

# PEOPLE AND PLACE MATTER: USING INTEGRATED DATA SYSTEMS TO UNDERSTAND CHRONIC ABSENTEEISM

ALEXANDRA DERIAN

MARCH 2016



Children need to attend school every day to succeed, and one of the biggest threats to academic success is poor attendance. Students who are chronically absent, those who miss 10 percent or more days of school a year,<sup>1</sup> receive lower grades and have more trouble completing high school (Chang and Romero 2008; Gottfried 2010).

In the United States, about one in ten, or 7.5 million, students are chronically absent (Balfanz and Byrnes 2012). For schools and communities, chronic absenteeism can be difficult to track and many are just now starting to collect the right data (Chang 2014). Organizations like [Attendance Works](#), founded in 2010, are working to educate state and national stakeholders on the best ways to collect data and strategies to reduce chronic absenteeism.

## CHRONIC ABSENCE IS MORE THAN JUST AN EDUCATION ISSUE

Chronic absence often results when a student is dealing with physical and mental health issues or challenging family circumstances. Students who have asthma or other chronic conditions, deal

with anxiety or substance abuse, experience domestic violence, a parent's mental illness, or come from low-income families are all more likely to be chronically absent (Balfanz and Byrnes 2012; Bernstein et al. 1999; Egger, Costello, and Angold 2003; Gorodzinsky, Hainsworth, and Weisman 2011; Meng, Babey, and Wolstein 2012; Zhang et al. 2010).

A student's neighborhood also has an effect on school attendance. Students living in poorer neighborhoods generally have more trouble in school (Brooks-Gunn et al. 1993). Given their extensive data holdings on neighborhoods, several partners in the National Neighborhood Indicators Partnership (NNIP) have studied [absenteeism](#).<sup>2</sup>

For example, Providence Plan found that poor housing conditions were closely related to educational outcomes. Students exposed to higher levels of lead had higher rates of chronic absenteeism and were more likely to be held back.<sup>3</sup> Students in families who move frequently, often an indicator of economic insecurity, also had higher rates of chronic absenteeism.<sup>4</sup> In

---

<sup>1</sup> Although some school districts may use a different definition of chronic absence, the commonly accepted definition is a student who misses 10 percent or more of school days. Both excused and unexcused absences are counted in the percentage. Researchers in Pinellas County and Pittsburgh, Pennsylvania, used this definition.

---

<sup>2</sup> "Issue Area: Absenteeism," NNIP, accessed March 15, 2015, <http://www.neighborhoodindicators.org/issue-area/185>.

<sup>3</sup> "The Educational Costs of Unhealthy Housing," RI DataHUB, accessed March 15, 2014, <http://ridatahub.org/datastories/educational-costs-of-unhealthy-housing/11/>.

<sup>4</sup> "Chronic Absenteeism among Kindergarten Students," RI DataHUB, accessed March 15, 2014,

Oakland, California, Urban Strategies Council found that students living in poorer, high-crime neighborhoods, in West Oakland and some parts of East Oakland, were more likely to be chronically absent.<sup>5</sup> There were also significant differences by race in the Oakland Unified School District, with African American boys two times more likely to be absent than the general student population (Brown and Jackson 2014).

This brief will discuss recent work by NNIP partners in [Pinellas County, Florida](#) and [Pittsburgh, Pennsylvania](#)—two places where chronic absenteeism is high—to understand the effects of neighborhood and individual characteristics on chronic absenteeism (Baldwin et al. 2015; Deitrick et al. 2015).

Since 2009, chronic absenteeism in Pinellas County has been higher than the state average. During the 2013–14 school year, one in eight students was chronically absent. In Pittsburgh, rates are even higher, with one in four students chronically absent during the 2012–13 school year.

Though other studies addressed the effects of a student's individual or neighborhood characteristics on absenteeism, few looked at them together. Studying both aspects provides more insight into the causes and possible

solutions for chronic absenteeism to help policymakers, educators, and service providers in Pinellas County and Pittsburgh develop more effective strategies.

## USE IDS TO EXPLORE CHRONIC ABSENTEEISM

Understanding how individual and neighborhood factors influence chronic absenteeism is challenging. Looking at multisystem involvement using integrated data systems (IDS) along with data about the neighborhood where a student lives can help explain why students are absent, show the challenges they might face, and reveal what interventions are appropriate.

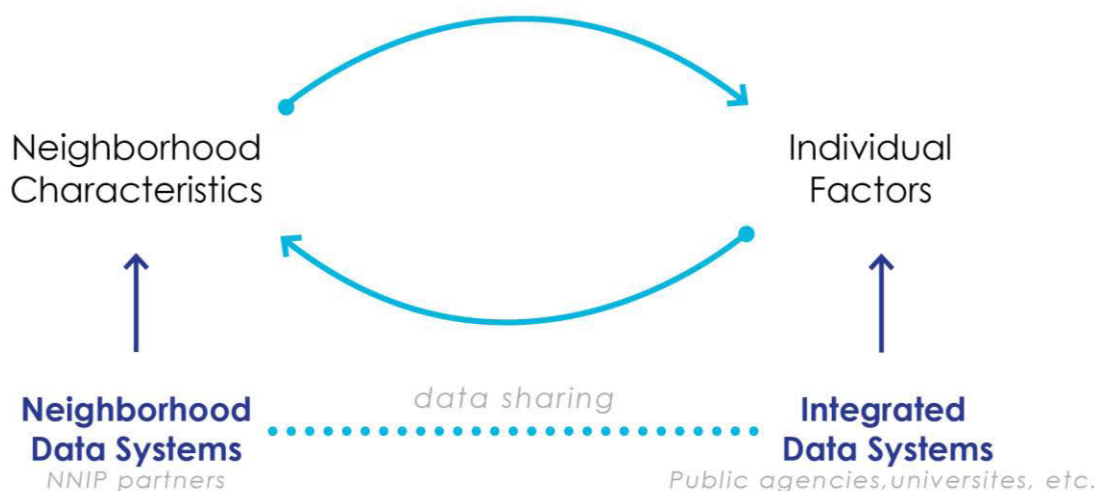
An **Integrated Data System (IDS)** is a system linking individual-level records from multiple government agencies on a periodic basis. IDS can operate at the city, county, or state level. For example, an IDS might link data on education, juvenile justice, child welfare, and social assistance. IDS can 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](#).

To increase access to information from IDS, in 2013, NNIP launched a three-year cross-site project, *Connecting People to Place: Improving Communities through Integrated Data Systems*, with the support of the Annie E. Casey Foundation. Locally, each NNIP partner

<http://ridatahub.org/datastories/chronic-absenteeism-in-kindergarten/14/>

<sup>5</sup> "Oakland Unified School District Uses GIS to Further Academic Achievement," ArcNews Winter 2013/2014, <http://www.esri.com/esri-news/arcnews/winter1314/articles/oakland-unified-school-district-uses-gis-to-further-academic-achievement>

## UNDERSTANDING CHRONIC ABSENTEEISM



connected its data on neighborhoods to data from an IDS to address a local policy issue (see Figure 1).

The [Juvenile Welfare Board \(JWB\) of Pinellas County](#) in Florida and [University Center for Social and Urban Research \(UCSUR\)](#) in Pittsburgh focused their projects on chronic absenteeism while four other NNIP partners worked on projects ranging from energy assistance to civic engagement to homelessness. More information on the cross-site project is available [here](#).

### STUDENTS INVOLVED IN MULTIPLE SYSTEMS ARE AT HIGHER RISK

In Pinellas County, the research team tracked a group of students from kindergarten through eighth grade. They found physical health, mental health, and substance abuse played the largest roles in how often a student was absent. JWB used data from Medicaid, the Emergency

Medical System, the Department of Substance Abuse and Mental Health Services Administration, and the Department of Child Welfare from the IDS housed at the [Policy and Services Research Data Center at the University of South Florida](#). Based on JWB's statistical model, having a parent with severe mental illness was associated with higher numbers of absences. The same was true for a child's own physical and mental health and substance abuse.<sup>6</sup> Past involuntary mental health examinations and involvement with JWB-funded services targeting school readiness, school success, and prevention of child abuse and neglect were also strong predictors.

The team at UCSUR studied trends in chronic absenteeism by grade for all students in

<sup>6</sup> JWB employed a hierarchical linear model to test how the individual, family, and neighborhood factors influenced absenteeism over the course of a student's early academic career from kindergarten to eighth grade.

Pittsburgh public schools for the 2013–14 school year. According to UCSUR's statistical model, the factor that best explained chronic absenteeism across grades was whether a student had changed schools in their district during the past school year.<sup>7</sup> Using data from the [Department of Human Services](#) IDS in Allegheny County, where Pittsburgh is located, UCSUR also looked at human service system involvement. Despite small variation by grade, individual enrollment in the Department of Human Services programs and household enrollment in Department of Public Welfare benefits were predictors of chronic absence for students who did not change schools.

## NEIGHBORHOOD CONTEXT MATTERS

To understand the role of a student's neighborhood, JWB used the [Child Opportunity Index](#). The index was used to measure relative opportunity across all neighborhoods in Pinellas County.<sup>8</sup> Three domains comprise the index: educational, health and environmental, and social and economic opportunities. Once included in the model, neighborhoods with lower index scores were found to have higher rates absences. Neighborhoods with lower educational and social and economic opportunity domain scores were also associated with more absences.

<sup>7</sup> UCSUR used a statistical method of classification and regression tree (CART) analysis to study the factors that best explain chronic absenteeism. Separate models were run for each grade.

<sup>8</sup> Census tracts were used as a proxy for neighborhoods.

For students attending Pittsburgh public schools, UCSUR looked at how neighborhood characteristics, such as crime, housing stock, and home sale price, affected chronic absenteeism. The team's model showed that higher rates of violent crime and low median home sale prices were predictors of chronic absence. Coming from a renter household or neighborhood with more tax-delinquent properties were also predictors.

## APPLY THE RESULTS

To reduce chronic absenteeism, individual and place-based strategies must be implemented. In Pinellas County and Pittsburgh, a student's physical and mental health, mobility, and use of services were all factors contributing to high rates of chronic absenteeism. Chronic absenteeism was also linked to specific neighborhood characteristics, such as social and economic opportunity, violent crime rates, and home prices. Though neighborhood characteristics are not the strongest predictors, they are shown to increase a student's risk of chronic absence and addressing them should play an important role in future interventions. Combining information from the individual and neighborhood levels will also allow service providers to know more about where a student lives and help them better reach at-risk students.

In Pinellas County, place-based efforts to improve neighborhood opportunities were already under way before this project. The Florida Dream Center's [Adopt-A-Block program](#)

helps residents become more engaged in advocating for their community. The Early Learning Coalition of Pinellas County is working to expand access to high-quality early childhood education in neighborhoods of low educational opportunity and educate parents on the value of early childhood education. The results of JWB's research on this project confirm the need for these programs and have helped service providers better target their efforts.

Knowing the need to address chronic absenteeism early in a child's education, JWB launched the Pinellas Campaign for Grade-Level Reading before beginning the project. Since chronic absence in kindergarten has been linked to lower third grade reading scores, particularly for children in poorer neighborhoods, the campaign focuses on ensuring children are reading at grade level by third grade and targets specific neighborhoods (Chang and Romero 2008). When the project identified high rates of chronic absence in kindergarten, JWB launched a new initiative, Kindergarten Counts, to directly reach kindergarteners and their parents and educate them on the ways poor attendance can negatively impact a child's education.

Stakeholders in Pittsburgh are also taking action. Encouraged by UCSUR's work, researchers from the [Homewood Children's Village](#) are continuing their work to improve student attendance in their neighborhood by developing their own early warning systems and creating their own version of the Allegheny County United Way's [Be There](#)

[attendance campaign](#). Stakeholders are also working to remedy housing and neighborhood conditions, and there are plans to discuss collaborating with local community development corporations to assist families with housing needs and reduce student mobility.

Given the tie that UCSUR uncovered between high chronic absence and changing schools during the school year, the Pittsburgh public school district has started to refine their policies to make school moves less disruptive. Current efforts are focused on busing. Prior to this project, it took over a week for students who had moved to get their new bus assignment. Such a lag can cause increased absences, as many students do not have another way to get to school. To reduce this lag, the Pittsburgh public school district is trying to better centralize bus transportation and improve communications with students and their families.

Investing in place-based strategies that go beyond education can address individual and neighborhood factors that influence absenteeism. Given the effect neighborhoods have on academic success and chronic absenteeism, combining individual-level data from an IDS with neighborhood data can better inform communities and improve interventions to help students succeed. Though the results of the projects in Pinellas County and Pittsburgh show that effects of community context differ, both projects show that any efforts aimed at reducing chronic absenteeism must address the way place influences a student's life.

## REFERENCES

- Balfanz, Robert, and Vaughan Byrnes. 2012. *The Importance of Being in School: A Report on Absenteeism in the Nation's Public Schools*. Baltimore: John Hopkins University Center for Social Organization of Schools.
- Bernstein Gail A., Susan L. Warren, Elise D. Massie, and Paul D. Thuras. 1999. "Family Dimensions in Anxious-Depressed School Refusers." *Journal Anxiety Disorders* 13 (5): 513–28.
- Brooks-Gunn, Jeanne, Greg J. Duncan, Pamela Kato Klebanov, and Naomi Sealand. 1993. "Do Neighborhoods Influence Child and Adolescent Development?" *American Journal of Sociology* 99 (2): 353–95.
- Brown, Rebecca, and Joe Jackson. 2014. *Attending School Every Day: Making Progress, Taking Action in Oakland Schools*. California: Oakland Achieves Partnership.  
<https://oaklandachieves.files.wordpress.com/2014/09/oakachattendancefinal.pdf>.
- Chang, Hedy N. 2014. "A Solvable Problem Hidden in Plain View: When Monitoring the Right Data Makes All the Difference." In *Strengthening Communication with Neighborhood Data*, edited by G. Thomas Kingsley, Claudia J. Coulton, and Kathryn .L.S. Pettit, 265–82). Washington DC: The Urban Institute.
- Chang, Hedy N., and Mariajosé Romero. 2008. *Present, Engaged, and Accounted For: The Critical Importance of Addressing Chronic Absence in the Early Grades*. New York, NY: National Center for Children in Poverty.
- Egger Helen Link, E. Jane Costello, and Adrian Angold. 2003. "School Refusal and Psychiatric Disorders: A Community Study." *Journal of the American Academy of Child and Adolescent Psychiatry* 42 (7): 797–807.
- Gottfried, Michael A. 2010. "Evaluating the Relationship between Student Attendance and Achievement in Urban Elementary and Middle Schools: An Instrumental Variables Approach." *American Educational Research Journal* 47 (2): 434–65.
- Gorodzinsky, Ayala Y., Keri R. Hainsworth, and Steven J. Weisman. 2011. "School Functioning and Chronic Pain: A Review of Methods and Measures." *Journal Pediatric Psychology* 36 (9): 991–1002.
- Meng, Ying-Ying, Susan H. Babey, and Joelle Wolstein. 2012. "Asthma-Related School Absenteeism and School Concentration of Low-Income Students in California." *Preventing Chronic Disease* 9.
- Zhang, Dalun L., Victor Willson, Antonis Katsiyannis, David Barret, Song Ju, and Jiun-Yu Wu. 2010. "Truancy Offenders in the Juvenile Justice System: A Multicohort Study." *Behavioral Disorders* 35 (3): 229–42.



Alexandra Derian is a research associate in the Metropolitan Housing and Communities Center at the Urban Institute.

This brief would not have been possible without the participating NNIP partners sharing their time and insights about the process of their local projects through phone interviews and internal documents. In particular, I'd like to thank Joe Baldwin, Josh Childs, Sabina Deitrick, Charles Dion, Denise Groesbeck, Starr Silver, Feifei Ye, and Caiyan Zhang. Additional thanks to all of the reviewers as well as Leah Hendey and Sarah McTarnaghan at the Urban Institute.

• • • • **U R B A N** • **I N S T I T U T E** •

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.

This paper was supported by the Annie E. Casey Foundation. The views expressed are those of the authors and do not necessarily represent those of the Annie E. Casey Foundation, the Urban Institute, its trustees, or its funders.

Copyright © 2016. Urban Institute. Permission is granted for reproduction of this file, with attribution to the Urban Institute.