USING INTEGRATED DATA TO IMPROVE COMMUNITIES: LESSONS FROM A CROSS-SITE PROJECT

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APRIL 2016

For 20 years, the organizations that make up the [National Neighborhood Indicators Partnership (NNIP)](#) have been collecting and analyzing data about neighborhoods and helping community stakeholders use data to tackle challenges in education, health, housing, economic opportunity, and public safety. NNIP partners use administrative data on many topics to create indicators that capture the dynamics of a place and the characteristics of the people who live there. These measures help residents, city officials, community nonprofits, and organizations operating place-based initiatives plan interventions, monitor progress, and advocate for change.

Recently, other innovations have emerged that enhance administrative data for civic purposes. A number of states and localities have begun building new integrated data systems (IDS). An IDS contains valuable information about people's interactions with government agencies that can be leveraged to improve program planning and implementation, policymaking, outreach, and advocacy. But many of these systems focus their analyses at the county or state level and are rarely used to explore policy issues at the neighborhood level. With support from the Annie E. Casey Foundation, NNIP launched a [cross-site project](#) to increase access

to the information in IDS and connect it with data on neighborhood context to improve low-income communities and the lives of families and children living in them.

Over the past two years, NNIP partners in Baltimore, Maryland; Cleveland, Ohio; New York City; Pinellas County, Florida; Pittsburgh, Pennsylvania; and Providence, Rhode Island teamed up with agencies or universities hosting an IDS to exchange information, ideas, and expertise. Each team analyzed a local policy issue and worked with local agencies, foundations, and community organizations to apply the results. The six projects covered a wide range of topics from homelessness to civic engagement.

> An **Integrated Data System (IDS)** is a system linking individual-level records from multiple government agencies on a periodic basis. IDS can operate at the city, county, or state level. For example, an IDS might link data on education, juvenile justice, child welfare, and social assistance. IDS can be used for policy analysis, program planning, and evaluation. Because of the confidential and sensitive nature of data in IDS, host agencies must carefully follow privacy laws, securely store data, and maintain rigorous standards for use and access. For more information on and resources related to IDS, visit the Actionable Intelligence for Social policy [website](#).

The second in a series on the cross-site project, this brief summarizes the results of these locally designed projects related to the overall cross-site goals to

- **improve program planning and monitoring** through enhanced access to information and analysis from these IDS;
- demonstrate that **place matters**;
- illustrate the value of **new perspectives** from local data intermediaries like NNIP partners; and
- **set the stage** for long-term relationships and ongoing collaborations between agencies hosting IDS and NNIP partners.

The first brief focuses on two NNIP partners that used IDS to improve understanding of chronic absenteeism in their communities (Derian 2016). We will explore how policies and procedures around IDS might be improved to enable greater access and increase the ability to analyze data by neighborhood in a future brief.

IMPROVING PROGRAM PLANNING AND MONITORING

NNIP partners at all six sites negotiated data-sharing agreements or other legal agreements to access data from an IDS and ensure that the proper protections for individual private and confidential data were in place. The sites completed their analyses in late 2015 and are reaching out to stakeholders in their communities to share results and help them use the information to enhance program planning and decisionmaking. In the future, we are hopeful that these partnerships can lead to advances in policy and practice. Early feedback from Cleveland, Providence, and Pinellas County shows just how valuable information from an IDS is to community organizations, local agencies, school districts, and foundations.

Cleveland

The Center on Urban Poverty and Community Development at Case Western Reserve University (CWRU) used their IDS on children in Cuyahoga County to look at early adult outcomes for a cohort of ninth graders in the Cleveland Metropolitan School District who had reached ages 18 to 21 (Coulton et al. 2015a; Coulton et al. 2015b). According to their analysis, youth involved in the foster care and juvenile justice systems during high school are about two to four times more likely to access homeless services and spend more days in jail compared with youth not involved in these systems. CWRU shared the results with local agencies, the Jim Casey Youth Opportunities Initiative, and the YWCA's "A Place 4 Me" program. This was the first time that these groups had real metrics on what was happening to youth, and knowing more about the risks youth face is helping them design more effective interventions for ninth graders. CWRU will remain involved and is developing indicators from the IDS to help stakeholders monitor their program efforts.

Providence

DataSpark, a Providence Plan initiative, linked data on volunteerism from Serve Rhode Island, the state's AmeriCorps administrator, to their Rhode Island DataHUB IDS to take a look at civic engagement. By linking data on K–12 education, college attendance, employment, and voting habits to volunteer data, DataSpark learned more about the characteristics and post-service experiences of Serve Rhode Island volunteers (DataSpark 2016).[1] Contrary to the common belief that volunteers usually come from well-off backgrounds, DataSpark found that many Rhode Island volunteers came from low-income neighborhoods and served in these same communities. More than half of the volunteers lived in one of the four urban core cities of Providence, Pawtucket, Central Falls, or Woonsocket, and many also hailed from low-income neighborhoods in these cities. Serve Rhode Island hopes to use this information to focus recruitment efforts on these neighborhoods to better target individuals who have direct experience with issues the communities face. This analysis will also improve outreach to the K–12 community to educate students about AmeriCorps and education awards as well as to employers on incorporating preferences for national service participation.

Pinellas County

The Juvenile Welfare Board (JWB) in Pinellas County, Florida partnered with the University of South Florida's Policy and Services Research and Data Center to explore individual, family, and community factors that influence chronic absenteeism by following a cohort of children from elementary school through middle school. Their results indicate that both people and place influence chronic absenteeism (Baldwin et al. 2015). JWB, which also funds child and family services programs, will direct new resources toward the higher-risk neighborhoods the analysis identified. In addition, the study demonstrated that high rates of chronic absenteeism are an issue as early as kindergarten. As a direct result of this project, JWB was able to distribute a coloring book *Every Day Counts in Kindergarten*, for children and a tip sheet and photo magnet for parents to begin to intervene early in a child's school career.[2] The data from the study will also inform JWB's community planning efforts to join the National Campaign for Grade-Level Reading, of which student attendance is a key component.

DEMONSTRATING THAT PLACE MATTERS

NNIP partners and the organizations they collaborate with have long known that neighborhood context is important for understanding how to better serve the community. At the national level, researchers have only recently started to use administrative data to show that place matters and

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1 Additional data stories created from IDS data can be viewed at http://ridatahub.org/datastories/.

2 *The coloring book is available at http://www.neighborhoodindicators.org/sites/default/files/publications/Pinellas%20Kindergarten_Counts_Coloring_Book.pdf.*

demonstrate the role a child's neighborhood has in determining future opportunities and imprinting on their lives (Chetty and Hendren 2015). In this cross-site project, using IDS containing state and local administrative data sources, NNIP partners have again shown the importance of place. Specifically, how information about buildings and neighborhoods can enrich our knowledge of policy issues, expand the pool of potential solutions, and bring stakeholders from different fields together.

New York City

The Furman Center at New York University worked with the Center for Innovation through Data Intelligence (CIDI) in the Mayor's Office to combine their extensive data holdings on buildings and neighborhoods with data on human services to improve prediction of risk of shelter entry for families in New York City (Collinson et al. 2016). Using machine learning techniques, they found that adding building and neighborhood characteristics, such as building type, year a building was built, and neighborhood demographics, increased the explanatory power of the prediction model. The city or nonprofit homeless service providers could use such indicators to target outreach services that might prevent homelessness.

Pittsburgh

Working with Allegheny County Department of Human Services' IDS, the University of Pittsburgh Center for Social and Urban Research (UCSUR) found that neighborhood variables, such as the violent crime rate, low median home prices, and

property level variables, such as the age of a home or tax delinquency, predicted higher levels of chronic absenteeism for Pittsburgh public school students (Deitrick et al. 2016). UCSUR also found that individual and family factors had an effect, most notably when a student switches school mid-year. The school district should reduce the delays in school bus route reassignment when a student moves, but other interventions outside of the education domain can be incorporated to create a more comprehensive strategy to reduce absenteeism. The study not only raised awareness among education stakeholders about the importance of stabilizing housing to reduce moves, but also drew attention to the need work with neighborhood partners to improve housing conditions. UCSUR plans to expand outreach beyond the education domain to include community development corporations and spread the idea that housing instability is also an education issue.

Baltimore

The Baltimore Neighborhood Indicators Alliance showed that weatherization benefits, which reduce utility costs, were largely being extended to income-qualified residents living in middle-market neighborhoods (Iyer et al. 2015). Homes in more distressed communities, like Sandtown-Winchester-Harlem Park, where Freddie Gray lived, were in too poor condition to qualify for weatherization assistance and their applications were denied at much higher rates. The city of Baltimore and state of Maryland are more likely

to provide cash energy assistance to cover utility costs to households in these neighborhoods with high denial rates. The Baltimore Energy Initiative and city agency staff are taking a fresh look at how they could direct resources to the households who have been denied weatherization assistance.

ILLUSTRATING THE VALUE OF NEW PERSPECTIVES

The cross-site project demonstrated that there were opportunities to expand the use of IDS and incorporate new perspectives. NNIP partners brought expertise in thinking about place and understanding that concentrations of individuals involved in a particular system (e.g., juvenile justice) in a neighborhood or a school may have additional effects on residents, creating a need for different interventions than when individuals in the system are scattered across a city. Partners also have experience with administrative data sources not often found in IDS. In New York, CIDI was able to learn from the neighborhood orientation the Furman Center staff provided. The Furman Center also brought different analytical approaches and data mining techniques to work with the IDS data.

In several cases, the project led to improvements in the processes of obtaining, protecting, and maintaining data. In Cleveland, CWRU maintains its own IDS on children in Cuyahoga County, but for this project they partnered with the Ohio Longitudinal Data Archive, an IDS for the state of Ohio. This collaboration revealed a need for

both systems to develop a process for sharing identified individual-level data with all of the proper confidential data protections. Previously, both systems had typically negotiated two-way data-sharing agreements with agencies for the administrative data and did not consider how to share data with a third party. Both CWRU and the Ohio Longitudinal Data Archive are continuing to modify these agreements with various state and local agencies.

For the NNIP partners in Cleveland, Pinellas, and Providence that already maintained an IDS, this project helped improve their systems. All three partners are now thinking about how to automate processes and reduce labor time preparing data for analytical use. In particular, DataSpark was able to improve its ability to generate neighborhood indicators from the RI DataHUB and increase its ability to work with large data files. CWRU is clarifying the roles and responsibilities of their IDS staff and augmenting the capacity of IDS data managers to efficiently prepare the de-identified data files needed for research and community analysis.

SETTING THE STAGE FOR FUTURE COLLABORATION

In all cases, this cross-site project improved the relationship between IDS hosts and NNIP partners. Each came away with a better understanding of how the other operates. For several NNIP partners, the project presented an opportunity to formalize relationships through new or updated data-use agreements, making it

easier for them to collaborate in the future. All six NNIP partners thought future work with their IDS host agencies was likely; in one case, there were already plans to work together on new projects.

Though most of the participating NNIP partners had at least some previous working relationship with the IDS hosts, the local project in New York City demonstrated that it is possible to start from the beginning. Before this project, the Furman Center had no formal working relationship with its IDS host, CIDI. This project allowed them to build a relationship, learn that they shared many research and policy interests, and work through complicated legal issues to access the data. The Furman Center is exploring ways to regularly share its building and neighborhood data with CIDI. In addition, the analyses on the risk of homelessness are continuing beyond the life of this project, and there are several other opportunities for the two organizations to collaborate in the future.

Each local project had its challenges. Obtaining access to data was difficult for all partners, despite prior relationships and data-sharing efforts. Using the data in new and different ways

also reveals data quality concerns and the need for new procedures to clean and store data. But the more that data are used and the more they can be connected to action, the more impetus there is to improve data quality and procedures around data sharing.

Collectively, this cross-site project was a success and represents progress for the field. The six NNIP partners increased access to IDS and expanded how they were used in each community. The efforts added to the evidence that place matters and further showed the importance of neighborhood context and place-conscious strategies to improve the quality of life and outcomes for residents in distressed communities. Partners showed the unique contributions they can offer as local data intermediaries to conduct local policy analysis and inform neighborhood action, demonstrating to other places that this work is both feasible and valuable. Finally, partners strengthened their working relationships with IDS agencies to lay the foundation for tackling other important issues for low-income families across sectors.

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NNIP is a collaboration between the Urban Institute and partner organizations in more than two dozen American cities. NNIP partners democratize data: they make it accessible and easy to understand and then help local stakeholders apply it to solve problems in their communities.