

The Healthy Neighborhood, Healthy Families Initiative

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Extreme poverty and the associated effects, such as blight, housing insecurity, and crime, have debilitating consequences on child development. Health care institutions are largely ineffective in changing those outcomes 1 child at a time. We present a case study of a hospital treating the adjacent neighborhood as a “patient” to address social determinants. The community represents a largely impoverished and housing-unstable neighborhood that underwent an assessment by community partners and treatment with a multifaceted housing intervention. Marked improvement in vacancy rates occurred, although outcome assessments for children are still being gathered. Several case learnings are presented, but the involvement and investment of pediatric health care clinicians and institutions increased the speed and size of neighborhood development after 80 years of redlining and institutional racism.

Severely impoverished neighborhoods are known to have deleterious effects on the health and wellbeing of children and their families.¹ These neighborhoods often are marked by a syndrome of “neighborhood effect” symptoms, including concentrated poverty, racial segregation, trauma, violence, environmental toxins, low social cohesion and support, and poorly performing schools.^{2,3} The concept of the neighborhood effect is most commonly used in sociology, geography, city planning, and other fields. This well-established body of literature includes more than a half-century of studies from multiple disciplines in the social sciences.⁴ Neighborhood effect literature has also recently been expanded into the realm of public health scholarship, in which stress impacts a variety of youth outcomes^{5,6} and social mobility among residents, trapping families in cycles of intergenerational poverty.⁷

Health care providers caring for individual children from these affected neighborhoods encounter challenges to service delivery, including extreme residential mobility and school

changes, that undermine interventions, with resultant disparities occurring in outcomes.⁸ One novel approach is to address neighborhood effect syndrome as a target for pediatric health care, or viewing the neighborhood as the “patient.” Specific guidance is needed for hospitals or other anchor institutions that aim to improve neighborhood conditions through homes for health or other social interventions. We present a case study of housing interventions developed by 1 children’s hospital, its pediatricians, and its partners to address blighted neighborhood conditions.

DEFINING PATIENT INFORMATION

The Southern Orchards neighborhood of Columbus, Ohio, is 1 community that is ill from neighborhood effect syndrome. The community was racially segregated from historic housing discrimination from both the private market and public policy; the community was also deeply impacted by the construction of major urban highways (the Interstate 70–Interstate 71 split) in the

abstract



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Dr Kelleher led contributions related to the structure and implementation of the Healthy Neighborhoods, Healthy Families initiative, conceptualized the article, and drafted the manuscript; Dr Reece led contributions pertaining to community conditions and development dynamics within the Southern Orchard neighborhood, conceptualized the article, and drafted the manuscript; Dr Sandel led contributions related to the discussion of housing and pediatric health, conceptualized the article, and drafted the manuscript; and all authors approved the final manuscript as submitted.

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mid-20th century, which physically separate the neighborhood from downtown Columbus.⁹ In 2009, 50% of the area's children were living in poverty, and approximately half of children in poverty in the neighborhood were African American.¹⁰ Because treating individual children and their health and social challenges had been ineffective and inefficient, Nationwide Children's Hospital, the neighborhood anchor institution, decided in partnership with residents, a church, and United Way to approach the neighborhood as a "patient" in cocreating a healthy community and initiated the assessment and therapeutic interventions with the neighborhood and partner agencies beginning in 2008.

Southern Orchards was chosen because there was active neighborhood leadership, the area included affected hospital patients and workers because of its proximity, local political leaders were concerned about the intense consequences of foreclosures there in 2008, and the patients were among the most expensive in the region with regard to medical use. This also coincided with the hospital assuming financial risk for all children with Medicaid in the community through its accountable care organization, which was first developed in 2002 but was expanded in 2008 to assume risk for 300 000 children through capitation payments.

The hospital team divided up roles among diverse departments. The chief executive interacts with the mayor and board members, whereas the chief financial officer leads operations related to housing development and chairs the Healthy Neighborhoods, Healthy Families (HNHF) Realty Collaborative. Community relations developed 5 positions to staff housing-related activities, and the vice president for community health is the lead agency contact for partners in the

community; United Way and the church facilitated most discussions with residents.

REGIONAL AND NEIGHBORHOOD HISTORY

The City of Columbus (OH) is experiencing rapid population growth, but the growth has left behind several pockets of concentrated poverty.⁹ One of these areas of concentrated poverty is Columbus's South Side, an area whose population of ~81 000 in a 3–zip code area has >1 in 4 (22 000) residents living below the poverty line. The hospital's HNHF is focused on the South Side zip codes (43205, 43206, and 43207). Within this larger HNHF area, the most focused intervention has occurred in the Southern Orchards neighborhood, which is immediately south of Nationwide Children's Hospital and includes all of census tract 56.10 (Fig 1). The Southern Orchards area is home to 4300 persons, with 23% being children.¹¹

At the beginning of the intervention, Southern Orchards was 1 of the poorest neighborhoods in Central Ohio and had a high violent crime rate.¹² More than half of the households said they were housing-cost burdened (housing costs >35% of income). The neighborhood had lost half of its population between 1970 and 2009 (Table 1). Foreclosures in Southern Orchards exceeded 21%, 1 of only 3 Columbus neighborhoods to do so.¹³ Abandoned, derelict, or vacant properties peaked at 31.3% of all lots in census tract 56.10, which was the main target for the partnership. An accurate vacancy rate was measured in this neighborhood through a hospital sidewalk survey of the 31-block area by using City of Columbus criteria to count all locations with city notice of dereliction and/or abandonment, boarded doors and windows, or city notice of unsafe conditions.

More than half (57%) of mortgages in the 56.10 census tract before the housing crisis were high-cost mortgages (Table 1). The instability created by the housing crisis deeply influenced homelessness in the South Side. Out of all Franklin County zip codes, the South Side zip codes were ranked second, third, and fourth in respect to their volume of residents entering the homeless shelter system.¹⁴

RESPONDENTS, CHIEF COMPLAINT, AND PRESENT ILLNESS

Multiple sources of data were sought to clarify the chief complaint of the neighborhood. Hospital staff began attending neighborhood civic association, area commission, and Department of Development meetings to identify the specific concerns of residents. A series of community meetings was held to gather input. The Kirwan Institute for the Study of Race and Ethnicity was engaged to conduct a community survey of community needs and assets with >150 residents at churches, public spaces, and food establishments.¹⁵ The analysis was funded through an outreach and engagement grant provided by The Ohio State University Office of Outreach and Engagement.

Numerous concerns were raised related to the severe poverty of the area, but chief among them was neighborhood safety. Safety concerns were primarily associated with population loss in the neighborhood and the resultant surge in vacant and abandoned property. Residents were deeply concerned about blight and gang and/or drug activity, including on vacant properties in proximity to the school. One community resident said, "Streets with a lot of abandoned houses make me nervous. I don't want to be scared, but sometimes I am."¹⁵

ASSESSMENT

It became clear that the neighborhood effect found in the

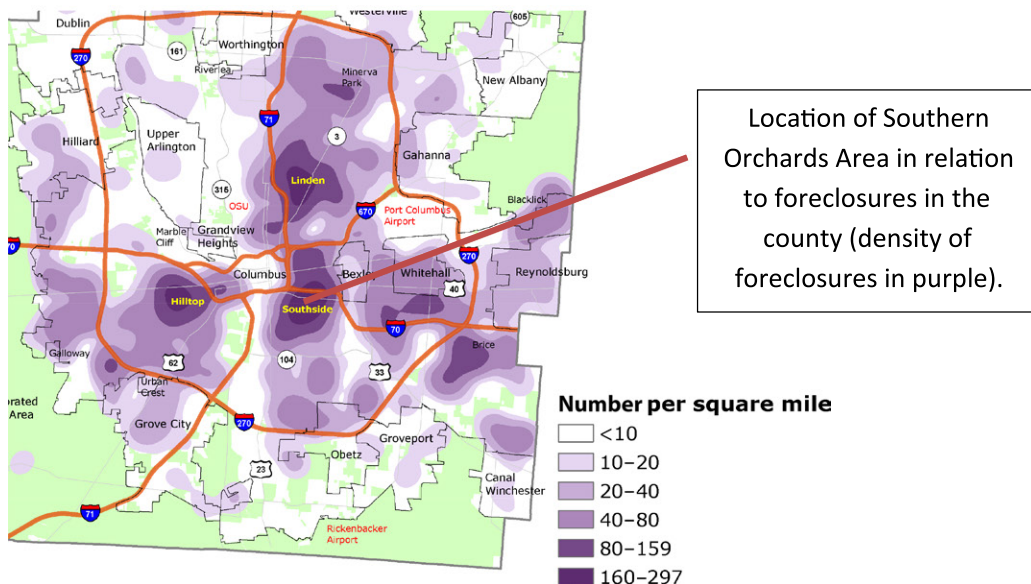
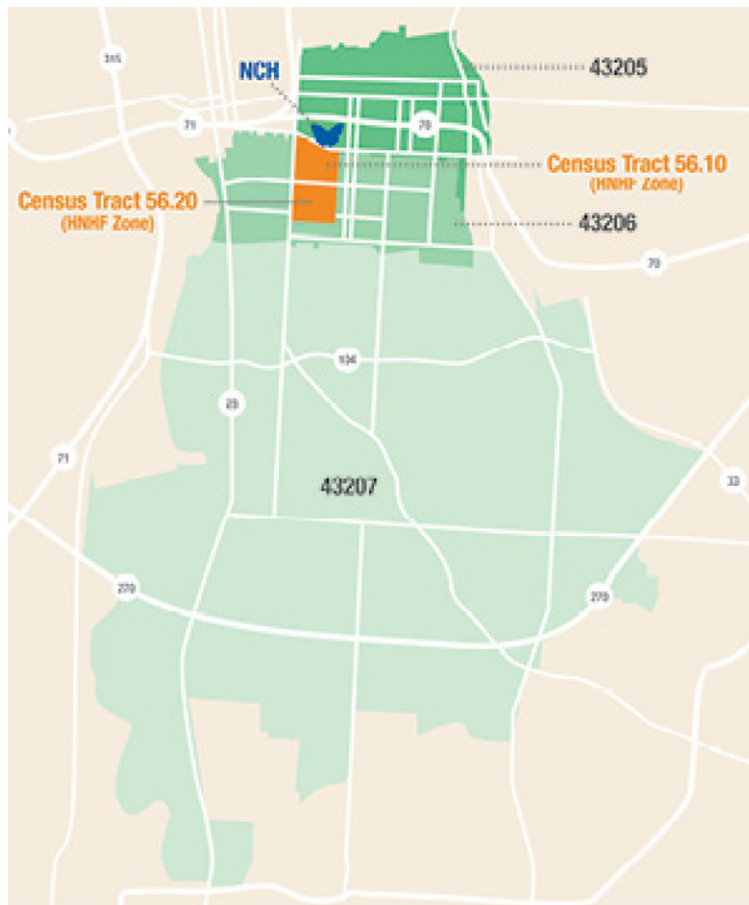


FIGURE 1

Reference map for the larger hospital neighborhood focus area and the Southern Orchards neighborhood and a map of foreclosure activity from 2007 to 2008 (just before the initiative began). The location of the Southern Orchards area in relation to foreclosures in the county is shown (the density of foreclosures is shown in purple). NCH, Nationwide Children's Hospital.

Southern Orchards neighborhood was driven by the lack of housing stability in the neighborhood

and had been exacerbated by the housing crisis. The conditions in the community led the HNHF partnership

to determine that the stabilization of existing homeowners' properties and home sales in concentrated

TABLE 1 Demographic Overview of the Southern Orchards Area at Time of Intervention (2009)

	%
Population	
Population Change 2000 to 2009	-19
Population Change 1970 to 2009	-48
Population African American	55
Population White	40
Population Under 18 (Tracts 56.10 and 56.20)	23
Economic Conditions	
Total Poverty Rate (Income at 100% of Poverty Threshold or Lower)	31.6
Child Poverty Rate (Income at 100% of Poverty Threshold or Lower)	49.1
Labor Force Unemployed (Neither Full or Part Time Employment)	21
Change in Unemployment Rate 2000 to 2009	+50
Change in Unemployment Rate 1970 to 2009	+600
Housing Conditions	
Households Homeowners	43
Households Renters	57
Property Vacant (US Postal Service & HUD)	26.7
Property Vacant (Tracts 56.10 and 56.20) (Hospital Led Community Survey)	31.3
Change in Vacancy Rate (Census) 2000 to 2009	+50
Change in Vacancy Rate (Census) 1970 to 2009	+350
Households Cost Burdened (Paying More than 35% of Income)	48
Change in Cost Burdened Households 2000 to 2009	+23

Census Tract 56.10, except where noted. Source: 1970 Census; 2000 Census; HUD Neighborhood Stabilization Data; 2005/2009 American Community Survey; Data for Census Tract 56.10. All figures are estimates for 2009, except where noted.

areas to provide coordinated safety and security would be the best initial steps. By using delinquent tax records, the Department of Development mapping process, county land bank surveys and foreclosure records, a base assessment was developed to design a multifaceted housing intervention.

DEVELOPMENT OF A NEIGHBORHOOD TREATMENT TEAM

During the assessment, it was noted that a not-for-profit development corporation called Community Development For All People had been incorporated by a local church and had been engaged in housing development work at a modest scale since 2005. Nationwide Children's Hospital invited For All People to cocreate a new, larger, affordable housing initiative called HNHF Realty Collaborative as the next step. This entity is owned by For All People with a board of directors selected by the 2 groups. This partnership, along with coordination from the mayor's office, allowed access to Neighborhood Stabilization Program

funds from the city, acquisition from the Land Bank, and support from contractors and realty agents to avoid speculation as the first steps in the treatment plan outlined below. The hospital chose to engage in these activities to reduce use for children in its accountable care organization, improve the area adjacent to the hospital for patients and staff, facilitate relationships with community residents and government agencies, and fulfill its mission.

These housing stability activities comprised a multifaceted intervention in the Southern Orchards neighborhood. They include a home repair program, a rehabilitation and home ownership program, a home construction program, home and career development building, and rental housing development. The hospital played several roles on the treatment team, providing multiple full-time staff to seek commitment and partnership with various neighborhood associations and the Department of Development, identifying properties that were

derelict or abandoned, acting as lender and sometimes financier of component housing interventions, and providing political leadership in obtaining foundation support to match various components and obtain in-kind efforts from realtors and construction groups. For example, the hospital originally loaned HNHF Realty Collaborative money for some construction, granted money to HNHF for rehabilitation, and coordinated a capital stack for the newest rentals by guaranteeing the loans for commercial banks. For All People played its own complementary roles on the treatment team, providing a credible grassroots connection to people living in the community and lifting up their housing aspirations. As a community development corporation, For All People was able to test new housing initiatives at a modest scale and served as the primary channel of grant funds from various government agencies, the United Way of Central Ohio, the Central Ohio Community Improvement Corporation, and other philanthropic sources.

THERAPEUTIC INTERVENTION

The intervention unfolded in 5 phases of housing investment and impacted different segments of the neighborhood's housing market. These intervention phases served different segments of the neighborhood's population.

Interventions and Timeline

Phase 1 (2008 to Present): Stabilize Existing Homeownership and Improve Safety With Lighting, Homeowner Exterior Improvement Grants

Known as the Home Repair Program, the program provides grants to existing homeowners. The grants target improvements that will improve the exterior appearance of homes, energy efficiency, the durability of the structures, or the

safety of alleys and streets. For example, they typically target roof repairs, energy-efficient windows, siding, painting, or landscaping. In the first 6 years of the program, grants for 74 homes worth nearly \$1 million were awarded.

Phase 2 (2009 to Present): Expand Ownership and Remove Blight, Home Rehabilitation and/or New Builds

The Home Ownership Program involves the strategic acquisition of vacant and abandoned homes or lots and the construction or rehabilitation of those properties for sale. The homes are constructed or rehabilitated with green or energy-efficient components with a goal of maintaining the existing architectural themes of the neighborhood. They are sold predominantly to persons with an income $\leq 120\%$ of the area median income, and incentives are provided for hospital low-wage employees with down payment assistance. Approximately 10 homes per year are sold this way, with a focus on growing outward, block by block, from the school buildings (Fig 2).

Phase 3 (2012 to Present): Expand Geography by Supporting Related Efforts, South Side Renaissance

In 2012, For All People recruited a group of business leaders who had grown up in the area to form a subsidiary called South Side Renaissance to expand the affordable-housing activities into a new 52-block area farther south of the intervention area. The hospital agreed to assign HNHF Realty Collaborative staff members to provide construction, project management, and property acquisition. Using skills garnered over the first 4 years of Healthy Homes, the staff helped the South Side Renaissance investors provide 75 area exterior home-repair grants and the first 16 of 30 vacant and abandoned properties for development with a focus on mixed-income housing plans (Fig 2).

Phase 4 (2012 to Present): Increase Rental Availability and Ensure Income, Low-Income Housing Tax Credit Townhomes and Apartments

In 2012, For All People joined with a for-profit housing developer and the City of Columbus to produce 40 single-family rental homes in the South Side Renaissance target area using a Low-Income Housing Tax Credit allocation of \$10 million. In 2015, a second Low-Income Housing Tax Credit allocation was used to build 56 senior apartments in the same area. These successes led the hospital, For All People, and the commercial developer to submit an application to the Ohio Housing Finance Agency for \$11.7 million. This successful award provided funding for the construction of the Career Gateway Homes, a 58-unit apartment and townhouse building on the site of an abandoned elementary school near the hospital (Fig 3). Career Gateway is focused on rental to minimum-wage employees and is seen as a strategy for overcoming transportation and job-promotion barriers for South Side employees. More importantly, Career Gateway also includes 2000 sq ft of employment-training space and digital equipment for the residents and the neighborhood with commitments from large employers, the hospital, and local job-training programs to provide occupational and personal support and training programs on-site.

Phase 5 (2016 to Present): Increase High-Quality Rental for Low-Income Families, Low-Income Rental Property Corporation

Healthy Rental Homes is a new initiative in which blighted units are renovated and made available for renters ($\leq 80\%$ of area median income or $\sim \$48\,600$ for a family of 4). Rent will average between \$620 and \$800 per month, and plans are to add 15 renovated units per year for the next 5 years, with the intention being to eventually include at least 300 units.

Follow-up and Outcomes

The community development efforts undertaken by the HNHF Realty Collaborative are still in their early phases given the 8-decadelong genesis of the Southern Orchards neighborhood effects syndrome, but some information is available. First, investments have dramatically transformed the housing stock in the area and reduced blight (Fig 4). Within an 8-year period, $> \$22.6$ million has been invested in housing in the neighborhood (Fig 5). This investment has altered the vacancy rate, which was the primary concern of neighborhood residents, in the target census tracts of Southern Orchards from $> 25\%$ to below the community average of 6% (Fig 6). At the same time, the rental stock in the neighborhood has not markedly improved to date but is the target for the next phases of the intervention.

As for quality of life in the neighborhood and other overall changes, the neighborhood has demonstrated improvement. Youth who have participated in the area's various youth development programs, such as the My Brother's Keeper initiative, have shown progress in emotional health and academic performance.¹² The local high school graduation rate has climbed from 64% (2013) to 79% (2017). The real estate market for owner-occupied homes has strengthened in the area, with a 50% increase in sales volume seen in single-family homes in the past year compared with the previous 5 years and a 22% increase in sales prices. With respect to safety concerns, homicides in the area have declined in recent years, and in the past year, although homicide rates have increased in the City of Columbus, no reported homicides have occurred in the immediate Southern Orchards neighborhood.

DISCUSSION

The Southern Orchards neighborhood, Nationwide



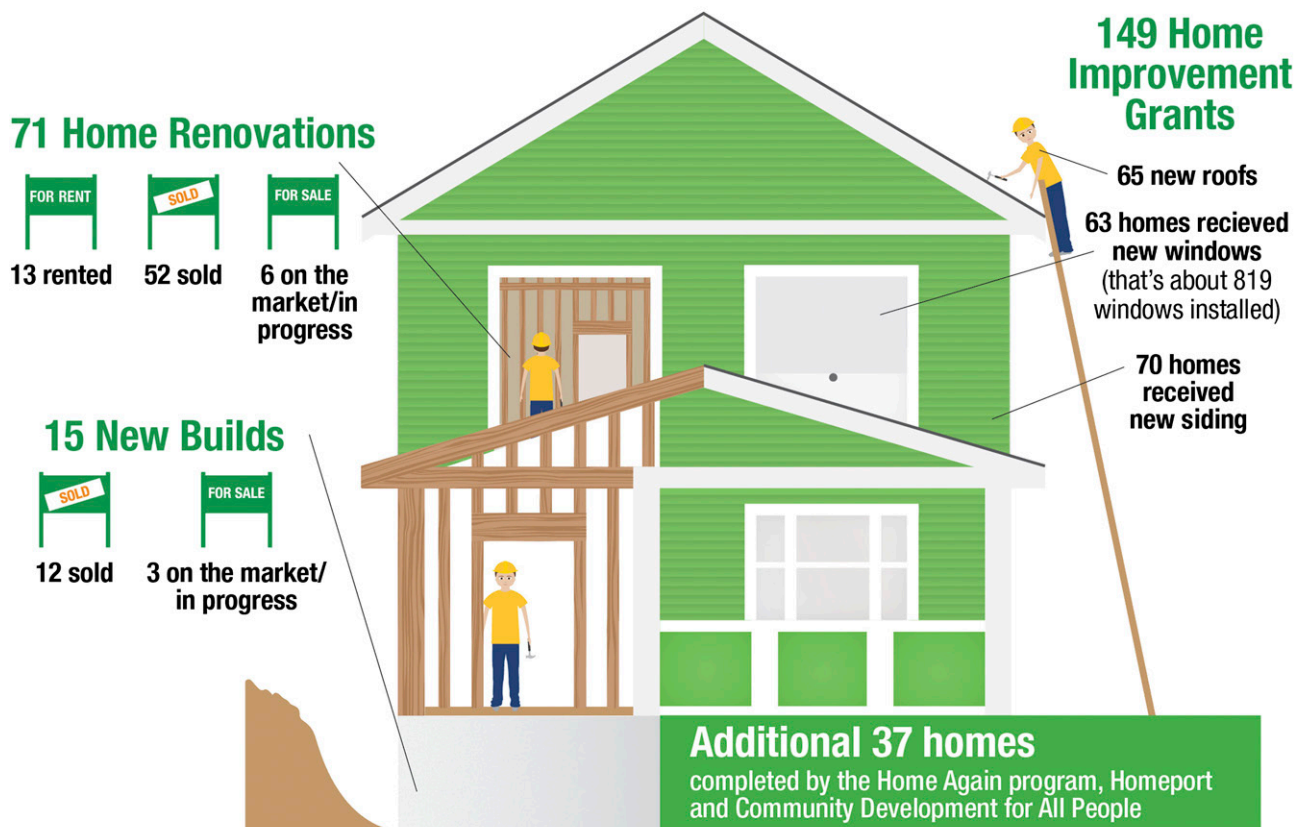
HEALTHY NEIGHBORHOODS HEALTHY FAMILIES
AFFORDABLE HOUSING

Improving the Neighborhood We Call Home

Healthy Homes

An affordable housing initiative aimed at revitalizing housing in the neighborhoods around Nationwide Children's. Focusing on blighted homes, Healthy Homes and its partners builds, rehabilitates and repairs homes.

Check out our progress from kick off in 2008 through today!



Healthy Homes and our community partners have impacted

272 homes!

Total Financial Investment: \$18,002,726

Our focus on partnerships and collaboration has fueled our effectiveness in our community. We are extremely grateful for our collaborators.



FIGURE 2

Overview of housing interventions as of 2016.

Children's Hospital, and their other partners are taking both short- and long-term views of community

development with an ambitious set of goals across multiple domains. Whereas the residents are motivated

by a safer place to live, the hospital is motivated by its accountable care organization under Medicaid reform,



HEALTHY NEIGHBORHOODS HEALTHY FAMILIES
AFFORDABLE HOUSING

Residences at Career Gateway

58

units of affordable housing
combined with onsite
workforce development
training



FIGURE 3

Representation of the recently opened Residences at Career Gateway project.

its penetration in the local market, covering many (if not all) of the inhabitants in the neighborhood, its proximity to the community, political relationships, and its main community partner, Community Development For All People.

Strengths and Limitations of Approach

If zip code is an enduring driver of both short-term and long-term health, children's hospitals and other health care facilities as anchor institutions should be in the zip code improvement business. Approaching the neighborhood effect syndrome and the neighborhood as a patient is a transformative change for medical institutions that have been traditionally organized around individual patients for >150 years. This type of systematic partnership with local residents and social service agencies employing a look

at neighborhood conditions and planning to ameliorate them is a unique strength of the approach, especially when agreement on common metrics can be reached.

However, there can be limitations to the approach, because improving neighborhood conditions can attract new inhabitants and potentially displace families who have lived there before. Although some health care anchors' community transformation efforts have laid the foundation for new and higher-income residents, HNHF's local goals assert that development should start with the welfare of the existing neighbors and families. Because many of the neighborhoods have many families in concentrated poverty, a mixed-income approach needs to be applied, increasing the supply of affordable housing units for low-income families while increasing middle-income units for home

ownership or market-rate rental units. This type of mixed-income housing approach can have many additional benefits beyond housing, including stabilizing children in schools.

Lessons Learned

Anchor Institutions Can Be Motivated

Health care anchors are embracing their role as partners to formally address local population health for a variety of reasons. First, the Patient Protection and Affordable Care Act (2010) requires not-for-profit institutions to reinvest in their local communities through a comprehensive needs assessment and intervention plan. In this case, the hospital has leveraged its investments by providing one-quarter to one-third of the resources for the roughly \$22.6 million invested. Secondly, upstream, social determinants of health are increasingly understood to be



FIGURE 4
Examples of the physical transformation of housing stock in the Southern Orchards neighborhood as a result of intervention efforts.

drivers of the health of communities. Finally, hospital involvement with value-based purchasing initiatives

encourages consideration of nonmedical determinants of health outcomes to reduce health care use

and improve value (in this case, for asthma, prematurity, and injury-related care).



HEALTHY NEIGHBORHOODS HEALTHY FAMILIES AFFORDABLE HOUSING

Healthy Homes

2008 to 2017 Investment

Hospital Contribution	\$6,663,000
United Way	\$1,759,000
City of Columbus	\$5,434,500
Franklin County Land Bank	\$425,000
Home Sales	\$8,179,000
Donations	\$220,000
TOTAL INVESTMENT	\$22,680,500



FIGURE 5

Financial contributions leveraged by multiple community stakeholders for housing investment in the neighborhood and the change in the neighborhood vacancy rate in the Southern Orchards community.

Investing in Neighborhoods Has Different Types of Returns on Investment Besides Financial

The goal for the hospital has long been to increase the overall health of its population, but several other influences encouraged innovation in housing partnerships. In 2009, the hospital was preparing for a massive expansion on its main campus in partnership with the city and committed to road and infrastructure; the mayor and city leaders needed a stable neighborhood. Moreover, patients, families, and staff needed a safe and attractive environment around the hospital campus for parking, travel, walking, and shopping. In short, safety, political influences, the mission, and financial risk for use all came together. Less clear are the health outcome returns for

neighborhood children. A segregation problem that took 80 years to manifest will take more than 8 years to resolve, but the collaboration is collecting emergency department data, crime data, and local school data to evaluate whether local children are faring better over the next 3 years.

A Community Quarterback Is Key

Community Development For All People was a natural community quarterback to partner with Nationwide Children's Hospital. For All People already served a large number of residents through its Free Store, was a faith home to many neighbors, and was well connected with political and financial leaders around town. Its early efforts to address affordable housing were just starting when the hospital became interested and chose to partner

rather than start an independent effort. The hospital provided grants to For All People to expand staffing and strengthen its organizational infrastructure. As a community-based organization, For All People provided the direct voice of some of the area's most marginalized residents, ensuring that this voice was not lost in engagement with corporate and political partners as the neighborhood intervention was implemented.

CONCLUSIONS

The neighborhood-as-patient approach yielded remarkable leverage from several community partners in reducing the exposure of children to substandard housing in the Southern Orchards neighborhood over the past several years. More importantly, it has produced a substantial

Vacancy Rate 2009 - 2016

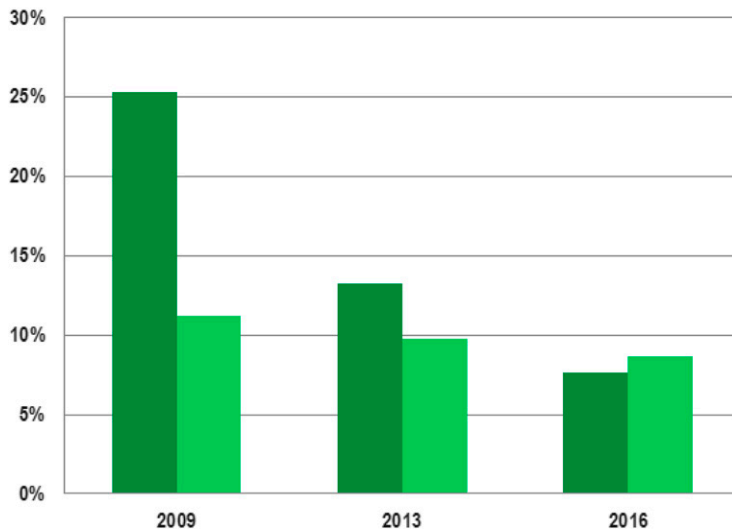


FIGURE 6

Change in neighborhood vacancy rate from 2009 to 2016 for the HNHF impact area and the Columbus MSA (change in vacancy postintervention). ^a Our source is the American Community Survey 1-year estimates for 2009, 2013, and 2015. MSA, metropolitan statistical area.

impact on the housing stability and incidence of blight in the community. Approaching social determinants of health through screening and referral in clinics is still important, but community-level approaches allow for the integration of epidemiologic approaches, business resources, and neighborhood development that can support mixed-income communities. Measuring success in the complexity of a neighborhood system will remain challenging.

ABBREVIATION

HNHF: Healthy Neighborhoods, Healthy Families

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