Transforming The U.S. Child Health System

"Business as usual" will not help us achieve the health care system that our children deserve.

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ABSTRACT: This paper presents a vision and rationale for reform of the U.S. child health system based on paradigmatic changes in the conceptualization of child health development. Reviewing well-known and well-documented accounts of how this system is underperforming, we suggest that a bold, well-defined, transformative, and long-term reform strategy is needed to address intractable problems in the underlying operating logic, organization, and financing of the current child health system. We conclude by considering an optimistic, long-term policy transformation agenda, building up emerging opportunities and changing realities in the United States and abroad. [*Health Affairs* 26, no. 2 (2007): 315–330; 10.1377/hlthaff.26.2.315]

THERE IS AN EMERGING SCIENTIFIC CONSENSUS that health is not endowed at birth but instead develops over time; this reality poses new challenges for the current and future performance and organization of the U.S. health system. Because the scaffolding for physical, cognitive, and socio-emotional health is built in the early years of life, early investments in prevention and health promotion can greatly improve long-term health, behavior, economic, and civic outcomes.[1] An increasing body of literature also documents how many health disparities have their origins during childhood and compound over time, underscoring the potential significance of early investments and raising expectations for what the health care system can and should produce.[2]

Even as expectations increase, we are faced with the reality of major performance gaps in the U.S. health care system.[3] Many common system shortcomings, such as failure to deliver preventive services, could be more detrimental to children than other age groups, given the potential of early investments to establish optimal "trajectories" for health and well-being.[4] Even though the benefits of com-

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prehensive, integrated service delivery programs are well documented, the child health system continues to evolve as a patchwork of disconnected programs, policies, and funding authorities without clear accountability or performance goals. This system is financed through a mixture of public and private insurance and out-of-pocket payments by families, especially for mental, developmental, and oral health services that are not well covered by insurance. Many services are provided within the traditional health care sector (doctors' offices, hospitals, and clinics); however, some services such as mental health services take place outside the health care sector in schools and in child care and community centers, further fragmenting delivery pathways and complicating access. We contend that the current system cannot achieve expected performance goals because it is powered by outdated logic, outmoded organization, and inadequate and misaligned finance strategies that were designed to be responsive to the epidemiology and health goals of the early part of the twentieth century. Given what is at stake for children and our nation's future, the system will require a major transformation if the nation is to achieve twenty-first-century child health goals.

This paper addresses these challenges by approaching child health policy reform from a system-transformation perspective. We argue that (1) the vision and operating logic of the child health system must be responsive to the new understanding of child health development and to the changing epidemiology of child health; (2) a transformative approach is necessary to improve performance, to achieve current and emerging child health goals, and to address constraints that impede real reform; (3) transformation of the child health system should be guided by a new operating logic, organizational approach, and set of financing strategies; and (4) the strategies for policy reform should focus on a long-term transformative agenda.

A Transformative Vision, A Life-Course Approach

■ **A new vision for child health.** The 2004 Institute of Medicine (IOM) report, *Children's Health, the Nation's Wealth,* proposes a new definition of child health:

> Children's health should be defined as the extent to which individual children or groups of children are able or enabled to (a) develop and realize their potential, (b) satisfy their needs, and (c) develop the capacities to allow them to interact successfully with their biological, physical and social environments.[5]

This new definition is rooted in an empirically based conceptualization of health as the product of dynamic, lifelong interactions between risk, protective, and health-promoting influences that affect long-term health trajectories. Considering child health in relationship to how health develops across the life course enables a new logic for achieving the goals of child health care. Because the health of children is influenced by nested and interactive patterns of biological, behavioral, family, social, environmental, and policy factors, effective approaches to health development seek to minimize risks, maximize protective factors, and optimize health promotion. Critical and sensitive periods during the early years create

heightened vulnerability but also the opportunity to improve a given trajectory.[6]

This life-course approach is supported by a growing literature that documents how many adult health conditions have their origins in childhood and are affected by childhood risk, protective, and health-promoting influences.[7] Mounting evidence demonstrates how prenatal and early childhood risks that interfere with growth can increase the risk of ischemic heart disease, hypertension, obesity, and diabetes. Early exposure to infections and environmental toxins increase the likelihood of cancer, hypertension and stroke, and neurodegenerative diseases. Toxic stress and other exposures are embedded into a child's developing bio-behavioral physiology with pervasive influences on lifelong physical, cognitive, and emotional functioning.[8]

By transforming the paradigm for how health develops, a life-course approach provides a strong public policy rationale for health system transformation. It demonstrates how disadvantage during childhood diminishes future prospects by reducing a child's health potential, which in turn directly harms educational outcomes and future social competence and accelerates the acquisition and severity of health problems in later years.[9] This approach emphasizes investments focused on prevention, health promotion, and improving the conditions of children's lives. Despite growing acceptance of the life-course model of health development, U.S. children's health care policy has to date been largely unaffected by these empirically based conceptual changes.

■ **A new vision amid changing epidemiology.** This new paradigm for understanding child health development is emerging at a time when the distribution of child health conditions is changing. In many respects, children's physical health is the best that it has ever been in the United States, but shifts in childhood morbidity patterns and increasing disparities are indications of sizable and growing challenges.[10] Hospitalizations for injuries, common respiratory conditions, and other common acute conditions decreased 50 percent between 1962 and 2000, and the overall incidence of acute conditions diminished more than 20 percent over the same period.[11] However, a major shift in morbidities is reflected in the 2003 National Survey of Children's Health: Among school-age children (ages 6–17), 11.5 percent demonstrate learning disabilities, 8.8 percent have attention deficit hyperactivity disorder (ADHD), and 5.8 percent have behavioral problems; among preschoolers, speech problems are reported for 5.8 percent and developmental delays for 3.2 percent.[12] Moreover, obesity rates have doubled in the past two decades; obesity now affects 16 percent of children ages 16–19.[13] The prevalence of diagnosable mental health problems in children has climbed to more than 20 percent, making the prospect that the current generation of children will be less healthy than their parents a major concern. These trends have resulted in a shift in disease burden from the acute disease mix of the past to the predominantly chronic disease mix of the present and future. Many emerging health needs are poorly addressed by the current operating logic, configuration, and financing of the health system.

Current Health System Underperformance

Although there have been clear improvements in the delivery of specific health services, many of the systemic problems facing the U.S. child health system seem intractable and resistant to incremental reform strategies. Both the 1981 report of the Select Panel for the Promotion of Child Health and the 1991 report of the National Commission on Children highlighted numerous system-level problems related to fragmented programs, disjointed and inadequate funding streams, inadequate performance monitoring, and the lack of a coherent planning framework.[14] These problems have not been resolved. Arguably providing some of the finest medical care in the world, the U.S. health care system still has not adopted an approach that addresses persistent and growing gaps in access to and quality of health care services (Exhibits 1 and 2).[15]

■ **Comparison with other developed countries.** When compared with those of other developed countries, the U.S. child health system appears outmoded, particularly with respect to prevention and health promotion services. The United States maintains higher rates of infant and child mortality; higher prevalence of asthma, child obesity, and injuries; and rapidly increasing rates of mental health problems.[16] Not only are disparities based on socioeconomic status steeper and more pronounced, but the magnitude of disparities seems to increase at a greater rate as U.S. children age, which indicates that the U.S. health system is not responding as well as it should to health problems once they occur.[17] The United States also places a greater emphasis on medical care for individuals, as opposed to population-based prevention and health promotion programs, and while most other developed countries have universal health coverage, U.S. children have spotty coverage to use in a very fragmented system. These essential differences reflect basic distinctions in how child health services have been conceived and organized in the United States.

EXHIBIT 1
Access And Quality Gaps In The Child Health System, 2005

Access to care	
Percent of children under age 18 with no health insurance	16.0
Percent of children with special health care needs and no health insurance	30.0
Percent of children under age 18 who do not have primary care physician or medical home	54.4
Quality of care	
Percent of children under age 18 not seen by health care professional in previous year	12.2
Percent of children under age 18 reported to have had both preventive medical and dental visit in previous year	58.8
Percent of EPSDT-eligible children under age 18 who received preventive dental visit	23.0
Percent of children ages 19–35 months receiving recommended series of vaccines	74.5
Percent of children ages 12–18 years receiving needed mental health services	30.0

SOURCE: U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau, *Child Health USA 2005* (Rockville, Md.: DHHS, 2005); and P.J. Leaf et al., "Mental Health Service Use in the Community and Schools: Results of the Four-Community MECA Study," *Journal of the American Academy of Child and Adolescent Psychiatry* 35, no. 7 (1996): 889–897.

EXHIBIT 2
Disparities In Child Health, 2004

	Race/ethnicity			
	African American	Hispanic	White	All
Percent of children under age 18 not seen by a health professional in previous year	11.2	19.5	9.9	12.2
Percent of children under age 18 not seen by a dentist in previous year	–[a]	61.3	75.6	70.8
Infant mortality (deaths per 1,000 live births)	14.1	5.8	5.9	6.9
	Poverty status			
	<100% of poverty	<400% of poverty		All
Percent of children under age 18 having both medical and dental preventive visits in previous year	48.3	69.8		58.8

SOURCE: Agency for Healthcare Research and Quality, *2004 National Healthcare Disparities Report* (Rockville, Md.: AHRQ, 2005).

[a] Not available.

■ **Why transformation is needed.** Our conclusion that transformative rather than incremental change is necessary is based, first, on the magnitude of the problems facing the child health system and the degree of change necessary to fulfill the performance demands of the emerging child health development paradigm. Incremental approaches have failed to address the systemic roots of many U.S. health system problems and, if anything, are making some of the internal barriers more resistant to change, as each new change in policy and added special program results in more fragmentation, inefficiency, and management challenges.

Second, the prospects for major child health reform will diminish as resources become increasingly scarce. Health care spending that is already hitting the "high-water mark" of 16 percent of U.S. gross domestic product (GDP) and predictably increasing in the face of the next wave of genomics-driven technological innovations will be swamped by the approaching "Silver Tsunami." As baby boomers retire in larger numbers and use ever-greater amounts of health care, the Congressional Budget Office estimates health spending climbing well over 20 percent of GDP in the next decade.[18] Major reform of the overall health system could eventually respond to or anticipate these demands; however, child health needs are likely to take a backseat to the demands of more politically powerful constituencies.

Finally, the demands of the information technology (IT) age, combined with the economics of globalization, are redefining social expectations for healthy child development, placing a new premium on higher cognitive, emotional, and language development and coming to grips with how lower literacy, innumeracy, and poor physical and mental health diminish productivity, increase dependency ratios, and place unnecessary limits on the prospects for America's future.

A Framework For Transformation

Key issues to address in transforming the child health system include (1) adopting a logic based on the new science of health development to guide the system's design and operations; (2) organizing and aligning services, programs, and sectors based on this logic; and (3) aligning financing to stimulate strategic change.

■ **A new logic model.** Exhibit 3 compares the current operating logic and a proposed new logic model based on the IOM's conceptualization of child health. The new model offers a more comprehensive and holistic approach to optimizing health development; includes prevention, health promotion, and the development of health potential as core system components; organizes care around longer and more developmentally appropriate time frames; and targets long-term functional capacity rather than short-term disease outcomes. An appropriate health care scaffolding to support long-term development would also account for the contribution of nonmedical factors (behavioral, family, social, and environmental) that can influence patterns of risk, the initiation of pre-disease pathways, treatment response, and long-term adaptation and rehabilitation.

■ **Organizational transformation.** Strategies for appropriate vertical, horizontal, and longitudinal integration are uniquely required to enable the health system to optimize children's health.[19]

EXHIBIT 3
Comparison Of Old And New Logic Models For Child Health Systems

	Old logic model	New logic model
Definition of *health*	Absence of disease, disability	Expanded to include the development of positive functional capacities to achieve life's goals
Goals of the health system	Prolonging life, health maintenance	Optimal health development
Client model (stakeholder)	Individual	Individual, population, and community
Causal model	Biomedical	Biopsychosocial dimensions of life-course health development
Intervention approach	Diagnosis and treatment	Adds and emphasizes prevention, promotion, and developmental optimization
Time frames	Episode of care	Functional capacity across the life course, recognizes critical and sensitive periods of developmental vulnerability
Delivery and organizational focus	Vertical hierarchy of primary, secondary (specialty), tertiary care	Distributive care model with care pathways that integrate within (vertical) and across (horizontal) specific sectors, and over time (longitudinal)
Financing approach	Episodes of care, with a focus on medical conditions as insurable loss and preventive care as prepaid benefits	Longer time frames, require investments in lifelong health capital, and infrastructure to support population capacity for prevention and promotion
Performance improvement	Condition-specific quality improvement	Includes system improvement

SOURCE: Authors' analysis.

Vertical integration. Although the delivery of health care is concentrated in the vertically integrated medical care sector (organized around primary, secondary, and tertiary care), many other essential child health service programs are located in the public and population health sectors (Women, Infants, and Children, or WIC; Head Start; and Early Head Start). Civic-sector programs—most notably, those provided in schools, child care centers and preschools, after-school programs, and youth centers—can also serve as effective delivery sites for prevention, treatment, and rehabilitation services. Because programs and their respective sectors are financed, organized, administered, and evaluated separately, accountability is usually limited to immediate program goals and often ignores potential contributions to the broader goals of the health system. Given this sector-specific focus, there are few incentives for coordination, even though changes in one sector (such as Medicaid) can dramatically influence the ability of another sector (such as child welfare) to achieve its goals. In fact, current administrative restrictions and financing limitations further constrain these sectors to act largely as independent silos.

Horizontal integration. The concept of horizontal integration recognizes the interdependence of physical, mental, developmental, and oral health services; the inefficiencies that result when programs with common outcomes goals are operated independently in different sectors; and the importance of cross-sector service delivery pathways and innovative delivery platforms to create more-functional continuums of care. A high-performing child health system will require productive partnerships across medical, public health, and civic (education and social service) sectors, as well as innovative service-delivery platforms such as comprehensive school readiness centers that can serve as hubs of integrated service delivery.

Longitudinal integration. The concept of longitudinal integration recognizes that interactions among a child's genetic endowment, changing environments, and evolving health needs require anticipatory, strategic, and responsive health interventions, organized over developmentally appropriate time frames. Focused on optimizing health trajectories, a longitudinally integrated system is organized around developmentally sensitive services, anticipatory guidance, and sustainable delivery pathways capable of optimizing transitions (for example, when children move from preschool to school). An essential tool is a data system that can track child health trajectories, individually and in the aggregate over time.

Examples. There are a many new ways to create more-integrated service systems. For example, several locales are creating cross-sector developmental service pathways, connecting developmental surveillance in child care, Head Start, and preschool with screening and interventions by primary care pediatric health care providers. Many communities are creating integrated delivery platforms such as the Hope Street Family Center. Serving 2,000 poor immigrant families in downtown Los Angeles, Hope Street serves as a hub for a broad array of child health, social, and educational services (one-stop horizontal integration) providing long-

term supports by engaging families in Early Head Start soon after birth and offering a continuous scaffolding of health-promoting services across children's lifespans.[20] Connecticut's Help Me Grow is a statewide service brokering and coordination program using a telephone resource and referral system to connect parents, child care providers, and pediatricians with the resources necessary to address children's health needs.[21] Each of these organizational innovations uses the new operating logic and connects services that traditionally function in isolation.

■ **Reforming financing.** Fiscal redesign can align financing with the logic and organizational intent of a transformed system. One redesign goal is to better integrate distinct public funding streams to support the horizontal integration of services as well as to fund population health initiatives. A related goal is to create financing tools that encourage investing over longer time horizons. Financing some services as long-term investments will make it possible to create incentives for the longitudinal service integration that is essential if optimal health trajectories are to be realized. Redesign focused on flexible funding would support the development of community care pathways, which can be adapted to diverse community settings. Redesign must assure that every child has basic benefits designed to cover physical, developmental, mental, behavioral, and oral health needs. Lastly, all children must also have access to appropriate population-focused disease prevention, health promotion, and developmental optimization services.

Any reform strategy faces the limitations of using health insurance as the only tool to accomplish new financing goals. As the dominant fiscal tool in the medical care sector, health insurance is designed to function over short time frames, focusing on episodes of care. Yearly renewals of eligibility and ongoing churning in insurance markets preclude any real utility of health insurance as a mechanism for investing in the long-term health capital of a child. Moreover, health insurance, as currently designed and operated in the United States, does not provide the fiscal wherewithal to develop and implement integrated systems of care. In fact, congressional attempts to make Medicaid operate more like health insurance in a managed care environment have severely limited Medicaid's system-building capacity, eroding regionalized perinatal and special-needs services. Although many public health programs focus on population health issues and potentially have system-building capacities, most are underfunded (such as Head Start and Early Head Start) and have few incentives to interact with the private delivery of medical care. Given the potential role that the public, population health, and education sectors can play in delivering preventive, health promotion, and mental health services, redesigning child health financing will require redistributing funds across sectors to improve performance and productivity and creating incentives that assure that longitudinal and horizontal integration goals are achieved.

In response to existing fiscal barriers and financing constraints, innovative strategies are emerging to consolidate and coordinate funding streams and increase the fiscal flexibility necessary to stimulate more-integrated service deliv-

ery efforts. Master contracts have been used effectively in New York to consolidate categorical funding streams into performance-based agreements between state agencies and counties or local programs. In California, First 5, a voter-approved initiative, uses a new pool of flexible funding to fill service gaps and leverage existing categorical programs into more coordinated service configurations. Several countries are now combining individual- and population-focused health funding into local or regional health trusts, which combine and align public and private funds, allocating them based on performance, to achieve individual, population, and infrastructure health goals.[22]

New financing strategies can go only so far if existing constraints are not addressed. System transformation will require a major reorganization of the cat's-cradle of federal funding streams: Title IV (Child Welfare); Title V (Maternal and Child Health); Title XIX (Medicaid); Title XXI (the State Children's Health Insurance Program, or SCHIP); Head Start; WIC; and even funds from No Child Left Behind, the Individuals with Disabilities Education Act (IDEA), and other programs that are allocated from the Department of Education. This will not be an easy task. Like Social Security, many of these categorical funding streams are sacrosanct among their respective advocacy constituencies, so any attempt to reorganize and reform how they function will meet with enormous resistance, without guaranteed maintenance of effort and assurance of better performance and care.

Putting It All Together: Designing A New Child Health System

Applying the new operational logic, organizational principles, and financing strategies, the design elements of a new child health system begin to take shape. The following design principles constitute the basic scaffolding for a transformed child health system.

■ **Optimizing outcomes.** The system would focus on optimizing child health outcomes, including physical, cognitive, emotional, and social health domains and be measured in terms of conditions, function, and developmental health potential.

■ **Linking outcomes with measurable progress indicators.** The system would be guided by a child health outcomes framework linking health outcomes to measurable indicators of progress and serving as a guide for system planning.

■ **Facilitating vertical, horizontal, and longitudinal integration.** The system would be integrated vertically to organize services and distribute resources to account for severity and need. It would be integrated horizontally to address the interacting influences of family, social, economic, and environmental factors on child health, and to coordinate the range of services across sectors to efficiently and effectively deliver care, including child care, Head Start, preschool, school, parks, teen centers, and other settings. It would be integrated longitudinally to leverage investment in health capital, optimize health potential and health trajectories, and provide continuity of relationships and services across a child's life.

■ **Establishing a federal Child Health Development Agency.** The new system

would consolidate and reorganize existing funding streams and planning authority into a new federal Child Health Development Agency with responsibility for optimizing child health. This agency could consolidate existing programs and funding authorities, with a comparable agency at the state level.

■ **Creating Regional Child Health Development Trusts to organize and integrate system-level funding, planning, and performance monitoring.** Organized at the state, multistate, regional, or county level, these trusts would combine public and private dollars from various sources; allocate funds to health development organizations (HDOs, former health plans that have morphed to include school, child care, and other community services and connections); measure and monitor the health and development of children at a population, neighborhood, and school level; coordinate and oversee performance monitoring and quality improvement efforts; and organize and improve re-gionalized specialty, rare disease, and neonatal care.

■ **Organizing local Child Health Development Systems to manage delivery of care.** The system would organize and integrate service delivery into local Child Health Development Systems comprising one or more HDOs. The HDOs would serve as the basic building blocks of local systems and be created from reorganized and reengineered managed care systems, which would use a family-centered, primary health care home as the hub of a networked system. It would virtually link schools, child care centers, Head Start sites, parks and recreation facilities, and teen development programs to the primary health services hub, forming integrated networks to provide continuums of coordinated care. These primary health networks would also integrate public and population health services.

■ **Launching health information systems to support a transformed health system.** The system would be supported by a national/regional health information system that would integrate personal and population-based health information to support clinical decision making, comprehensive care models, and cross-sector care pathways; facilitate service- and system-level performance monitoring; and monitor, map, and track population health influences and outcomes at the provider, health plan, and system levels and at the neighborhood, community, and regional levels. The child health system would be continuously enhanced by an outcomes-based performance monitoring and improvement framework.

This is not intended to provide a blueprint but is one design option to stimulate further discussion. Aligning the system's goals, logic, organizational forms, and financing capacity will require addressing existing system gaps, a range of barriers, and political constraints that will resist any meaningful change.

Policy Steps To Bring About Transformation

Although we have presented many reasons, if not an imperative, to transform the U.S. child health system, there are many challenges that must be addressed.

First is the challenge of communicating with multiple constituencies and engaging various stakeholders in a new dialogue about serious threats to children's

health, why the health care system cannot respond, what this situation means to children and the future of the nation, and why system transformation is the solution. This will require reframing the problems as deeper and more urgent, and presenting innovative and far-reaching solutions.

Second are the challenges associated with executing a broad policy agenda over a long time frame. Such an undertaking has the potential to become unmanageable, unfocused, and unsustainable across changing political terrains. Defining a ten-year strategy with short-, medium-, and long-term goals and providing a well-developed outcome framework can help provide guidance and discipline to the reform process.

Third is the challenge of presenting a vision and concrete blueprint for a transformed health system, the performance outcomes that will be achieved, and the policy commitment necessary to make this vision a reality. This can be facilitated by an inclusive, consensus-driven process under the auspices of an organization like the IOM and backed by broad, bipartisan political leadership that is committed to seeing the process through to completion.

Raising child health policy concerns to a level of political importance is the fourth challenge, made more difficult by the dominance of the adult health policy agenda and the relative insignificance of the current child health budget. To launch a bold system-reform agenda, it will be necessary to better distinguish the unique health care goals of the child health system, leverage a life-course strategy, and capitalize on the economic returns associated with early investment in the lifelong health trajectories that begin in childhood. It also could be more strategic to link child health system reform to other national child policy goals and to build support as part of a robust national children's initiative. To address these and other challenges, a national child health system reform initiative might consider several strategic options that follow.

■ **Create a child health outcomes framework.** Although the Healthy People framework of the U.S. Department of Health and Human Services drives national public health policy, its child health objectives are spread across an array of disconnected categories. A child-specific health outcome framework inspired by a strategic vision for a better system can jump-start the process for achieving system transformation. Such a framework would highlight the unique needs of children; use best evidence to articulate system-design and operating principles; present options to achieve integrated service delivery models; and provide the rationale for more comprehensive and strategic funding mechanisms.

Several other countries have created bold and visionary national frameworks to achieve their child health goals. Over the past ten years the Blair-Brown government in the United Kingdom has implemented a major child policy agenda beginning with a national early childhood agenda (Sure Start) and continuing with major reforms in education, social services, and health with the passage of "Every Child Matters."[23] In 2004 the National Service Framework (NSF) for Children,

Young People, and Maternity Services was released, with a ten-year time horizon for implementation. This NSF provides a system-level blueprint for achieving better health outcomes, integrating services, and facilitating health system change; it is a key mechanism for achieving the health outcomes of the Every Child Matters: Change for Children program.[24] A national child health framework patterned after the NSF for Children, Young People, and Maternity Services could provide a roadmap for transforming the U.S. child health system using Child Health Development Systems as outlined above.

■ **Promote leadership from key sectors and stakeholders.** Leadership to support child health system transformation must come from many sectors and from all levels of government. A scientifically based consensus-building process can help galvanize diverse constituencies around a common vision and set of goals. Impartial scientific and health leadership from the National Academies could provide guidance and vet long-range plans. A multiyear research, analysis, and policy development process comparable to the Quality Chasm initiative focused on, for example, "Investing in Child Health and Improving the Child Health System" could play a pivotal role in elaborating a framework and creating the scientific and historical momentum necessary to energize a long-term reform process. A series of reports issued over several years would reinforce the significance of the effort and assure that child health reform was a permanent icon on the desktop of policymakers.

Visionary and committed political leadership that recognizes and promotes the value of augmenting investments in child health development must be willing and able to make commitments to a long-term strategy of system reform. In addition, the creation of a broadly defined, high-level federal child health agency would demonstrate our national resolve to optimize child health through policy change. A comparable agency at the state level would position an agenda for healthy child development at the level where decisions are made and where planning and convening functions can be most effective.

■ **Plan and spread innovative system change strategies.** State-, county-, and local-level strategic planning can help create a common vision and effective, practical plans that can be acted upon. Linking state- and local-level planning to the receipt of federal and state funds is already happening in an important but limited way through Title V. The Maternal and Child Health Bureau has recently launched the Early Childhood Comprehensive Systems (ECCS) initiative to support state-level strategic plans for integrating early childhood medical, mental health, parent education, preschool and child care, and family support services and to stimulate the development of integrated local service delivery platforms. Several states, counties, and cities have also created new public-private partnerships to plan and implement a more-integrated early childhood agenda. Washington State's Thrive by Five and California's First 5 both represent efforts in that direction. Mirroring existing master plans for education, state-level child health master plans could implement a national health outcome framework and provide a new means of driving system trans-

formation at the state and local levels.

Many state and local performance improvement initiatives are reengineering system-level improvements that cut across sectors and levels of government. Evaluating the success of these initiatives, building the knowledge base, and spreading successful approaches for implementing system transformation can ensure that successful strategies are shared, tested, spread, and applied in various locales. Two emerging areas for system improvement and redesign are the prevention of childhood obesity and the building of comprehensive early childhood health and development service systems.

Creating regional child health waiver/demonstration projects is another option for stimulating the development and spread of innovative system-transformation strategies. Recognizing the importance of local innovation, demonstrations would support and evaluate innovative reform strategies. These could test the usefulness of innovations such as regional Child Health Development Trusts and redesigned HDOs to rationalize funding, integrate service delivery, and achieve desired results.

Windows Of Opportunity

In many areas, converging activities across health, public health, and education sectors are focusing policy efforts on young children. In addition, several pivotal activities could provide the opportunity to begin leveraging major policy change.

■ **Focusing on early childhood services and systems.** Building on new knowledge about early childhood development, several state and local entities have launched initiatives to improve services for young children. The most innovative of these initiatives are attempting to create comprehensive early childhood systems; testing a range of innovative planning, leadership, communication, system redesign, financing, and measurement strategies; launching new service delivery pathways; and building integrated service delivery platforms, to achieve healthy development and school readiness goals for all children (Exhibit 4).[25]

■ **Leveraging and spreading health IT innovations.** New efforts to build integrated data systems at the state level in South Carolina; neighborhood-based and geographical information system (GIS)–enabled health development monitoring in Vancouver, British Columbia; and integrated client and community IT capabilities in large health systems such as Kaiser Permanente are providing new technical breakthroughs and creating the momentum to build the health IT infrastructure for an integrated child health system.[26] Health IT systems can enable integration by facilitating the secure exchange of information and the coordination of care among Head Start and child care facilities, health care providers, and others. Aggregate program data can be used for community-level planning. Widespread adoption of innovative health IT systems not only is within reach but also could play a major role in service integration and system change.

■ **Springboarding off of the national health reform crisis.** The persistent

EXHIBIT 4
Early Childhood System Building: Innovations, Logic, Organization, And Financing

Goal	Optimizing health development and school readiness, defined by the National Education Goals Panel as including physical, cognitive, social, emotional, and language development
System-building initiatives	U.S. examples: Early Childhood Comprehensive Systems (ECCS) (2003): Maternal and Child Health Bureau providing states with planning grants (2 years) and implementation funds (3 years) to link health, early care education, mental health, and family support service system planning at state level First 5 California (1998): Tobacco tax funded, establishes one state and fifty-eight county First 5 Commissions with new flexible funds for early childhood service enhancements and system building Thrive by Five, Washington (2005): Public-private partnership to optimize school readiness and early learning
	International (English-speaking) examples: Sure Start, England (1998): National initiative to end child poverty and optimize healthy development; now known as Every Child Matters; building 4,000 Sure Start early childhood centers in England in next decade Toronto First Duty, Ontario (1999)
Improving early childhood developmental services	One element of the health care sector's contribution to early childhood system building has been a reevaluation of well-child care (WCC), and the improvement and enhancement of developmental services
Logic	Unbundled WCC, splitting out developmental services: defined as assessment, guidance, intervention, and coordination services focused on optimizing health development Linking health development goals of WCC with school-readiness goals Rethinking WCC: Changing operating logic from periodicity based on immunization schedule to one focused on development stages and function Changing WCC benefit structure, reimbursement, connections to other community-based health services American Academy of Pediatrics adopting new standards for development screening in pediatric offices (2006)
Organization and delivery	Linking developmental services and surveillance in child care and school settings with child health care providers (multiple sites) Co-locating WCC with other child health and development programs like WIC, Head Start, early intervention programs in schools (Project LEAPS, Orange County, CA) Connecticut's Help Me Grow program that uses 211 system as a centralized care coordination and case management system for developmental services Promoting Health Development surveys: quality improvement measures administered by health care providers to parents, to measure the content and quality of developmental services received
Financing	Changing Medicaid reimbursement to improve surveillance, screening, early intervention, and coordination services Commonwealth Fund ABCD Project to engage state Medicaid agencies in improving delivery of developmental services in eight states (2000–2006)

SOURCES: State Early Childhood Comprehensive Systems: http://www.state-eccs.org; and N. Halfon et al., *Building Bridges from Birth to School,* January 2004, http://www.healthychild.ucla.edu/NationalCenter/bb.finalreport.pdf. First 5 California: http://www.ccfc.ca.gov. Washington's Thrive by Five: http://www.thrivebyfivewa.org. Sure Start: http://www.surestart.gov.uk. Toronto First Duty: http://www.toronto.ca/firstduty. Early childhood development: A. Fine and R. Mayer, *Beyond Referral: Pediatric Care Linkages to Improve Developmental Health,* December 2006, http://www.cmwf.org/usr_doc/Fine_beyond referralpediatriccarelinkagesimprovedevelhlt_976.pdf; and D. Bergman, P. Plsek, and M. Saunders, *A High-Performing System for Well-Child Care: A Vision for the Future,* October 2006, http://www.cmwf.org/usr_doc/Bergman_high-performsyswell-childcare_959.pdf. Project LEAPS: http://www.first5caspecialneeds.org/demosites/orange.htm. Connecticut's Help Me Grow: http://www.ct.gov/ctf/cwp/view.asp?a=1786&q=296676; Commonwealth Fund, "How to Develop a Statewide System to Link Families and Community Resources: A Manual Based on Help Me Grow," September 2006, http://www.cmwf.org/General/General_show.htm?doc_id=381829; and C. Bethell et. al., *Partnering with Parents to Promote Healthy Development of Young Children in Medicaid,* February 2002, http://www.cmwf.org/usr_doc/bethell_partnering_570.pdf. ABCD Project: N. Kaye, J. May, and M. Abrams, "State Policy Options to Improve Delivery of Child Development Services: Strategies from the Eight ABCD States," December 2006, http://www.cmwf.org/usr_doc/State_Policy_Options_ABCD.pdf; and K. Johnson and J. Knitzer, "Early Childhood Comprehensive Systems That Spend Smarter," February 2006, http://www.nccp.org/media/pti06a_text.pdf (all accessed 26 December 2006).

problems of health care access, cost, uneven quality, and disparities are building pressure for major health reform in the United States. As interest in such reform continues to grow, viable strategies will need to embrace the goal of optimizing health for all Americans and to rebalance resource allocation to place a greater emphasis on prevention and health promotion. Launching a national reform process that focuses on the beginning of the life course might have major appeal.

THE FRAGMENTED AND UNDERPERFORMING U.S. system of child health services requires transformation to achieve desired goals of optimizing health outcomes and influencing the risk, protective, and health-promoting factors that will determine health trajectories over the lifespan. The gap between how our system is organized and performing and what the child health system is capable of providing is now a performance chasm that can only be bridged by adopting a new vision and approach. Fortunately, we are at a point in the evolution of our knowledge, tools, and capacities to make a new and necessary vision into a national reality. A strategic approach to creating a visionary, compelling, and transformative plan can enable the United States to respond to emerging windows of opportunity and to prepare for new, predictable challenges ahead. Realizing major health policy reform for our nation's children not only is in their best interest but also is an important down payment on our country's future.

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NOTES

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