ILLINOIS EDUCATION RESEARCH COUNCIL

The Geography of the New Teacher Pipeline

EXECUTIVE SUMMARY

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Research has shown that teachers significantly contribute to the success of students and schools (e.g, Rivkin, Hanushek, & Kain, 2005). As a result, a great deal of attention is being paid to understanding how to attract, allocate, and retain high-quality educators. Recent studies focusing on the spatial geography of teacher labor markets in New York State (Boyd, Lankford, Loeb, & Wyckoff, 2005) and nationally (Reininger, 2012) demonstrate that inequities in teacher distribution stem largely from the initial match of teachers to their first teaching assignment. Specifically, these studies show that teachers appear to have strong preferences for working in schools that are in close proximity to where they grew up or in settings (e.g., urban, suburban) similar to that of the K-12 schools they attended.

In this study, we build on Boyd et al.'s (2005) and Reininger's (2012) research by descriptively exploring the association between the characteristics of new Illinois teachers and the distance between their home area and the location of their first teaching employment. We consider the distance from a new teacher's home area to the location of their first teaching assignment to be an indicator of the size of the new teacher labor markets, and explore four primary research questions:

1. Is there regional variation in the new teacher pipeline in Illinois?
2. What does the spatial geography of new teacher labor markets look like in Illinois?
3. Does the spatial geography of new teacher labor markets differ by teachers' demographic and academic characteristics?
4. What are the relationships between the demographics of teachers and the schools they attended and the schools where they initially teach?

This study builds on the existing spatial geography studies of teacher labor markets in two ways. First, we utilize a more recent, state-level dataset with complete information on both high school and baccalaureate college attendance to examine the spatial geography of the labor market for new teachers. Second, we expand beyond the geographic setting to determine how similar (or not) the characteristics of teachers' first schools are to those of the high schools from which they graduated. To the extent that teachers' preferences for similar settings reflect their preferences for serving students with familiar characteristics, we consider the extent to which changing student demographics are affecting new teachers across settings. This includes new teachers who started their careers in what they perceived to be familiar ones, such as teaching within the same district or feeder school district as their high school.

This study builds on a prior Illinois Education Research Council (IERC) study (White, DeAngelis, & Lichtenberger, 2013), which connects data from the Illinois State Board of Education (ISBE), the Illinois Board of Higher Education (IBHE), and the National Student Clearinghouse (NSC) for two cohorts of Illinois students, the public high school classes of 2002 and 2003 (N=225,196). This unique, longitudinal state database tracks students through five distinct stages of the new teacher supply pipeline: college entry, enrollment in a four-year college, completion of a bachelor's degree, teacher certification, and employment as a teacher in an Illinois public school.

To address the first research question concerning regional variation in the new teacher pipeline, we track changes in the proportion of students from each geographic region of the state who progress to each stage in this pipeline. To address the remaining research questions regarding the role that geography plays in where new teachers obtain their first teaching employment, we focus our analyses on the 7,209 new teachers who emerged from the two Illinois high school cohorts. The data used in this study provides some advantages over the datasets used in existing studies. In particular, our dataset of 7,209 first-time teachers provides a large enough sample to examine

differences by teacher characteristics, such as race/ethnicity and academic qualifications, and among more localized geographic regions within Illinois. We used the following Illinois-specific regions: Chicago, Northeast, Northwest, West Central, East Central, Southwest, and Southeast. Further, all the teachers started teaching in an Illinois public school between 2006 and 2012, so the study provides a needed update to existing research on the spatial geography of new teacher labor markets.

Major Findings:

The Regional Nature of the New Teacher Pipeline

The regional nature of the new teacher pipeline can largely be explained by the disproportionate loss of students emanating from Chicago throughout the pipeline at all stages, and the disproportionate increase of students from the Northeast region at all but one stage (certification). Whereas nearly one-half (49%) of the students in our study started out in high schools in the Northeast region, these students constituted 61% of the new teachers in our study. Conversely, 14% of the students in our study graduated from Chicago Public Schools (CPS), but these students constituted only less than 5% of the teachers emerging from our study.

The characteristics of teachers emerging from these regions also differed considerably. Teachers from these cohorts who attended high schools in the Northeast region tended to be more diverse (compared to teachers from the other regions except Chicago) and stronger academically (relative to the rest of the state). The large number of racial/ethnic minority teachers emerging from CPS meant that Chicago produced the largest proportion of highly academically qualified minority teachers and the largest proportion of non-White teachers from the bottom two-thirds of the ACT distribution, both by a substantial margin.

Size of New Teacher Labor Markets

Similar to existing studies, we find the labor market for new teachers overall to be quite small geographically and even more limited for non-White teachers and teachers with weaker academic backgrounds. We find that two-thirds of teachers began teaching within 20 miles of the high school from which they graduated, nearly half began teaching in the same county as their prior high school, and more than one fifth returned to the same school district from which they graduated (or a feeder district).

We also find that the sorting of new teachers is more closely linked to their home areas than to where they attended college, though we do find some evidence that college location can provide a secondary labor market for new teachers. New teachers in our study tended to start their careers substantially closer to their high schools than to where they attended college—about 80% of new teachers begin their careers within 30 miles of their high school, compared to the 80% who begin teaching within 140 miles of their college.

Our findings generally confirm those from previous studies (Boyd et al., 2005; Reininger, 2012) indicating that Latino and African American teachers tend to have smaller labor markets than White teachers. We also find that new teachers with higher ACT scores tended to travel further—for both college and their first teaching position—than their counterparts with lower ACT scores. We find that new teachers who emanated from Chicago were the least mobile, by a considerable degree, with regard to all three of the distances measured in this study. Further, we find that teachers who graduated from high-minority high schools began teaching in the same district from which they graduated at much higher rates than those who attended majority White high schools.

The Regional Flow of New Teachers

Our examination of the regional flow from home to college reveals that large proportions of new teachers earned their bachelor's degrees at colleges located outside of their high school region, with 13% of Illinois teachers from these cohorts earning their baccalaureate degrees at an out-of-state institution. Whereas three out every five of the new teachers from this study originated from the Northeast region (suburban Chicago), only 10% graduated from colleges located in that region, and nearly two-fifths

of Illinois' new teachers from these cohorts attended colleges in the East Central region, even though only about 7% originated from that region. Much of the movement towards the East Central region can be explained by the fact that three of the major producers of teachers in the state—Illinois State University, the University of Illinois at Urbana Champaign, and Eastern Illinois University—are located in this region.

Our analysis of the flow from college region to first teaching assignment shows that there was considerable movement towards the main population centers of the state—Chicago and the surrounding suburbs—as new teachers moved from their bachelor's granting colleges to their first teaching assignments. A majority of study members who attended college in the East Central and Northwest regions of the state gained their first teaching position in the Northeast region, and most of the new teachers who attended college outside the state obtained their first teaching assignment in the Northeast region or Chicago Public Schools (CPS). However, teachers who attended college in the southern regions of the state tended to begin their teaching careers within the same region.

Teachers Moving from the Northeast Region to Chicago Public Schools

The flow from home to first teaching assignment showed that there was a larger proportion of new teachers who graduated from high schools in the Northeast region (61%) than the number starting their teaching careers there (53%). As a result, the Northeast region tends to "export" a sizeable proportion of teachers—most notably to Chicago. CPS, on the other hand, accounts for more newly hired teachers than it creates with their high school graduates and is thus a net "importer" of teachers from other regions of the state, primarily the Northeast. In fact, two-thirds of new CPS teachers in this study group came from the Northeast region.

Further examination of the sizable flow from the Northeast region to Chicago revealed that these new teachers had stronger academic qualifications than their counterparts who stayed in the Northeast region and were more ethnically diverse than their peers who stayed in the Northeast (although not as diverse as those who graduated from CPS). This partially dispels the notion that traditionally-disadvantaged, hard-to-staff urban schools—at least those in Chicago—are unable to attract well-qualified candidates from elsewhere (Boyd et al., 2005; Lankford, Loeb, & Wyckoff, 2002). In fact, we found that more than half of the teachers who were imported into CPS graduated from colleges classified as very competitive or better by Barron's (2003), much higher than the rate of their counterparts from the Northeast who stayed in the Northeast to begin teaching. These findings also support previous IERC research (DeAngelis, White, & Presley, 2010) showing that the academic characteristics of new CPS teachers were on par with experienced teachers throughout the rest of Illinois by the mid-2000s. However, it is also important to remember that getting these diverse, academically talented teachers—from Chicago and the rest of the state—into disadvantaged schools is only the first step, and there need to be concerted efforts to retain these high-quality educators in the highest need schools after their initial employment.

Teacher Demographics and School Characteristics

The findings from our analysis of the relationships between teacher demographics and the demographic characteristics of the schools in which they began teaching suggest that labor markets are more closely linked to characteristics of a teacher's high school than to their ACT scores. In particular, we find that teachers who graduated from high minority or high poverty high schools were much more likely to return to teach in their home districts than were teachers who did not attend high poverty or high minority schools irrespective of academic qualifications.

Change in School Demographics

Finally, we find that even when teachers return to their home districts or to locales similar to those from which they graduated, they are not necessarily working in schools that are demographically analogous to those they attended prior to college. Illinois teachers across all geographic regions tended to begin teaching in schools with higher proportions of disadvantaged students than the contexts these teachers experienced as students, particularly teachers who graduated from and began teaching in suburban schools, where the proportion of non-White

(especially Latino) and poor students increased most dramatically in the intervening years. This holds true even for teachers who began teaching in the same high schools they attended as students.

This suggests that all new teachers, not just those in urban environments, will need to be prepared for the possibility of working in substantially different educational settings from what they experienced as students. The numerous accounts presented in Frankenberg and Orfield (2012) suggest that teachers and administrators are not well prepared for the demographic transformation that is taking place in U.S. schools. Although Frankenberg and Orfield (2012) focus on the impact of markedly increasing student diversity in suburban schools, our results indicate that new teachers across Illinois regions need to be prepared to serve a more diverse student body from higher poverty families. Moreover, our results reinforce the recommendation we made in our earlier study (White et al., 2013), regarding the need to continue efforts to diversify the teaching corps in Illinois. Across all regions in Illinois, high school graduates who later became teachers in public schools were less racially/ethnically diverse than the high school cohorts from which they came, and they started teaching in even more diverse schools. While the growing gap in diversity between teachers and students in Illinois and elsewhere has been well documented (e.g., Boser, 2011; NCES, 2009), we demonstrate in this study that the issue has implications for schools statewide, not simply for those in Chicago and the surrounding suburbs.

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