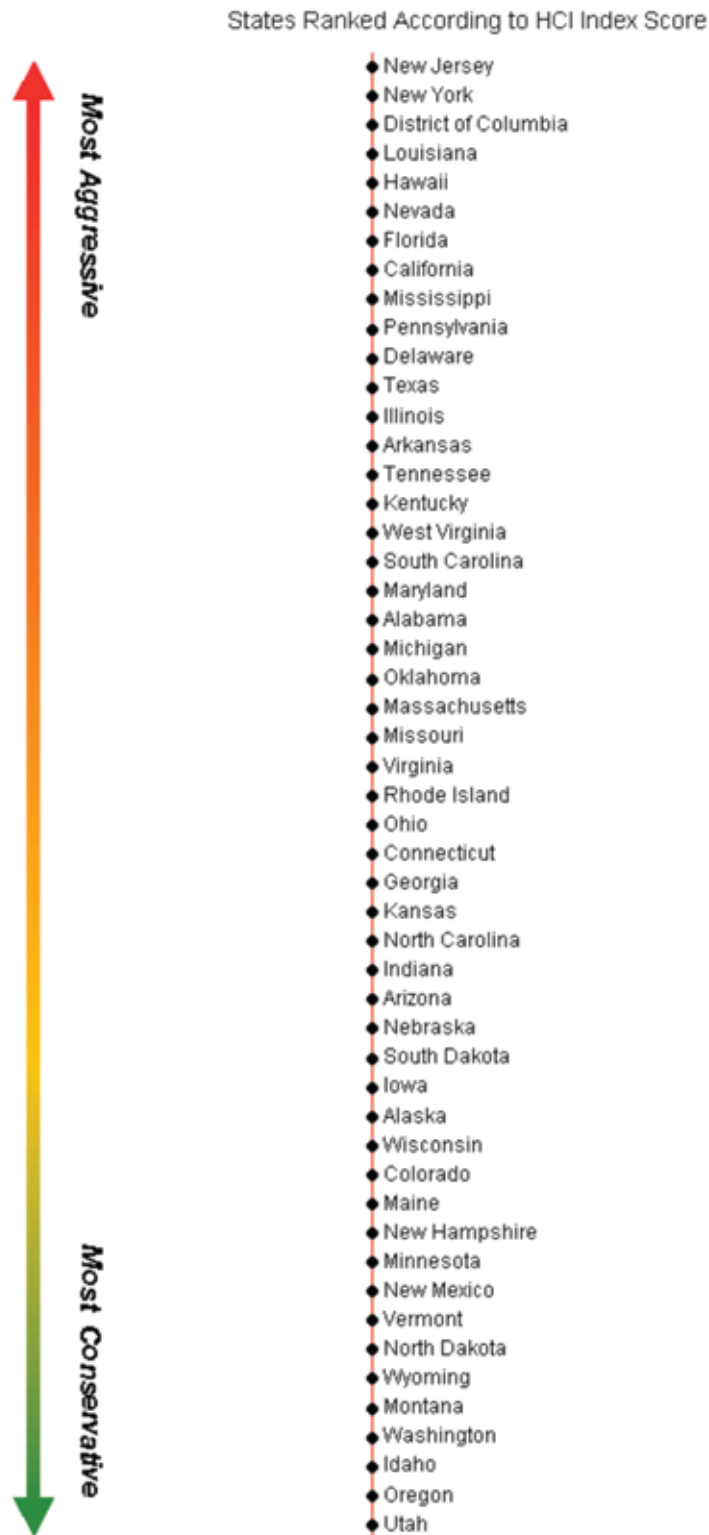


FIGURE 11: EXAMPLE OF STANDARD SELECTION CRITERIA

Final Criteria Guiding Selection of Leading Health Indicators, Committee on Leading Health Indicators for Healthy People 2010 (IOM, 1999)

1. Worth measuring—the indicators represent an important and salient aspect of the public’s health
2. Can be measured for diverse populations—the indicators are valid and reliable for the general population and diverse population groups
3. Understood by people who need to act—people who need to act on their own behalf or that of others should be able to readily comprehend the indicators and what can be done to improve the status of those indicators;
4. Information will galvanize action—the indicators are of such a nature that action can be taken at the national, state, local and community levels by individuals as well as organized groups and public and private agencies;
5. Actions that can lead to improvement are known and feasible—there are proven actions (e.g., personal behaviors, implementation of new policies, etc.) that can alter the course of the indicators when widely applied; and
6. Measurement over time will reflect results of action—if action is taken, tangible results will be seen indicating improvements in various aspects of the nation’s health.

FIGURE 12: FRAMING EXAMPLE: TRUST FOR AMERICA’S HEALTH

TRUST FOR AMERICA'S HEALTH (TFAH) HAS IDENTIFIED 10 TOP COMPONENTS OF AN EFFECTIVE NATIONAL PREVENTION STRATEGY:

- Promoting Disease Prevention
- Combating the Obesity Epidemic
- Preventing Tobacco Use and Exposure
- Preventing and Controlling Infectious Diseases
- Preparing for Potential Health Emergencies and Bioterrorism Attacks
- Recognizing the Relationship Between Health and U.S. Economic Competitiveness
- Safeguarding the Nation's Food Supply
- Planning for Changing Health Care Needs of Seniors
- Improving the Health of Low-Income and Minority Communities
- Reducing Environmental Threats

PLUS A CROSS-CUTTING RECOMMENDATION FOR:

- Holding Government Accountable for Protecting the Health of Americans

FIGURE 13: FRAMING EXAMPLE: PREVENTION INSTITUTE PROTOTYPE

CHOICE: Changing Health Opportunities in Community Environments (Sample indicators provided in Exhibit 4.5.2)

Equitable opportunity factors: Does everyone have access to opportunities?

- Racial justice
- Jobs and local ownership
- Education

People factors: Are people connected and engaged?

- Social networks and trust
- Participation and willingness to act for the common good
- Acceptable behaviors and attitudes

Place factors: Is the community environment conducive to health?

- What's sold and how it's promoted
- Look, feel and safety
- Parks and open space
- Getting around
- Housing
- Air, water and soil
- Arts and culture

Medical Services: Do medical services meet the needs of the community?

- Preventive services
- Access
- Treatment quality, disease management, in-patient services, and alternative medicine
- Cultural competence
- Emergency response

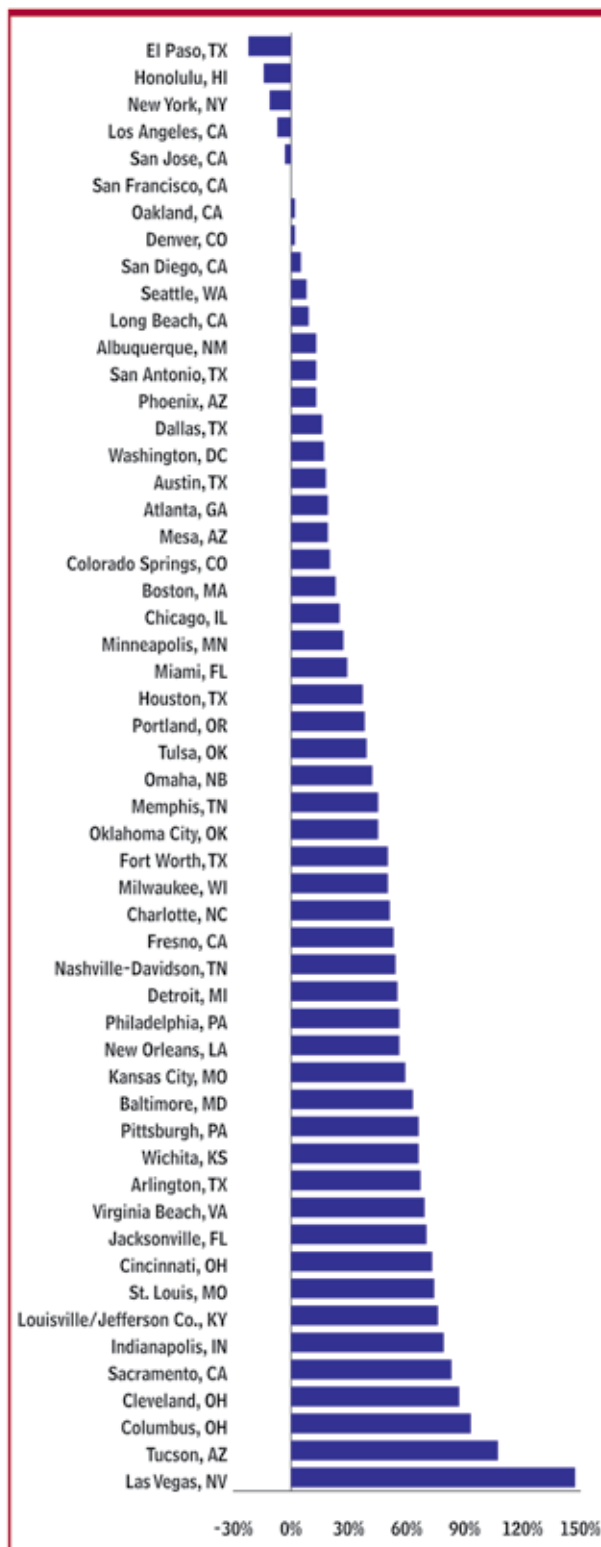
FIGURE 14: RANKING EXAMPLE: BIG CITIES INVENTORY

FIGURE 15: GRADES EXAMPLE: WISCONSIN

Health of Wisconsin Report Card 2007

Wisconsin's Report Card for Working-Age Adult Health

Mortality Rate		Percent of Population	Mortality Rate (Per 100000)	Grades			
Working-Age Adults (25-64)		100%	296		B		
Gender	Men	50%	367			C	
	Women	50%	225	A			
Education	High school or less	44%	459				F
	Some college/technical school	31%	212	A			
	College graduate	25%	188	A			
Type of county	Large urban (Milwaukee County)	17%	424			D	
	Suburban/urban	32%	247	A			
	Non-urban	37%	275		B		
	Rural	14%	319		B		
Race/ethnicity	African American/Black	5%	624				F
	Asian	2%	170	A			
	Hispanic/Latino	4%	1				
	Native American	1%	592				F
	White non-Hispanic	88%	279		B		

Unhealthy Days		Percent of Population	Unhealthy Days	Grades			
Working-Age Adults (25-64)		100%	5.3		B		
Gender	Men	50%	4.5	A			
	Women	50%	6.2				D
Education	High school or less	44%	6.2			C	
	Some college/technical school	31%	5.7			C	
	College graduate	25%	4.1	A			
Type of county	Large urban (Milwaukee County)	17%	6.1			C	
	Suburban/urban	32%	5.0		B		
	Non-urban	37%	5.2		B		
	Rural	14%	5.4		B		
Race/ethnicity	African American/Black	5%	8.4				F
	Asian	2%	1				
	Hispanic/Latino	4%	8.0				F
	Native American	1%	1				
	White non-Hispanic	88%	5.1		B		

Health Grade **B**

Health Disparity Grade **D**

FIGURE 16: GRADES EXAMPLE: GEORGIA

Health Disparities Reports



DeKalb County Minority Health Report Card

DeKalb County includes Avondale Estates, Chamblee, Clarkston, Decatur, Doraville, Lithonia, Pine Lake and Stone Mountain.

DeKalb County's Racial-Ethnic Diversity			Health Report Card	
Race	Number of Persons	Percentage of Population	Minority Health Outcome Category	County Grade
White	263,526	38.9%	Social and Economic Indicators	B-
African American or Black	377,038	55.6%	Mortality (Deaths)	C+
Hispanic or Latino	61,327	9%	Illness Events (Hospital Admits & Emergency Visits)	D
Asian	26,983	<1%	Prenatal Care & Birth Outcomes	D
American Indian	1,822	<1%	Primary Care Access	B
Other or Multi-Racial	37,395	<1%	Physician Racial-Ethnic Diversity	C
Populations are estimated based on the 2005 Census data			Mental Health Care Access	A-
This report card draws from detailed minority health data, from various sources. Unfortunately, data were insufficient to assess specific health behaviors in each county, or to reflect accurately the health barriers and inequities experienced by members of racial or ethnic sub-groups comprising less than 10% of Georgia's population, including Hispanic or Latino, Asian, and American Indian segments of our communities. The goal of the report and the county level report cards is not to stereotype or lump people in groups, but to identify pockets of inequality in health care and outcomes, and to catalyze action to achieve health equality for all Georgians.			Oral Health Care Access	Partial-County HPSA
			% Speaking non-English Language at Home	17.4%
			% Estimated to Have No Health Insurance	16.4%

Populations are estimated based on the 2005 Census data

This report card draws from detailed minority health data, from various sources. Unfortunately, data were insufficient to assess specific health behaviors in each county, or to reflect accurately the health barriers and inequities experienced by members of racial or ethnic sub-groups comprising less than 10% of Georgia's population, including Hispanic or Latino, Asian, and American Indian segments of our communities. The goal of the report and the county level report cards is not to stereotype or lump people in groups, but to identify pockets of inequality in health care and outcomes, and to catalyze action to achieve health equality for all Georgians.

What do the Grades Mean?

These grades are a composite grade based on both the minority health outcome (African-American rates of preventable death, for example) and the county's level of racial inequality, typically measured by a ratio of African American to white death rates (black-white rate ratio).

- A** Excellent Outcomes with Good to Excellent Level of Equality
- A-** Excellent Outcomes but Some Racial Inequality
- B+** Above-Average Outcomes with Good to Excellent Level of Equality
- B** Above-Average Outcomes but Some Racial Inequality
- B-** Above-Average Outcomes but Moderately High Racial Inequality, or Below-Average Outcome with High Level of Equality (white outcomes equally bad)
- C+** Below-Average Outcomes but Some Racial Inequality
- C** Below-Average Outcomes with Moderately High Racial Inequality, or Above-Average Outcomes but Severe Racial Inequality
- C-** Below-Average Outcomes made worse by Severe Racial Inequality
- D+** Poor Outcomes made worse by Moderately High Racial Inequality
- D** Poor Outcomes made worse by Extremely Severe Racial Inequality
- F** Extremely Poor Outcomes and/or Extremely Severe Racial Inequality

Action Steps:

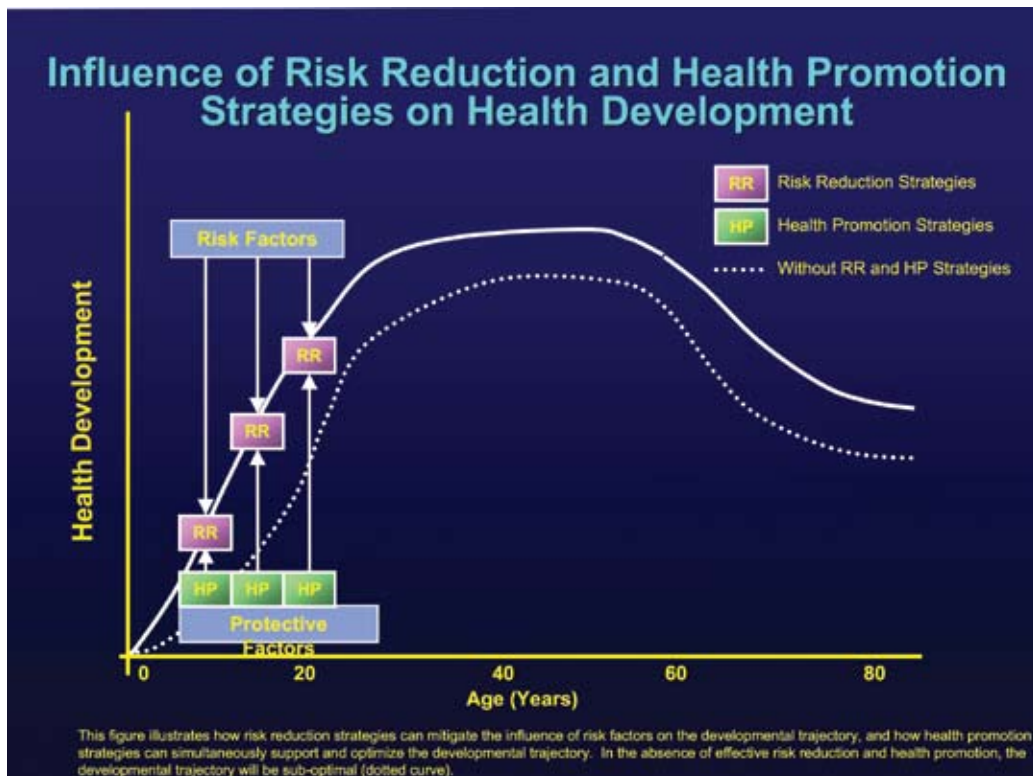
1. Review your county's detailed minority health and health disparities report available at www.dch.ga.gov to find specific indicators of success, and those needing improvement.
2. Disseminate the report to all segments of the community: Convene meetings of all interested stakeholders from the health sector (hospital, emergency department, public health, community health center, free clinics, private practice health professionals, etc.) as well as from stakeholders outside the health sector (business, government, elected officials, faith communities, teachers and school leaders, consumer advocates, etc.).
3. Develop a list of priorities for indicators needing improvement which might be amenable to specific interventions. Get buy-in from key stakeholders in the community, and together develop an action plan for intervention.
4. Commit to specific, measurable goals for improving performance on key indicators to be achieved within a specific time-frame; Hold regular follow-up meetings, and review frequent data updates on these indicators to assess progress and re-tune the interventions.

Seek technical assistance from the Office of Health Improvement by contacting James Peoples at 404-656-6684 or by e-mail at gahealthequity@dch.ga.gov.

FIGURE 17: USE OF GIS AND MAPS: U.S. LIFE EXPECTANCY BY COUNTRY



FIGURE 18: HEALTH TRAJECTORIES (HALFON, 2005)



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Figure 5: IOM, 2001

Figure 6: Arah, 2006

Figure 7: OECD Factbook: Quality of Life. Last accessed on June 15, 2008 at <http://miranda.sourceoecd.org/vl=2462720/cl=11/nw=1/rpsv/factbook/>

Figure 8: Measures of Australia's Progress Last accessed on June 15, 2008 at [http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1383.0.55.001Main%20Features72008%20\(Edition%201\)?opendocument&tabname=Summary&prodno=1383.0.55.001&issue=2008%20\(Edition%201\)&num=&view=](http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1383.0.55.001Main%20Features72008%20(Edition%201)?opendocument&tabname=Summary&prodno=1383.0.55.001&issue=2008%20(Edition%201)&num=&view=)

Figure 9: Canadian Index of Well-Being Last accessed on June 15, 2008 at http://www.atkinsonfoundation.ca/ciw/SkinnedFolder_1191957711895

Figure 10: Hospital Care Intensity Index Last accessed on June 15, 2008 at http://cecsweb.dartmouth.edu/atlas08/datatools/hci_s1.php

Figure 11: Example of Standard Selection Criteria. Final Criteria Guiding Selection of Leading Health Indicators. IOM 1999. (See Chrvla, et al, 1999).

Figure 12: Framing example: Trust for America's Health Last accessed on June 15, 2008 at <http://healthyamericans.org/healthieramerica/10ThingsBook.pdf>

Figure 13: Prevention Institute, 2008.

Figure 14: Big Cities Inventory. Last accessed on June 15, 2008 at <http://www.naccho.org/topics/crosscutting/documents/BCHI07COLORFINAL.pdf>

Figure 15: Health of Wisconsin. Last accessed on June 15, 2008 at http://www.pophealth.wisc.edu/UWPHI/research/report_card_2007/report_card_2007.htm

Figure 16: Georgia Health Disparities Report. Last accessed on June 15, 2008 at http://dch.georgia.gov/vgn/images/portal/cit_1210/21/33/111684019Georgia_Health_Equity_Initiative_Health_Disparities_Report_2008.pdf

Figure 17: Accessed on April 27, 2008 at <http://www.nytimes.com/2008/04/27/weekinreview/27sack.html>

Figure 18: Halfon, 2005

Appendix A: Links to Technical Data about Data Sources

The following links and references provide additional information about the characteristics (e.g., technical details, methods, quality) about data sources and health indicators.

OVERVIEW OF MANY DATA SOURCES USED FOR HEALTH INDICATORS:

Health, U.S. 2007 Chartbook
<http://www.cdc.gov/nchs/data/hs/hs07.pdf#tocappi>

LINKS TO VARIOUS DATA SOURCES AND METHODS REPORTS:

National Survey on Drug Abuse and Health
Substance Abuse and Mental Health Services Administration
<http://www.oas.samhsa.gov/nhsda/2k2nsduh/Results/appG.htm>
and
<http://www.icpsr.umich.edu/cocoon/SAMHDA/STUDY/21240.xml>

American Community Survey
<http://www.census.gov/acs/www/index.html> and
<http://www.childstats.gov/americaschildren/surveys.asp#acs>

National Health and Nutrition Examination Survey (NHANES)
<http://www.childstats.gov/americaschildren/surveys.asp#nhnes>

YRBS -Methods
<http://www.cdc.gov/mmwr/PDF/rr/rr5312.pdf>

CDC. Selected Metropolitan/Micropolitan Area Risk Trends (SMART). Atlanta, GA: US Department of Health and Human Services, CDC, National Center for Chronic Disease Prevention and Health Promotion, 2004. Available at <http://apps.nccd.cdc.gov/brfss-smart/index.asp>.

Data Source Descriptions for Indicators used in America's Children
<http://www.childstats.gov/americaschildren/surveys.asp>

Data Source Descriptions for Indicators used in Older Americans 2008: Key Indicators of Well-Being
http://agingstats.gov/agingstatsdotnet/Main_Site/Data/2008_Documents/Appendix_B.aspx

Describes differences in health insurance estimates from CPS, MEPS, NHIS and other sources:
<http://aspe.hhs.gov/health/Reports/uninsur3.htm>
Validity of BRFSS, NHIS measures (comparisons to NHANES):

Fahimi M, Link M, Schwartz DA, Levy P, Mokdad A. Tracking chronic disease and risk behavior prevalence as survey participation declines: statistics from the Behavioral Risk Factor Surveillance System and other national surveys. *Prev Chronic Dis* 2008;5(3).
http://www.cdc.gov/pcd/issues/2008/jul/07_0097.htm. Accessed June 25, 2008.

LINKS TO REFERENCES REGARDING SUMMARY MEASURES FOR HEALTH (HEALTH-RELATED QUALITY OF LIFE, ETC.):

Stewart ST, Woodward RM, Rosen AB, Cutler DM. A proposed method for monitoring U.S. population health: linking symptoms, impairments, and health ratings. *NBER Working Papers* 2007;11358:1-56. pdf (270K)

Agwunobi JO. The *Healthy People 2010* Midcourse Review (Executive Summary-Goal 1: Increase quality and years of healthy life). *U.S. Public Health Service, DHHS*, Washington, D.C., 2006. html pdf (585K)

Klementiev A. Chapter 5-An alternative measure of years of healthy life--[from: Estes RJ (ed.), *Advancing Quality of Life in a Turbulent World*]. *Social Indicators Research Series*, Springer Netherlands 2006;29:67-84.

Miller W, Robinson LA, Lawrence RS (Eds); Committee to evaluate measures of health benefits for environmental, health, and safety regulation board on health care services. Valuing health for regulatory cost-effectiveness analysis. *Institute of Medicine*, National Academies Press, Washington, D.C., 2006:1-364. abstract* html* pdf* (222KB)
Chang CF, Nocetti D, Rubin RM. Healthy life expectancy for selected race and gender subgroups: The case of Tennessee. *South Med J* 2005;98(10):977-984. abstract

Centers for Disease Control and Prevention. Health-Related Quality of Life, Part II ? State and Local Applications [Internet]. *Chronic Disease Notes and Reports* 2004;16:1-48. pdf (1200KB)

Andresen EM, Recktenwald A, Gillespie K. Population estimates of utilities: the Health and Activity Limitation Index (HALEX) (Abstract)?presentation at the 10th annual meeting of the International Society for Quality of Life Research, Nov 12-15, 2003 in Prague, Czech Republic. *Qual Life Res* 2003;12(7):737.

Buescher PA, Ziya Gizlice Z. Healthy Life Expectancy in North Carolina, 1996-2000. *SCHS Studies*; North Carolina Department of Health and Human Services, State Center for Health Statistics, Raleigh, NC 2002; No.129: 17. pdf (65K)

Gold M. Summary measures of population health and beyond: a look at U.S. federal activities in measuring the health of populations. WHO Conference. *Statistical Commission and Economic Commission for Europe* 2000. Working paper No. 11. Ottawa Canada, 23-25. pdf* (41K)

Harwell TS, Spence MR. Population surveillance for physical violence among adult men and women, Montana. *Am J Prev Med* 2000;19(4):321-324. abstract

U.S. Department of Health and Human Services. *Healthy People 2010. 2nd ed.* With understanding and improving health and objectives for improving health. 2 vols. Washington, DC: *U.S. Government Printing Office* 2000. html

Appendix B: Selected Indicators and Data Sources

Health Indicators

A Review of Reports Currently in Use

The State of the USA
900 17th Street, #700
Washington, D.C. 20006
202.552.4710

www.stateoftheusa.org