Neighborhood Adversity, Child Health, and the Role for Community Development

abstract

Despite medical advances, childhood health and well-being have not been broadly achieved due to rising chronic diseases and conditions related to child poverty. Family and neighborhood living conditions can have lasting consequences for health, with community adversity affecting health outcomes in significant part through stress response and increased allostatic load. Exposure to this “toxic stress” influences gene expression and brain development with direct and indirect negative consequences for health. Ensuring healthy child development requires improving conditions in distressed, high-poverty neighborhoods by reducing children’s exposure to neighborhood stressors and supporting good family and caregiver functioning. The community development industry invests more than $200 billion annually in low-income neighborhoods, with the goal of improving living conditions for residents. The most impactful investments have transformed neighborhoods by integrating across sectors to address both the built environment and the social and service environment. By addressing many facets of the social determinants of health at once, these efforts suggest substantial results for children, but health outcomes generally have not been considered or evaluated. Increased partnership between the health sector and community development can bring health outcomes explicitly into focus for community development investments, help optimize intervention strategies for health, and provide natural experiments to build the evidence base for holistic interventions for disadvantaged children. The problems and potential solutions are beyond the scope of practicing pediatricians, but the community development sector stands ready to engage in shared efforts to improve the health and development of our most at-risk children. Pediatrics 2015;135:S48–S57

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On many fronts, pediatrics has been successful in improving the health of children. Medical advances and public health measures have reduced the occurrence of acute life-threatening diseases that were once the predominant cause of childhood mortality and morbidity. According to measures other than acute illness, however, children are not faring as well. Chronic and noncommunicable diseases are on the rise, and racial and socioeconomic disparities continue to widen, not only in standard measures of health but also across the range of life circumstances that contribute to well-being such as education and employment. More than 1 in 5 US children live in poverty; among Latino and African-American children, it is ~1 in 3.

These social disparities have the same sort of impact on poor children as does bullying of the weak by the strong. Social inequality is the population equivalent of the social hierarchies that exist among schoolchildren on the playground. Pediatricians are uniquely positioned to see the effects of these growing threats to child development and well-being. At the same time, we pediatricians may feel poorly equipped, in the context of our clinical practices, to address the biggest health challenges our patients face.

What can pediatricians do to address the community-level social hierarchies so prevalent in our society? We know that the family and neighborhood living conditions that our patients face can have lifelong consequences for their health. Recent advances from across fields of science reveal that exposure to adversity (particularly the sustained, unmediated adversity producing “toxic stress”) becomes biologically embedded, influencing gene expression and brain development. It has both direct health consequences as well as indirect health effects due to the resultant lower educational attainment, lower economic status, and poorer health behaviors.

The effect of these latter factors is multiplied because they place children into higher risk environments as they move through adolescence and adulthood. The result is significant differences in life expectancy and health outcomes throughout the life span and multigenerational disadvantage. Simply put, one's body is the sum record of the challenges and opportunities faced throughout life.

Too many neighborhoods have too few opportunities and too many challenges. This fact is hurting the health of many Americans, and children bear the brunt because so many live in poverty. By understanding the developmental mechanisms by which adversity gets “under the skin,” we are better able to design interventions to improve child developmental and health outcomes. Pediatricians witness the effects of these disparities. We are in a unique position, therefore, to advocate for change.

To address health disparities, we cannot simply intervene with medical care, even medical care in early childhood. We will also not be successful in ameliorating the effects of poverty by providing single-focus interventions, such as pre-K education. Such interventions are extremely important but do not—in isolation—overcome the deeper effects of sustained adversity. Instead, a critical strategy requires improvement in the overall neighborhood conditions and life circumstances into which children are born and spend their early childhood years.

The tools to improve neighborhood conditions are beyond the means or capabilities of medical care providers or even public health practitioners. However, the field of community development has been building the expertise to allow us to transform neighborhoods in ways that will have a profound effect on children's health, both during childhood and throughout life.

The community development industry has a growing number of examples in which disordered, high-poverty neighborhoods have been transformed to profoundly improve the trajectories and life chances of the children living in them. These efforts have brought multiple elements together, often utilizing many funding streams and facilitating collaboration among partners from different sectors of society. For example, they unite affordable housing, better education, functional transportation, and reliable public safety. These successful efforts are a great public policy success story. It is a success story, however, that is not well known.

Community development improves child health outcomes but, generally speaking, improving health has only rarely been an explicit goal of these projects. In fact, in most cases, there has been no research on health outcomes. These efforts may represent solutions to the biggest child developmental challenge we face today: entrenched, multigenerational poverty and the impact of growing up in high-poverty neighborhoods. The present article proposes the next steps for taking this approach to scale and maps out the critical role that the health sector can play to bring health outcomes more explicitly into focus in these projects, to optimize intervention strategies, and to use these natural experiments to build the evidence base for what works.

**EVIDENCE FOR NEIGHBORHOOD CONTEXT AND CHILD HEALTH**

**Neighborhood Matters to Health Outcomes**

Relationships with parents and caregivers form an emotionally protective environment for early childhood development. Communities or neighborhoods, similarly, are an influential environment, positive or negative, for adolescents, adults, and families. Neighborhood disadvantage, therefore, harms young children in part through its impact on family functioning.
Research into the mechanisms and the impact of neighborhood conditions on health has now been underway for $\geq 2$ decades. Key neighborhood factors affecting individual and family well-being include social integration, perceived control, financial strain, social capital, residential stability, and safety or exposure to violence. Although a handful of studies have suggested caution regarding the nuance of these links, a substantial body of research now supports this connection: neighborhood conditions have an important and independent impact on long-term health outcomes.

Living in high-poverty, distressed neighborhoods, such as those that undermine social ties and threaten safety through conflict, abuse, or violence, negatively affects health status into middle and old age. Indeed, studies have drawn links between neighborhood disadvantage and cardiovascular disease, cancer, obesity, depression, employed, living in single-parent households, and with low occupational status or low educational attainment. Cumulative neighborhood disadvantage was significantly related to higher allostatic load, suggesting that biological dysregulation (or wear-and-tear) accrued over the life course as a result of neighborhood disadvantage. These recent findings are consistent with the few other studies available examining the long-term impact of neighborhood exposure. For example, Vartanian and House

Mediators of Neighborhood Impact

Neighborhood adversity seems to affect health outcomes to some degree by affecting health behaviors and significantly through the impact of toxic stress and associated increases in allostatic load (e.g., stress and fear in response to the perception of neighborhood danger).

Gustafsson et al studied the relationship between neighborhood features and allostatic load. They determined allostatic load by using a number of measurements, including blood pressure, blood lipids and glucose, and cortisol levels at ages 16, 21, 30, and 43 years, studying the cumulative effects on subjects across $\sim 3$ decades. Social and material adversity were determined and cumulative neighborhood adversity was calculated with indicators including the percentage of residents considered low-income, unemployed, living in single-parent households, and with low occupational status or low educational attainment. Cumulative neighborhood disadvantage was significantly related to higher allostatic load, suggesting that biological dysregulation (or wear-and-tear) accrued over the life course as a result of neighborhood disadvantage. These recent findings are consistent with the few other studies available examining the long-term impact of neighborhood exposure. For example, Vartanian and House

From Neighborhood Impact to Neighborhood Intervention

Public health’s response to the role of neighborhood on health often assumes that the key mechanism of neighborhood impact is lack of access to services and resources. Examples include work on obesity prevention that focuses on introducing grocery stores or farmers’ markets in “food deserts” or work to bring health services to communities lacking clinics. Although these options are important, access to healthier food and medical services is not enough. We must transform neighborhoods into cohesive, stable, and appealing environments for the well-being of families and the healthy development of children. It is good fortune that health has a partner in the field of community development, which has been doing precisely that since its establishment in the 1960s.
COMMUNITY DEVELOPMENT HISTORY AND SCALE

The term “community development” describes a largely nonprofit sector of the economy that provides interventions to improve low-income communities and the lives of the people who live in them. The interventions are primarily investments allowing individuals and families to build wealth and help communities provide service-enriched affordable housing, clinics, schools, grocery stores, and other facilities to make neighborhoods more viable. In addition, community development fosters small businesses as a means of developing local entrepreneurs; more small businesses in low-income neighborhoods provide local jobs and can create a powerful, positive ripple effect that improves the local economy for all.

The dollars invested are substantial. The federal government has several investment tax credit and block grant programs that amount to nearly $16 billion annually. Those subsidy dollars, along with funds from state and local governments and foundations, provide the seed capital that allows community development to attract additional market-rate capital from insurance companies, pension funds, and especially banks. Banks are motivated by the anti-redlining Community Reinvestment Act of 1977 requiring banks to demonstrate investment in low-income neighborhoods. Total funds invested as a result of this act are hard to measure, but according to the 1 count from federal bank regulators, it was more than $200 billion in 2009 alone.

The achievements of this community development investment have been substantial. Community developers have built >5 million homes housing some 10 million low-income individuals and families since the late 1980s, using the Low Income Housing Tax Credit. This housing is a far cry from the common image of government housing projects as instant slums. Instead, as we describe later, community development dollars have led to high-quality housing in vibrant communities. When high-quality housing is coupled with integrated social services, it can serve as an anchor investment in neighborhoods that have experienced decades of disinvestment. People begin to care about neighborhoods they can be proud of, where they feel connected and involved.

A Brief History of Community Development

Perhaps the earliest efforts at community development occurred in the late 19th century when US cities grew explosively, with new arrivals from rural areas or immigrants from other countries. These newcomers crowded into cities looking for work. Competition for jobs pushed wages down, and competition for shelter pushed rents up. As a result, the new urban working poor often found homes in slums, ghettos, and barrios. We see this pattern across many cities and many times: in Chicago in the 1880s, Rio de Janeiro in the 1960s, and Shanghai in the 1990s. Erickson, in The Housing Policy Revolution: Networks and Neighborhoods, provides a history of community development.

People living in these neighborhoods were poor but had many intangible assets, a sense of community, and entrepreneurial spirit. Community development was born in that liminal space between great need and great opportunity. The settlement houses of the late 19th and early 20th centuries responded by providing comprehensive education, job training, and skills. Immigrants took advantage of the opportunities and built a better life for themselves and their children.

Modern community development has its roots in the War on Poverty initiative begun under the Johnson administration in the 1960s. Federal programs sought “maximum feasible participation” of low-income communities to help themselves. Part of that process required community organizations to create a strategy for improving community conditions, which were called community action plans. Many of the plans morphed into institutions, called community action agencies, which evolved over time to become community development corporations (CDCs). Senator Robert Kennedy championed the first CDC, the Bedford Stuyvesant Restoration Corporation in New York, in the mid-1960s. Today, there are >4600 CDCs across the country. CDCs are primarily real estate developers. They are joined in the community development network by community development financial institutions (CDFIs) that operate like nonprofit banks creating tailored financial transactions for complex deals. CDFIs started out as small-loan funds, many originating with the retirement savings of Catholic religious orders. Today, in the United States alone, there are >800 CDFIs with more than $30 billion under management, many of them large and sophisticated.

The Low Income Investment Fund, for example, has deployed more than $1.5 billion benefitting 1.7 million low-income individuals. CDCs and CDFIs also work with banks, for-profit real estate developers, state and local governments, and other nonprofits in true public–private partnerships to improve neighborhoods.

Health and Community Development

Until recently, community developers did not consider health to be among their responsibilities. More recently, community developers and public health visionaries who recognize that zip code has more influence over health than one’s genetic code have realized that a partnership between industries concerned with health and those concerned with neighborhood development could be fruitful. Indeed, Risa Lavizzo-Mourey, president of the Robert Wood Johnson Foundation, the nation’s largest health
Examples of Community Development’s Impact on Children and Families

The community development sector offers significant resources earmarked for addressing what the medical and public health fields consider the social determinants of health. The key question is whether neighborhoods can actually be improved enough and in the right ways to make a difference in children’s lives. Can they be transformed to provide families the environments they need to support healthy child development and end the cycle of poverty? Over the past several years, the Federal Reserve System, in partnership with the Robert Wood Johnson Foundation, has led a series of meetings around the United States to explore how community development and the health sector can partner to create meaningful changes in disadvantaged neighborhoods, and to do so at scale. Although rigorous evaluation data on health outcomes have not yet been gathered, there are a number of neighborhood transformation projects with results that are powerfully suggestive. The most successful projects tackle neighborhood distress and dysfunction on numerous fronts simultaneously, addressing multiple social determinants of health (although those in community development would generally not have used that term). By addressing both place and people (ie, physical infrastructure and human capital/community processes), these projects achieve results that are more than just the additive benefit of separate component parts. Each project is also tailored to its community, involving residents and utilizing the unique assets of each neighborhood. There are commonalities across these projects, however, that could be replicated to “routinize the extraordinary.” A key common feature is that each project has had a “community quarterback,” usually a single organization often led by a dynamic individual, that holds the vision for the project, convenes stakeholders and potential partners, coordinates partners’ activities across sectors and funding streams, provides staffing, and tracks results. Recognizing the importance of community quarterbacks in catalyzing and coordinating transformational change, the Citi Foundation through its Partners in Progress program recently awarded more than $3.25 million to 13 organizations across the United States to play such a role.

The present article describes 3 such projects that have dramatically improved neighborhoods: East Lake in Atlanta, transformed by what subsequently became Purpose Built Communities; the Magnolia Community Initiative in Los Angeles, a multisector network in partnership with residents; and Neighborhood Centers Inc, responsible for transforming several neighborhoods in the greater Houston area.

Purpose-Built Communities/ Eastlake

In the early 1990s, the East Lake neighborhood of Atlanta grappled with extreme poverty, high crime rates and violent crime, poor educational attainment, and high unemployment. The neighborhood was called “Little Vietnam,” not because it was home to Vietnamese immigrants, but because it was like a war zone. Prompted by a study linking neighborhood to the likelihood of resident incarceration in the New York state prison system, Atlanta philanthropist Tom Cousins devoted the resources of his family foundation to transforming East Lake. Using both community development and private funding, the East Lake Foundation built mixed-income housing in place of the existing substandard public housing, built a charter school, and brought in shops and the YMCA. The effort of this public-private partnership took ~10 years, with a lead organization dedicated solely to ensuring that all elements were properly sequenced and coordinated (ie, a community quarterback), but the results are impressive. There was a 73% reduction in crime and a 90% reduction in violent crime. The estimated economic benefit of reduced crime (including reduced costs to victims and saving savings from estimated reduced lifetime criminality of the student body) was $10 to $14 million in 2007 dollars. The employment rate rose from 13% to 70%. Although some of the original residents did not return to the reconstructed East Lake neighborhood, most did. The neighborhood also attracted many new middle-income neighbors. The new Drew Charter School is now 1 of the top-performing schools in the city, while still serving predominantly low-income children (80% of the students receive free and reduced-cost lunch). Increased lifetime earnings as a result of higher educational attainment were projected to be $14 million (in 2007 dollars) per graduating class of 85 students or nearly $165 000 per child over the course of his or her life.

The project was successful because it used a coherent and integrated strategy. As the Robert Wood Johnson Commission to Build a Healthy America noted, “Instead of attacking poverty, urban blight, and failing schools piece-meal, a group of community activists and philanthropists in Atlanta took on all of these issues at once.” Interestingly, in the early stages of this effort, neither health nor health care was identified as key components, although a health-related focus has been incorporated more recently. The approach used in the East Lake neighborhood has become the basis for multiple efforts across the country, including New Orleans, Indianapolis, and Omaha.
Magnolia Community Initiative

The Magnolia Community Initiative focuses on a 5-square-mile area, comprising 4 zip codes and 500 square blocks south of downtown Los Angeles; this neighborhood is home to 35,000 children. The Magnolia Community Initiative was launched with the goal of reducing child abuse and neglect. Instead of focusing on identifying individual at-risk children and providing individual services, the initiative took a population-based approach, seeking to improve conditions within the neighborhood so as to provide robust improvements in conditions for all children. The initiative supports residents within neighborhoods to take personal actions that improve the well-being of their own family and their neighbors. Moreover, the network of organizations that comprise the initiative set aspirational goals for itself: that the children living in the catchment area “will break all records of success in their education, health and the quality of nurturing care they receive from their families and communities.” Four goals that are recognized contributors to lifetime outcomes for children were identified: “educational success, good health, economic stability and safe and nurturing parenting.”

The initiative established the Magnolia Place Family Center, a community hub offering colocated services related to all 4 of the core goals and bringing together agencies and service providers offering medical care, parenting classes, legal services, access to affordable financial services at a bank, and mental health services. The state-of-the-art center, opened in 2008, also offers spaces for family activities and parent/child activities. More than 70 city, county, and nonprofit organizations that comprise the network operate at the center and throughout the larger community. An explicit feature of the multisector partnership is that new partners (organizations or individuals) are asked to bring to the community the contributions that enable them to fulfill their goals. The initiative does not incentivize or compensate partners; instead, they participate in the initiative as part of fulfilling their own missions. They focus on working together as a system using linkage, empathy, and holistic elicitation of client and resident assets and needs to support achieving the 4 core goals. The network utilizes the expertise in diverse service sectors on how to mitigate toxic stress and optimize well-being. Progress is rigorously tracked by using a community dashboard (Fig 1) that follows outcomes on a population basis.

Neighborhood Centers Inc.

The focus for Neighborhood Centers Inc (NCI), based in Houston, Texas, is smoothing the way for immigrants and other newcomers to succeed, thrive, and contribute as they integrate into life in Houston and other Texas communities. Using an asset-based approach, the goal of NCI, which operates 74 centers in 60 Texas counties, is to change lives. They start not from what is “broken” in communities, says CEO Angela Blanchard, but from what is working. This method involves facilitating residents and social service partners in the community to define a vision, needs, and existing resources; bringing the appropriate partners to the table; securing funding and other resources; and coordinating a complex collaborative process that melds these elements into a transformative whole.

In many neighborhoods, this goal involves building or revitalizing a neighborhood center. These centers then become community hubs, offering an array of services that community members requested, including everything from tax preparation and affordable banking services, jobs assistance, and fitness classes, to help with citizenship applications, English classes, and charter schools. Community residents receive services and support, but they also have the chance to give back to their community, becoming leaders, entrepreneurs, and volunteers.

Core areas of focus for the NCI model are: economic development; citizenship and immigration services; family health and education; civic engagement; and programs for youth and seniors. NCI serves a sustained coordinating role and also works to build the community infrastructure and organizational capacity to manage this complexity. NCI is 1 of 21 recipients of the US Department of Education’s Promise Neighborhoods planning grants and is, in many ways, the quintessential community quarterback.

WHAT’S NEXT

By bringing the health care and public health fields together with the community development and social investment sectors, we can resist social hierarchies and create communities that help children grow up healthier. Combined, these sectors spend trillions of dollars to improve people’s lives, their health, and their economic well-being. Such endeavors may be the best way to address those features of urban life in the United States that have led whole neighborhoods to get stuck in seemingly intractable poverty and disarray. The fields of community development and health, when engaged together, can positively alter the social determinants of health.

The Build Healthy Places Network has been established to engage and connect those working in the health and community development sectors to catalyze the spread of neighborhood-transforming projects such as those described earlier. The network will establish an institutional home for the new partnerships and knowledge from health and community development collaborations. It will develop the health metrics critical to providing community developers with tools...
FIGURE 1
Sample of the Magnolia Community Initiative data dashboard (November 2013). Information derived from the Early Development Index assessed in schools, a biannual community survey, and regular parent and organizational surveys. IEP, Individualized Education Program; orgs, organizations.
eed to incorporate health into their work and will explore new financing strategies to help take this approach to scale (eg, social impact bonds).

**Build the Evidence Base**
To date, with a few exceptions, the health outcomes that result from community development investment, even in the dynamic, multifaceted projects described here, have not been systematically measured. Health and public health expertise and research can provide the evidence base to determine which investments and what kinds of projects have the biggest impact, with the goal of guiding project decision-making and design. Furthermore, on a scale not otherwise possible, health researchers can use large-scale community development projects planned or already in progress to answer critical questions about the impact of community-level interventions on child development. Evidence from the “natural experiments” in neighborhood development can deepen and extend our understanding of child cognitive, psychosocial, and physical development. The cost savings that accrue in health care, education, criminal justice, and other arenas as a result of community development investments are not currently assessed in a systematic way. Health researchers can help determine how best to measure and monetize these “social returns on investment.” Finally, evidence for improved health outcomes and reduced social costs has the potential to attract substantial new dollars from private capital, including health-focused investors, health foundation mission-driven investing, social impact bonds, and social impact investors.

**Connect Partners**
As we have seen, projects to transform distressed neighborhoods require broad, cross-sector collaboration at the local level. At the national level, those already doing this work need the opportunity to learn from one another, both together and across sectors. The new network will connect newly formed initiatives with more experienced peers, try to overcome challenges such as sectoral language barriers, and find new ways to manage the complexities of multiple funding streams. The network will work to bring these initiatives to scale, extending them into disadvantaged neighborhoods around the country by linking new partners armed with new knowledge.

**Make Child and Family Health a More Explicit Focus of Community Development**
The key to unlocking the immense potential for health in the community development sector lies in making child and family health more explicitly the focus. The new frameworks and concepts emerging from work on toxic stress and brain development and on neighborhood adversity mark a new path for addressing disparities in childhood development and long-term health, but it is also a powerful new organizing paradigm for community development. Increasingly, community developers consider improving the social determinants of health as the way to improve local economies. The Robert Wood Johnson Foundation Commission to Build a Healthier America is trying to accelerate this evolution by making the full integration of health into community development sector evidence, research skills and expertise in childhood development with the business and finance skills, resources, and capacity to rebuild neighborhoods of those in community development, we have a real chance to do so.

**SUMMARY AND CALL TO ACTION: ENDING THE BULLYING SOCIETY**
What role does the field of pediatrics have in addressing the types of community-level social hierarchies described here? If we take to heart new understandings of childhood development, allostatic load, and the independent impact of neighborhood on health, if we accept that the vast percentage of health outcomes are not the product of health care, and, moreover, if we conceive of our work as that of ensuring healthy child development, rather than simply treating children once they become unhealthy, we must extend the scope of our practices beyond the clinic or hospital walls. Although we cannot directly address some of the factors that are most important to children’s healthy development, we can partner with others who do. The impact of neighborhood adversity on health, independent of individual- or family-level socioeconomic factors, requires that interventions move beyond addressing individual adversity alone. Our involvement as physicians can help focus and direct intervention goals so that they provide the conditions for healthy early childhood development across the cognitive, physical, and psychosocial realms. These multifaceted interventions must foster both family and community health, providing children the right milieu in which to grow. Inside the examination room, we can work with children in the context of their family environment, screening for healthy and stable family functioning and for stressors on caregivers. Outside of the examination room, we can work within the community to ensure that family functioning is supported with both place- and people-oriented resources and advocate for those resources when not available.

The stakes for success in this partnership could not be higher. We are failing our patients—our children—if we do not provide them the best possible start in life. Reaching this goal means ensuring that they live in neighborhoods that promote opportunity and reduce life’s challenges. By bringing together health sector evidence, research skills and expertise in childhood development with the business and finance skills, resources, and capacity to rebuild neighborhoods of those in community development, we have a real chance to do so.
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