We are in the midst of a transformation of our health care system. The shift from volume to value and the corresponding changes in payment models necessitate an evolution in focus from the acute medical needs of an individual to a more holistic view of improving the health of the population. This more holistic strategy includes a recognition of the importance of the environmental, social, and behavioral determinants of health and a paradigm shift with an implicit understanding that health is a function of a health care system embedded in an interconnected community. Health happens wherever families are—at home, in schools, in child care, in medical homes, and digitally at any location in the community. Building upon a variety of community-based models funded by the federal government, states, and private funders, as well as the Center for Medicare and Medicaid Services’ Accountable Health Communities Model, this paper adapts these models of integrated care to seamlessly address the medical, social, and developmental needs of children and families, with a focus on shared accountability across sectors as well as financial sustainability.

Why Focus on Children and Families?

Research has shown that the foundations of health take root in the earliest years (including the health of the mother). Young children are particularly sensitive to social determinants [1]. Additionally, adverse childhood experiences occurring in early childhood can have lifelong consequences, affecting physical and mental well-being. For example, traumatic experiences such as persistent poverty can disturb neurobiological systems that guide physiological and behavioral responses to stress and permanently increase the risks of disease [2]. “Developmental, behavioral, educational, and family problems in childhood can have both lifelong and intergenerational effects. Identifying and addressing these concerns early in life are essential for a healthier population and a more productive workforce” [3].

An Accountable Community for Health for Children and Families could significantly improve the health trajectories of children and families and promote health equity through financially sustainable, place-based, multisector partnerships.

A Vision for the Future

Prevention, early intervention, and strengthening the family unit are at the core of optimizing child health and well-being. Yet the current system is not adequately oriented toward achieving these aims in a financially sustainable manner. All too often, health care approaches focus on addressing the needs of high-cost adults rather than on the unique health and developmental needs of children. What could the future look like? It would include a system in which the following is the norm in a growing number of communities across America:

• A pregnant teen seeks health care services at an urgent care clinic and is screened for social determinants of health. She is referred to an ob/gyn for regular prenatal care. When her screening indicates that she is housing insecure, she is connected, via a community hub, with community resources to address this need, thereby avoiding the toxic stress she and her child would experience because of unstable housing. Once her child is born, her pediatric provider connects her with free parenting classes, a service offered as part of...
its risk-based contract with a payer (in which the provider is rewarded for keeping patients healthy and reducing unnecessary health care utilization).

- A community database with GIS mapping capabilities reveals a cluster of problems caused by lead in a housing complex. The health department contacts all families living in the unit to get their children tested for lead exposure and works with the landlord to address abatement, thereby preventing future exposures. The health department also contacts the pediatricians/medical homes of affected children for follow-up. The abatement in the complex is covered through Children's Health Insurance Program (CHIP) administrative dollars through a health services initiative approved by the state. The medical services are covered through Medicaid.

- A child scores below the normal range on a reading-readiness screener administered at her early care and education (ECE) center. The center contacts her pediatrician's office, which refers the family to a community-based early literacy program, whose services are included as part of a risk-based contract. A nurse at the pediatrician's office and the ECE provider advise the parents about what they can do at home and suggest free tools.

- Asthma is the leading cause of absenteeism in a school system. The school nurse believes asthma can be better controlled at school and that triggers in the home need to be addressed. She reaches out to the pediatric health system to collaborate, and they also begin working with the health department. With parent permission, the school nurse is granted access to participating children's electronic health records so she can ensure she is following the child's latest asthma action plan. A community health worker employed by the health system, as part of its value-based contract, visits the homes of children who have had multiple health care visits related to asthma to educate the families about trigger reduction. The health department uses GIS mapping capabilities to identify asthma “hot spots” and collaborates with the housing department and landlords to decrease the number and frequency of asthma triggers in those areas by addressing mold and pest problems, removing carpets, and reducing secondhand smoke exposure by enforcing a ban on smoking in public housing. Additionally, a community coalition works to reduce harmful emissions near the school, thereby amplifying reach and impact on children.

How Can We Build More Coordinated Systems to Optimize Child Health?

After decades of studies, researchers have concluded that social factors (e.g., socioeconomic status, education, housing, transportation, access to food, and so on) have a powerful impact on health [4]. Given the mounting evidence regarding the importance of the early years in shaping an individual's long-term health trajectory, it is critical to address social determinants early on. Leading thinkers have posited that forging structured collaborations among multisector community partners who share goals and resources is critical to “moving health care upstream.” Examples of proposed models include building a transformed 3.0 health system that optimizes health [5,6,7], funding integrators [8], anchor institutions/backbone organizations [9,10], and supporting accountable health communities [11,12], in which partners can collectively address social factors impacting health.

Various federal initiatives have taken important steps to improve community health (e.g., Promise Neighborhoods, various Centers for Disease Control and Prevention programs, and numerous community prevention programs funded by foundations). We are beginning to see the next generation of innovative population health approaches that tie more directly to the health care system to promote sustainability—Accountable Health Communities—(i.e., the Center for Medicare and Medicaid Innovation AHC model) and Accountable Communities for Health (ACH) (e.g., the State Innovation Models in Minnesota, Vermont, California, and Washington State). Future initiatives building on this work should focus on children and families, measure success across sectors, and forge stronger clinic-to-community connections for geographically defined populations, all fueled by value-based payment and other innovative, cross-sector sustainable financing mechanisms.

What Is an Accountable Community for Health for Children and Families?

An ACH is a structured collaboration among health care, public health, and other partners (e.g., schools,
Defining an Accountable Community for Health for Children and Families

Communities would develop

Families Model

Guiding Principles for an ACH for Children and Families Model

1. Everyone should have an equal opportunity for health according to his or her needs.
2. Improving child health necessitates a focus on the family—from addressing basic needs (housing, food, and so on) to strengthening parenting competencies to amplifying family representation in decision making. It also requires a focus on identifying and addressing developmental delays and needs through appropriate intervention across the life course.
3. There is no wrong door through which to improve child and family health; all community partners and members have a role to play.
4. Optimizing child health goes beyond health care. It means attending to the whole child's health, development, and well-being and engaging the sectors where children spend time to develop shared goals and partnerships that result in meaningful collaboration.
5. Onerous requirements and rigidity stifle innovation; initiatives designed to advance accountable health models should foster conditions for local innovation (including payment models), allow flexibility, and reduce burdensome and duplicative reporting requirements at the local level.
6. Older adults are a costlier, sicker population than children, and therefore achieving short-term wins and cost savings is a more reasonable proposition for the older adult population. Models designed to optimize child health should have a return on investment (ROI) time frame of at least 7 to 10 years. In addition, it may be prudent to design an approach focused on families that may balance a long-term ROI for the child and a short-term ROI for the adult, especially in the case of a long-term, high-cost chronic disease or condition affecting the whole family.
7. To move the needle on health over time, a mix of public and private funds is necessary and can inspire key community stakeholders to create shared ownership for a common community destination and then become jointly accountable for arriving at that destination.

Core Elements of an ACH for Children and Families

The following recommended elements represent a mix of features that are included in a paper describing the key roles of an integrator [13], existing ACH models and descriptions (e.g., the California Accountable Communities for Health Initiative [14], the Prevention Institute's paper [12]) or Accountable Health Communities models (e.g., the Innovation Center), in addition to elements added as a result of a November 1, 2016, Nemours–Aspen Institute convening and subsequent calls.

1. Shared vision and addressing gaps: Partners would agree upon a shared vision and goals to optimize health for children and families across the trajectory and to reduce health disparities, including a plan for addressing unmet needs.
2. Integrator/backbone/bridge organization to connect Multisector Partners: Communities would develop or build upon formal collaborations among health care, social services, community development

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Communities would identify trusted champions and develop a governance structure that describes the decision-making process and articulates key roles and responsibilities. Families would play key roles in the governance structures. Communities would be encouraged to develop innovative ways to reduce barriers to meaningful community engagement (e.g., leveraging private dollars to cover the cost of child care or transportation for parents while they attend ACH planning meetings). Over time, communities should strive to maximize equitable participation and community voice in governance, ensuring that individuals from all socioeconomic statuses and backgrounds have meaningful opportunities to contribute as equal partners to the development and functioning of the model.

Two-generation approaches: Communities would develop strategies aimed at improving the health of children (prenatal to age 26) and their primary caregivers, with special attention paid to promoting health equity and addressing health disparities. This includes addressing basic needs (housing, food, and so on for families) as well as improving parenting skills and competencies through interventions in the community, home, and/or health care setting; family engagement and family representation in decision-making and governance structures; and specific strategies designed to meet the needs of and provide supports for pregnant women, with a goal of building safe, stable, and nurturing home environments for every family.

5. Population and patient-level metrics and outcomes to achieve a shared community destination: Building on the IOM report Vital Signs: Core Metrics for Health and Health Care Progress and evolving work to develop pediatric core metrics, communities would select a set of short-term, intermediate metrics with long-term implications, as well as long-term metrics with spillover effects in various sectors, and would be held jointly accountable for achieving progress at the patient and population level within a geographic area, including a total-cost-of-care metric. This would include a mix of patient- and population-level clinical outcomes and nonclinical outcomes that can be achieved across various time frames (e.g., short term: reductions in unnecessary health care utilization, school days missed, improved food and housing security; intermediate term: proportion of children ready for kindergarten, reading by grade level; and long term: diminishing needs for special education with effective early intervention, changes in high school graduation rates, and reductions in health care costs). While achieving progress on long-term metrics would be an overarching goal, communities should prioritize early wins in the short term.

6. Data analytics and evaluation: A Technical Assistance (TA) Center (funded by either a foundation or a government agency) would help communities develop approaches and agreements for collecting, analyzing, and sharing financial, community, and population-level data across a variety of providers and organizations needed to advance common goals. In compliance with existing laws governing protected health information and student education records (e.g., the Health Insurance Portability and Accountability Act, Family Education Rights and Privacy Act) and other relevant laws, sharing of data publicly and with community partners would occur and would be used to drive change through empirically informed decision aids. The TA Center would assist in sharing best
practices, guidelines, and memoranda of understanding currently used to promote data sharing, identify barriers, and develop proposed solutions, as needed. Additionally, independent evaluators would assess progress toward achieving the goals set forth. If communities had a strong rationale for altering their metrics during the course of the award, flexibility would be granted.

7. **Community Care Coordination System**: A community care coordination system helps ensure that individuals are referred to and obtain the medical, behavioral, and social services they need across sectors without duplication, including ensuring that the referring provider is notified when services are provided.

8. **Key Portfolio of Interventions**: Communities would perform (or use an existing) needs assessment/community resource inventory; identify, refer, and treat participants through screening (including using developmental and social determinants screening tools) and early intervention strategies based on risk stratification; develop and implement prevention strategies; and incorporate health care approaches to reduce cost and utilization. Inclusion of family-centered medical homes would be required. Communities would develop and implement a portfolio of interventions tailored to meet the community’s needs, based on the best available evidence, ensuring that the needs of the most vulnerable are addressed and that a full range of interventions, from clinical to policy, systems, and environmental changes are considered. Sustaining effective interventions would be critical. As such, communities would (a) develop a glide path to value-based payment with one or more payers that sustains the most effective interventions, thereby aligning incentives among health care providers, payers, and community health goals; and (b) match specific interventions to other appropriate financing vehicles, drawing from the full range of innovative financing vehicles that are emerging. (See number 10.)

9. **Value-based payment**: A glide path to value-based payment with one or more payers, managed care organizations, and providers would be required given that all parties would have aligned incentives related to cost, quality, and health outcomes. It could include clinical payment (rooted in primary care) as well as a community component, which could include incentive payments for community partners. Communities should have flexibility to experiment with different payment models. Communities would be required to link the data they collect, the metrics they are seeking to achieve, and the value-based payment model that rewards progress toward achieving the outcomes they set forth.

10. **Financial sustainability**: Communities would develop and implement a sustainable plan for securing resources to support the goals, priorities, and strategies developed by the ACH. The integrator would take the lead in setting up appropriate financial sustainability mechanisms. Examples of structures or mechanisms to be included in the plan are wellness and prevention funds; social impact investments; support from private funders (philanthropy, business and industry, and so on); support from insurance companies, managed care organizations, and health care providers (including working with community partners to reduce unnecessary health care spending and utilization); multisector, blended funding (e.g., through current and future Medicaid waiver programs); and community development banks. The goal would be the creation of shared savings and incentives across sectors to promote joint financial accountability in pursuit of the community’s overarching goals and metrics.

11. **Learning Systems and Communications**: Learning and communication would occur across sites and within sites. Across sites, funded communities would be part of a learning and Technical Assistance infrastructure, including (as described above) a dedicated organization focused on (a) providing TA to awardees; (b) developing learning collaboratives to share insights and lessons, and work through challenges in real time; and (c) developing a mechanism to capture feedback from awardees (as well as participants in other related initiatives) regarding barriers they are facing to assist in creating flexibility and cutting through red tape to overcome the barriers. Within sites, communities would develop a system of ongoing and intentional communication and feedback among partners and community residents. The voice of the family would be amplified through communications’ structures. The feedback loop created would inform how resources are allocated (e.g.,
when referrals for service are made but there is no community provider that can fill the need) and what federal, state, or local barriers are hindering progress.

**Special Considerations for Implementation of an ACH for Children and Families**

Included below are practical considerations for communities that are exploring testing an ACH for Children and Families.

**Community readiness:** Communities should assess where they are in the implementation of the core elements above. For communities that are just beginning to come together, the initial focus should include ensuring that a comprehensive set of partners (see next bullet) are engaged and developing a plan to work together on shared goals and metrics. For other communities that already have these partnerships in place, focal areas might include the development of the community care system and the plan to develop joint financial accountability for shared aims.

**Target Population:** An ACH for Children and Families is designed to optimize health for all children and families in a geographic area. Some universal interventions will impact the entire population, and risk stratification will also need to occur for targeted interventions. Although the needs of high-utilizers and high-cost populations should be specifically addressed, it will also be important to test whether costs could be averted and outcomes improved by specifically addressing the needs of medium-prevalence and medium-cost users.

**Partners:** Partners should include those providers with the greatest impact on child health and development. The following are examples of key partners:

- Health care, including pediatric providers and associations (e.g., health plans, hospitals, private providers or medical groups, primary care providers, behavioral health providers, dental providers, pharmacies, accountable care organizations, and community clinics)
- Payers (state Medicaid agencies, private payers, or managed care organizations)
- Early care and education (preschools, Head Start, child care centers, and so on); schools and school districts; child-serving organizations; housing agencies or nonprofits; food-systems and food-security organizations; transportation and land-use planning agencies or organizations
- Families who live in the community
- Local governments
- Government health and human services agencies/public health departments
- Grassroots, community, and social services organizations
- Businesses and local employers
- Economic development agencies
- Local, regional, or national philanthropic organizations
- Faith-based organizations
- Parks and recreational organizations and agencies
- Law enforcement and correction agencies/juveniles

**Return on investment (ROI) time frame:** Given the nature of the outcomes ACH for Children and Families models are seeking to achieve, outcomes should be tracked over 7-10 years. Communities should explore analyzing savings across sectors.

**Metrics:** The metrics for an ACH for Children and Families are likely to differ from those of a “traditional” ACH, though there would be some overlap. Examples of metrics that might be considered are proportion of children ready for kindergarten, school days missed, reading by grade level, number of health and developmental screenings, community resources identified and referred to, food and housing security, proportion of infants born healthy and to prepared parents, and proportion of adolescents who use alcohol or tobacco or that develop mental health conditions.

**Payment model innovation:** Value-based pediatric models are not as prevalent as value-based models for the adult population. Accordingly, communities should work with payers and their states to innovate and experiment with different types of payment models to enhance understanding of what works. This may require more innovation and testing than is the case with adult-focused models.

**Integrating an ACH for Children and Families with other ACHs:** It will be important to test whether a stand-alone ACH for Children and Families would achieve the scale...
and eventual cost savings needed for success or whether an ACH for Children and Families should be embedded in a broader ACH (with some shared infrastructure, data sharing, and so on, but distinct payment models and metrics) to achieve financial sustainability. Both models should be tested and studied.

Conclusion

Given the state of the science regarding the importance of early brain development and the “foundations of lifelong health” [2] taking root in the early years, there is a need to continue to explore models of care that explicitly seek to optimize health across the lifespan, starting in the early years. An ACH for Children and Families offers the opportunity to bring together community partners to address the social, developmental, and health needs of the child and family, thereby creating the potential to reduce adverse outcomes and improve a child’s trajectory. Although this model is likely to produce fewer health care cost savings in the short term than a model focused on high-cost adults, over the long term, it offers the potential to improve outcomes and reduce costs across a number of sectors, thereby building a stronger foundation to help sustain the community partnerships, data sharing, and financial sustainability mechanisms inherent in the model. Additionally, embedding an ACH for Children and Families within a broader ACH would afford communities the opportunity to address the needs of a portfolio of populations with a portfolio of interventions, using some shared infrastructure. A reorientation toward upstream prevention, community-based solutions, and value-based care through an ACH for Children and Families would support a paradigm shift and community culture explicitly focused on helping children and families reach their full potential.

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