THE ACCESS TO COVERAGE AND CARE PROJECT
An Analysis of Health Insurance Enrollment and Retention by Students in Selected NYC Public Schools

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The Access to Coverage and Care Project
An Analysis of Health Insurance Enrollment and Retention by Students in Selected NYC Public Schools

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SUMMARY

In 2004, the City of New York’s Human Resource Administration’s Office of Citywide Health Insurance Access (OCHIA) developed a demonstration project in order to better address how to both decrease the number of uninsured children and improve continuity of coverage for those already enrolled in public health insurance. Partnering with researchers from New York University School of Medicine and New York City’s Office of School Health, OCHIA matched records from student registers in 23 target schools in East Harlem and Bushwick against administrative files for Medicaid and Child Health Plus (CHP). Data matches were conducted every four months between June 2004 and June 2006. During the two school years studied, 200,435 children were enrolled in the 23 schools.

The key findings of the data match analysis were that:

- Public health insurance enrollment was more pronounced during the early school years (kindergarten and 1st grade) and in the June to October time period;
- Students enrolled in Medicaid were more likely to have continuous coverage (59 percent) for the study period than students enrolled in Child Health Plus (36 percent);
- Although few children transitioned between programs, gaps in coverage (churning) were significantly more likely when transitioning between Medicaid and Child Health Plus than vice versa; and
- Nearly a quarter of children who churned did so in the transition between programs. These gaps were more likely when children transitioned from Medicaid to Child Health Plus than vice versa (46 percent versus 27 percent, respectively).

The study demonstrated the value of using administrative data matches to identify public health insurance trends in schools and for individual students over time and across Medicaid and Child Health Plus. The utility of data matching further suggests that it is a potentially valuable tool for informing targeted outreach and streamlining enrollment and retention strategies.
INTRODUCTION

Current policy discussions on expanding access to health insurance have largely focused on coverage for children. The recent debate about the reauthorization of the State Children’s Health Insurance Program (SCHIP) and decisions by the federal government related to states’ efforts to expand public health insurance for children have highlighted important questions about how to quantify gains in enrollment and how to reach children who are uninsured but eligible for public coverage.

For decades, New York State (NYS) has demonstrated leadership in establishing comprehensive health insurance coverage initiatives for children. From the introduction of Child Health Plus (CHP), an insurance program for children ineligible for Medicaid that preceded the establishment of SCHIP at the national level by six years, to legal and policy decisions to extend eligibility to undocumented immigrant children, the State’s approach to child coverage has been proactive and consistent. Income eligibility levels for children in NYS remain high; as of September 1, 2008, the CHP program covers children in families with incomes up to 400 percent of the Federal Poverty Level (FPL). NYS also has an innovative system of collaborative outreach and enrollment that engages managed care organizations and community-based non-profit organizations as health insurance enrollers (facilitated enrollment partners). New York City (NYC) has reinforced the State’s commitment to public health insurance access by developing and continuously evolving strategic partnerships to advance outreach to and the enrollment of eligible children and families. The most prominent initiative is HealthStat, a collaboration between city agencies, managed care plans, and community organizations to inform and enroll uninsured City residents.

As a result of these efforts, approximately 2.0 million children in NYS – 1.2 million of whom reside in NYC – are enrolled in public health insurance.\(^1\) With uninsurance rates for children at 7.0 percent for NYS and 8.1 percent for NYC,\(^2\) the enrollment challenge is to target outreach to the relatively small number of uninsured children who are eligible for public health insurance but not enrolled. Nearly three-quarters of NYS’s uninsured children and approximately 160,000 uninsured NYC children are eligible for public health insurance.\(^3,4\)

Even when enrollment in public health insurance is achieved, children may experience gaps in coverage. For example, one study estimates that 48 percent of CHP enrollees in NYS were not continuously enrolled over a one year period, and 74 percent lacked continuous coverage over a two year period.\(^5\) Furthermore, most children in NYS who fail to recertify for Medicaid or CHP remain eligible and return to public health insurance programs after a break in coverage.\(^6,7,8\)

In order to better address how to both decrease the number of uninsured children and improve continuity of coverage for those already enrolled, the City of New York’s Human Resources Administration’s Office of Citywide Health Insurance Access (OCHIA) developed and initiated a demonstration project – the Access to Coverage and Care Project – in 2004. Along with New York City’s Office of School Health and researchers from New York University School of Medicine, OCHIA used
administrative data matches to determine the extent and continuity of public health insurance coverage in 23 public schools in NYC. With nearly 1.1 million children enrolled in public schools, these data are an excellent source for analyzing trends in health insurance enrollment and retention since most children remain in the school system for an extended period of time.

**METHODS**

Twenty-three elementary and middle schools in two NYC public school districts were selected to be part of the Access to Coverage and Care Project. Based on data matching, the districts, located in the neighborhoods of East Harlem and Bushwick, have public health insurance enrollment rates of 63 percent, comparable to the average level of 65 percent across the entire NYC school system. Records from student registers of the 23 target schools were matched against administrative files for Medicaid and CHP. Data matches were conducted every four months between June 2004 and June 2006.

A student was considered enrolled in a public health insurance program if he or she was listed on the administrative files for either Medicaid or CHP. Children who were not enrolled in either of these programs were classified as having “no public health insurance.” (Since these administrative files do not contain information on private coverage, it was not possible to distinguish between uninsured children and those insured by a private health plan.) These data were used to assess volatility of coverage, longitudinal patterns of coverage, and transitions between Medicaid and CHP.

Volatility of public health insurance coverage was assessed both by calculating uptake and by calculating enrollment and disenrollment rates. The number of children included in the analyses of volatility of coverage fluctuated as students entered or left the 23 study schools. To be included in these analyses, children had to be enrolled in the study schools when both data matches occurred for a given interval.

Uptake of public health insurance was calculated as the proportion of children not covered by public health insurance at one point in time (data match) who were found to be enrolled at the next data match four months later. While not all of these unenrolled children would be eligible for public coverage, it is only these children who could potentially enroll; therefore, this calculation provides a conservative estimate for uptake among eligible children.

Uptake:

\[
\frac{\text{# of new enrollees (enrolled since last time point)}}{\text{# of children not enrolled at previous time point}}
\]

Enrollment and disenrollment rates describe the impact of children entering and exiting the program at a point in time. The enrollment rate is the portion of newly enrolled children relative to the children not
enrolled at the time of the data match. Similarly, the disenrollment rate is the portion of children who dropped coverage since the last data match relative to the children enrolled at the current data match.
Enrollment rate:

\[
\frac{\text{# of new enrollees (enrolled since last time point)}}{\text{# of children not enrolled in public health insurance at time point}}
\]

Disenrollment rate:

\[
\frac{\text{# of children disenrolling from public health insurance (disenrolled since last time point)}}{\text{# of children enrolled in public health insurance at time point}}
\]

During the two school years studied, 20,435 children were enrolled in the 23 schools. Longitudinal patterns of public health insurance enrollment were analyzed for the 11,183 children who were enrolled in the schools for the entire duration of the study. A life-table survival analysis was used to assess longitudinal patterns of gaining and retaining public health insurance coverage. Gain in public health insurance was analyzed by looking at whether those children not enrolled in public health insurance in October 2004 enrolled and if so, the timing of the enrollment. Retention of public health insurance coverage was assessed by analyzing whether those children enrolled in public health insurance as of October 2004 disenrolled from public health insurance and if so, the timing of the disenrollment.

Analyses were also conducted to capture the complex patterns of enrollment that children can experience over a two year period. Based on these analyses, children were classified into five possible categories of coverage. (Table 1)

**Table 1: Children’s Health Insurance Coverage Patterns**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description of Coverage Pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>No public health insurance</td>
<td>Child was not enrolled in public health insurance at any time point.</td>
</tr>
<tr>
<td>Continuous insurance</td>
<td>Child was enrolled in public health insurance at every time point.</td>
</tr>
<tr>
<td>Gain (Discontinuous insurance)</td>
<td>Child had no coverage in October 2004, but was enrolled at a later point and remained enrolled until June 2006.</td>
</tr>
<tr>
<td>Loss (Discontinuous insurance)</td>
<td>Child had coverage in October 2004, but eventually disenrolled and remained disenrolled until June 2006.</td>
</tr>
<tr>
<td>Churn (Discontinuous insurance)</td>
<td>Child either had coverage, lost it for a brief period of time and then regained it or child did not have coverage, gained coverage for a brief period of time and then lost it.</td>
</tr>
</tbody>
</table>
The final set of analyses investigated the relationship between transitions across the two distinct public health insurance programs and continuity of coverage. These study data present a unique opportunity to assess this topic because they contain longitudinal indications of a child’s status for both the Medicaid and CHP programs. A child transitioned between programs if the child was enrolled in Medicaid at one point and CHP at another over the two year period. Transitions in both directions, CHP to Medicaid and Medicaid to CHP, were explored.

Analyses for this exploratory study were primarily descriptive. Results of most inter-group contrasts were derived using chi-square tests. Those contrasts obtained from survival analyses used the Wilcoxon Gehan statistic. All results reported are statistically significant (p ≤ .05).

RESULTS

Volatility of Coverage

On average, 12 percent of children not enrolled in public health insurance would enroll by the subsequent data match during any given interval. The majority of the overall uptake (83 percent) was into the Medicaid program, and Medicaid uptake was highly concentrated in the June – October 2005 time interval, when 22 percent of the children not covered by public health insurance enrolled in the program. (Figure 1) Overall trends in public coverage for all students in the 23 study schools, however, did not follow the trends in uptake. Medicaid coverage rates for all students remained largely the same from June 2005 (57.8 percent) to October 2005 (56.9 percent).

Figure 1: Uptake of Medicaid and Child Health Plus (CHP) Within Each Time Interval

Program-specific enrollment and disenrollment rates indicate that CHP had a higher level of volatility. On average, 25 percent of children insured by CHP enrolled and 26 percent disenrolled during each interval. In contrast, the average enrollment rate was 10 percent and disenrollment rate was 8 percent for Medicaid. (Figure 2)


Figure 2: Percent Change in Enrollment in Medicaid and Child Health Plus (CHP) Across Time Intervals

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**Percent change**

Grade level analysis indicates that enrollment during the June – October 2005 time period was significantly more pronounced in kindergarten and 1st grade. In fact, 50 percent of all kindergarten and 1st grade students who enrolled in public health insurance during the entire study period enrolled during this time period, with 37 percent of students in grades 2 through 7 enrolled during June – October 2005.

**Longitudinal Patterns of Coverage**

Survival model analysis indicated that 69 percent of children enrolled in public health insurance at the outset of the study retained coverage over the entire duration. Medicaid had a significantly higher rate of retention (72 percent) than CHP (47 percent). (Figure 3)
Patterns of Coverage

Analyses of the complex patterns of enrollment that students in the 23 schools experienced over the two year period determined that the most common coverage pattern for both programs was continuous enrollment, and 59 percent of those enrolled in Medicaid at the start of the time period maintained coverage over the entire course of the study. CHP had significantly higher rates for all three patterns of discontinuous coverage – churn, gain, and loss. Most notably, CHP enrollees had nearly twice the rate of churning as Medicaid enrollees: 33 percent of children with CHP and 17 percent of children with Medicaid churned. Finally, the insurance status of the remaining 21 percent of students is unknown. These children may have been uninsured or had private health insurance. (Figure 4)
Grade-level analysis revealed that grades 2 through 7 had significantly more stable coverage, with an average of 48 percent of students remaining continuously enrolled over the two year period. In contrast, only 17 percent of students in kindergarten and 42 percent of 1st graders were continuously enrolled for two years. (Figure 5)

**Figure 5: Distribution of Public Health Insurance (PHI) Pattern by Grade: No PHI, Continuous PHI, and Discontinuous PHI (Lost, Gained or Churned)**

![Figure 5]

Transitions between Medicaid and CHP

An examination of the impact of program transitions on continuity of coverage revealed that the vast majority of children enrolled in public health insurance did not switch programs during the observation period. The 9 percent of children who did transition between programs were evenly distributed between those moving from Medicaid to CHP (4 percent), and those moving from CHP to Medicaid (5 percent). The children who transitioned between programs had significantly more gaps in coverage than those who did not transition. While children who transitioned between programs represent about 9 percent of the study population, they constitute over 23 percent of the churning population.

The direction of transition also influenced the likelihood that a child would have discontinuous insurance. Forty-five percent of children transitioning from Medicaid to CHP experienced a gap in coverage. Sixty-three percent of these gaps were for a single four-month time interval, with an additional 32 percent lasting for two intervals. In contrast, only 26 percent of children transitioning from CHP to Medicaid experienced a gap in coverage between programs, and the vast majority of these gaps were for a single interval (85 percent).
DISCUSSION

This data matching demonstration project produced important new information on the coverage status of children in 23 NYC public schools, reinforcing previous studies highlighting problems with continuity of coverage among children. The benefits of health coverage have been widely reported in the literature.\textsuperscript{10,11,12} Continuous coverage enables children to have ongoing interaction with providers, thereby encouraging both preventive and necessary care and producing better health outcomes.\textsuperscript{13,14,15,16} Health insurance enables families to have more economic stability, protecting against sudden and significant economic loss.\textsuperscript{17} The Medicaid churning rates for children found in this study using administrative data are lower than overall churning rates reported by health plans.\textsuperscript{18} Moreover, the churning rates found in this study may overstate the true level of churning for Medicaid. The study employed a broad definition of churning in which children were categorized as churning if either (a) they experienced a gap in public health insurance (e.g., they went from being enrolled in public health insurance to not enrolled and back enrolled again) or (b) they enrolled in public coverage during a portion of the study (e.g., they went from not enrolled in public coverage to enrolled and then back to not enrolled again).

Regardless, continuous coverage could allow for the more efficient use of health system funds.\textsuperscript{19} The administrative cost to enroll a child in public health insurance in the NYC metropolitan area has been estimated to be approximately $280.\textsuperscript{20} Based on current Medicaid enrollment levels among public school children and findings from this study, enrollment costs due to churning are approximately $14 million per school year for NYC public school children.

Overall, the extent of churning and movement among public programs presents a challenge to identifying and reaching uninsured children. Volatility in coverage is particularly problematic for the State’s CHP program. The less stable nature of CHP enrollment could be due to many factors and there is a need for additional research to further understand this program’s disenrollment rates. For example, the impact on families of CHP cost-sharing requirements is not well understood. Research has also documented a detrimental effect on continuity of coverage associated with the separate administration of public health insurance programs for children, even among states that have taken steps to streamline enrollment and renewal procedures.\textsuperscript{21} In addition, policy changes may affect enrollment. Of note during the study period (after April 2005), children 6 to 18 years old in families with incomes between 100 and 133 percent of the FPL were transitioned from Medicaid to CHP.

This study has several limitations. First, the study defined two groups of children for analyses based on their enrollment in the 23 study schools: (1) The group of children used to assess volatility of coverage had to be enrolled in the study schools for two consecutive data matches. During the school year, some children transferred or dropped out of school, causing the number of children included in the volatility of coverage analyses to fluctuate. Most notably, the concentration of enrollment during the June-October 2005 time interval is affected by the fact that fewer children remained enrolled in the study schools for the change in the school year, thereby reducing the number of children analyzed for this time period. Specifically, although the number of children who enrolled during this interval (1,211 children) was higher than the number enrolling at other intervals (compared with a low of 530 children), the number of children included in the analysis also was at its lowest (11,833 compared with a high of 15,722 for the
The group of children used to assess longitudinal patterns of enrollment had to be enrolled in the 23 schools for the entire study period from October 2004-June 2006 (11,483 out of a total of 20,435 children). While our sample size was large, the characteristics of the children included in the longitudinal analyses might differ from the 9,252 children excluded from these analyses. Therefore, our results drawn from both groups of children may not be truly reflective of other students in NYC public schools who have different patterns of enrollment in the public schools.

In addition, children in foster care are automatically eligible for Medicaid but are not included in the City’s administrative data and, therefore, these children would not be identified as having public health insurance in this study. Not capturing foster children in our match is not likely to have a significant effect on our results since foster children represent only approximately 1 percent of all children enrolled in Medicaid in NYC. Finally, some students enrolled in public health insurance may not match with the school register due to data entry errors or other administrative issues. The data match protocol attempts to mitigate these errors, but the extent of this problem is not known.

Despite these limitations, this Project has demonstrated the value of using administrative data matches to identify public coverage trends in 23 schools as well as to identify coverage for students over time and across Medicaid and CHP. Data matching can be a powerful tool because it allows for the identification of individual families whose children are not publicly insured and may need enrollment information and assistance. Data matching can also play a key role in maintaining coverage since it provides timely, reliable information about which students are enrolled in public health insurance and indicates the level of public health insurance retention.

For targeting outreach to individual families, there is one primary limitation with the data match approach. In the absence of any publicly available source of information on private health insurance coverage, data matching cannot currently be used to definitively identify uninsured students. For this reason, the use of matches would be strengthened by instituting a system of required parental reporting on private insurance coverage and ensuring that these data and other changes in demographic information are updated annually in the school register. In NYC, once uninsured students are identified, already existing mechanisms for facilitated enrollment partners to make personal contact with individual families can be put to use.

CONCLUSION

The Access to Coverage and Care Project demonstrated that data matching is an invaluable tool that identifies system-wide trends in enrollment, as well as those individual children in need of coverage. The data matching method developed over the course of the project generates data on NYC children at a level of detail not previously achieved. It overcomes limitations of sources commonly cited in this field, such as small sample sizes, questionable accuracy regarding public health insurance enrollment, and considerable time lag between the time period of the data and the time they are made available. Prior to this project, little was known about public health insurance coverage among children who attend public
schools. The project has been informative in substantiating data matching as a possible tool for informing targeted outreach and streamlining enrollment strategies. To the best of our knowledge, this is also the first study to use administrative data to directly examine the relationship between churning and transitioning between children’s public health insurance programs – either from Medicaid to SCHIP or vice versa.

New York, like many other states and the nation as a whole, is at a critical juncture on the path toward broader health insurance access for its residents, with public and private sector engagement in the intensifying push for universal coverage. During this time of coverage expansion, it is important to understand complex patterns of coverage for those already participating in public health insurance programs, and to examine ways to reach uninsured children who are eligible for public programs but not enrolled. With recent and planned improvements in health insurance access, the opportunity to secure more continuous enrollment of New York’s children should be seized. The obstacles to achieving continuous health insurance coverage for children are significant, but the benefits on the individual, family, and health system levels are invaluable. Data matching can play a key role in these health insurance expansions as well as provide baseline data for evaluation in the future.

REFERENCES


