The Child Opportunity Index
Mapping and addressing inequities in neighborhood resources for healthy development
Keeping Up with the Neighbors

Can a new tool help policymakers and practitioners level the playing field when it comes to children's opportunities for healthy development?

By Max Pearlstein '01
Back in 2010, Boston Medical Center (BMC) pediatrician Renée Boynton-Jarrett recognized that there was an opportunity to have a bigger impact on children’s health. While her role as a clinician was to help keep kids healthy, she also knew that there was great potential for change if she could collaborate more closely with community-based realms that influence child health, like education and social services.

To improve communication among these different sectors, Boynton-Jarrett and several BMC colleagues created the Vital Village network to establish partnerships among the numerous but separate players — including educators, clinicians, social service providers, legal advocates and residents — who were targeting child well-being in the Boston area.

“One of the things we had a vision for was a shared way of transparently looking at the health of children in local neighborhoods,” Boynton-Jarrett says. She believed that working together across sectors could be encouraged by population surveillance data that showed a bigger picture than what was currently available. “You have census data, you have school data, you have police data — you have all these pockets of data, but they aren’t together. We felt like we could never get a sense of the whole story of what was happening with child health.”

In New York City, developmental psychologist Miranda Yates and Annie Gleason from the Program Evaluation and Planning Department at Good Shepherd Services were experiencing the same assessment frustrations. Serving nearly 30,000 people annually, Good Shepherd is a nonprofit that strives to connect children, youth and families living in under-resourced neighborhoods with opportunities for success by providing a network of youth and family development, education and child welfare services.

“One of the questions we needed to answer was whether we were in the right neighborhoods,” Yates says. “On the ground, we felt that the neighborhoods we were in made sense, but we wanted to see what the data would tell us. We were looking at the census and public data that was available, but those were
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only single measures, and we’ve come to understand the combined influences of family, neighborhood and school in impacting youth development. We were really searching for some kind of measure that would take all of that into account, and provide us with more of this holistic view of our neighborhoods.”

Today in Chicago, Nik Prachand and Kingsley Weaver, epidemiologists with the city’s Department of Public Health (DPH), are working with an interdisciplinary team to dig below the statistical surface of their local neighborhoods as the department develops a new data-driven health priority agenda for the city, Healthy Chicago 2.0.

“As opposed to just setting targets for health indicators, like heart disease should go down by a certain percent by a certain year, we’ve decided to look at the health status of Chicago through a lens of equity,” Prachand says. “We’ve been collecting information from various sources both from the city and nationally, and we wanted to go beyond economics to be broadly focused — let’s look at educational inequities, too, for instance. We read the article about the Child Opportunity Index in Health Affairs, and we immediately seized on it as a perfect example of how we’re trying to represent social equity in Chicago.”

That article, which appeared in a special November 2014 issue of Health Affairs on “Collaborating for Community Health,” was written by a group of researchers from Heller’s Institute for Child, Youth and Family Policy (ICYFP) and the Ohio State University’s Kirwan Institute for the Study of Race and Ethnicity.

In the piece, lead author and ICYFP Director Dolores Acevedo-Garcia describes a new online tool that provides a comprehensive, data-driven view of the access that children in America’s 100 largest metro areas have to healthy development resources in their immediate neighborhoods.

By accounting for a holistic set of 19 socioeconomic, educational, and health and environmental indicators — like poverty and foreclosure rates, the presence of quality early childhood education centers and health care facilities, and proximity to parks and open spaces — the Child Opportunity Index (COI) provides a bird’s-eye view of which neighborhoods are home to the highest and lowest levels of healthy development resources in a particular metro area.

Users of the index, which is available at diversitydatakids.org, can sort through the data and generate “child opportunity maps” that geographically illustrate residential access to these resources. It’s a tool that provides community practitioners interested in improving children’s health, like the teams from the Chicago Department of Public Health, New York’s Good Shepherd Services and Boston Medical Center, with a concrete understanding of the situations in their neighborhoods.

In the Health Affairs article, Acevedo-Garcia writes that a multidimensional index has the advantage of summarizing numerous sources of information into a single metric, which is useful in initiating discussions about a substantive issue such as inequitable neighborhood-based opportunity.

Acevedo-Garcia has wanted to spark such conversations since graduate school, when she wrote her dissertation on how exposure to tuberculosis risks varied greatly between communities, which were frequently segregated by race. “I was very interested in how geography plays a role in the risks and opportunities that people have,” she recalls. “We had a sense for a long time that some issues like poverty correlate closely
with segregation. But what about all the other things that kids need? My primary motivation was to determine whether they were also structured by these patterns of segregation."

It’s a question that stuck with Acevedo-Garcia after she earned her doctorate. She found like-minded colleagues at the Kirwan Institute, who had been collecting data related to opportunity in specific geographic areas. “They had been working on individual case studies, and what I wanted to know is whether we can look at the U.S. child population overall and understand the patterns across the nation, because that’s a strong predictor of where the country is going,” she says.

America’s future, according to a report released earlier this year by the United States Census Bureau, will be increasingly composed of racial and ethnic minorities. The bureau projects that by 2020, the majority of America’s children will be from minority groups.

This is where the Child Opportunity Index is especially illuminating. By laying demographic information over the index maps, like in the Milwaukee metro area map in this story’s sidebar, we can see whether children from various racial and ethnic groups are more likely to live in those neighborhoods with the highest or lowest levels of access to healthy development resources. When you do so, a trend quickly emerges: black and Hispanic children are much more likely to live in the lowest-opportunity neighborhoods — not in just one metropolitan area, or one region of the country, but clear across it.

"Perhaps it’s not surprising, but what is startling is the sheer magnitude of inequities in neighborhood opportunity that black and Hispanic children face,” says ICYFP researcher Erin Hardy. When we look at children from the 100 largest U.S. metros combined, 40 percent of black children and 32 percent of Hispanic children live in neighborhoods categorized as “very low” opportunity, compared to 9 percent of white children. “Those are massive differences with massive implications for children’s lives today and for our collective future,” Hardy says.

When considering the path ahead for America’s youngest generation, Acevedo-Garcia points to the large pool of current research on children’s resilience and vulnerability. “The way I think about it, there shouldn’t be differences in how
resilient kids need to be to cope with their neighborhood environment,” she says. “But if we have this striking contrast between the types of environments where kids live, that may lead to large disparities in the population.”

While the inequities are pervasive, the Child Opportunity Index shows considerable variation across the country’s 100 largest metropolitan areas. For example, the proportion of Hispanic children living in very low opportunity neighborhoods ranges from about 10 percent in New Orleans to 57 percent in Boston. In Albany, 60 percent of the area’s black children live in its lowest opportunity neighborhoods, compared to McAllen, Texas, at 8 percent.

Chicago has the lowest percentage nationally of white children who live in the worst neighborhoods for healthy development, at just 2 percent. That’s compared to 49 percent of black children and 29 percent of Hispanic children. Those figures suggest that Nik Prachand, Kingsley Weaver and their DPH colleagues have a lot of work to do to achieve health equity under the Healthy Chicago 2.0 plan. Fortunately, they’re beginning to find associations between child opportunity and health measures like obesity and the teen birth rate that will allow Chicago’s DPH to target its efforts.

“Our goal is to use the COI as a platform through which we can suggest place-based interventions where they’re needed most,” Prachand says. “We want to take the COI and use it as a baseline for city-wide development of resources and intervention programs.” He and Weaver plan to share the index with other city agencies like transportation and planning so those departments can utilize the index for their own strategic purposes.

Being able to provide such a comprehensive data tool to practitioners like the Chicago Department of Public Health is a great opportunity for the index researchers, but it took a lot of work for them to develop it. When they began building on the Kirwan Institute’s previous work, the team quickly found that it wouldn’t be a simple task. “As with most research projects, we thought this would be a significant effort, but we didn’t understand the complexity until we started the work,” Acevedo-Garcia says. “There were some things we knew how to do — for example, census data — but we grappled with some data issues for the first time.”

Several categories they wanted to include in the index didn’t even exist yet. “When we started this project, there was no ‘off-the-shelf’ data source of neighborhood-level measures about schools and early childhood education centers,” Erin Hardy says. So, she developed a protocol to measure it. After deciding on the quality marker for early childhood education — pairing accreditation by the National Association for the Education of Young Children with licensing data — the Heller-Kirwan team went state-by-state to gather the needed information.

“These two specialized data collections were very labor intensive, but the new databases and measures that resulted from them are important innovations,” Hardy says. “We thought that something as significant as information on the quality and geographic distribution of early childhood education is something we as a nation should have.”

For Good Shepherd Services’ Miranda Yates, the index data is also important for individual communities that want to address the systemic causes affecting critical local issues. “We’re very careful in how we frame the work we do, and what the index does is allow us to focus on the structural aspects of what’s going on in neighborhoods,” Yates says. “It helps us understand how this confluence of factors works together.”

Back in Boston, Renée Boynton-Jarrett is seeing the value of working together with the COI data as she coordinates the efforts of the Vital Village network. “I see the index as starting to give us a common language for thinking about how we improve child health and well-being,” she says. “One of the things that’s essential for us in having different types of organizations and groups collaborating around a common goal is having a way to measure progress and identifying challenges to be addressed. So we’re just touching the tip of the iceberg for the potential the COI has in helping us not only make improvements for child health locally in Boston, but in supporting other communities around the country to make similar improvements.”

Number of Children
- 1 Dot = 500
- White (Non-Hispanic)
- Black (Non-Hispanic)
- Hispanic

Opportunity Level
- Very Low
- Low
- Moderate
- High
- Very High

MILWAUKEE METRO AREA