

# **EdPolicyWorks**

# Post-Pandemic Onset Public School Student Mobility by Disability and Special Education Status in Virginia

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#### Summary

The COVID-19 pandemic affected families' decisions about whether and where to enroll their children in public schools. We have limited evidence to date, however, on how vulnerable sub-groups, such as those with disabilities and those qualifying for special education services, were impacted. In partnership with the Virginia Department of Education (VDOE), analyzed we statewide administrative data that allow us to track individual students over time to learn how student nonstructural mobility-both between schools and between districts (called "divisions" in Virginia)—may have changed in the aftermath of the pandemic's onset. We examine these changes for three groups of students: students without disabilities, students with disabilities not receiving special education services, and students with disabilities receiving services. (Students who receive services are those that spend time each week with a special education teacher.) Our key findings include the following:

 Non-structural mobility between schools and between divisions was most common among students with disabilities receiving special education services. Mobility was the lowest among students without disabilities until the second year of the pandemic.

- Mobility among all three groups of Virginia students declined in the first full year after the pandemic's onset (fall 2020), but students with disabilities experienced larger declines than students without disabilities.
- The mobility patterns of the three groups of students diverged somewhat in the second full year after the pandemic's onset (fall 2021). While between-division mobility in 2021 was higher than in 2019 for all three groups, betweenschool mobility was still somewhat lower for students with disabilities (regardless of service receipt) but higher for students without disabilities.
- The changes in mobility rates in the first and second post-pandemic onset years varied in magnitude across the disability types but tended to be in the same direction (decreases or increases).
- Relative to 2019, the lowest-achieving students exhibited the largest declines (or smallest increases) in mobility in 2020 and 2021 while the highest-achieving students experienced the smallest declines (or largest increases), regardless of disability or special education status.

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#### Why Study Mobility by Disability Status?

The COVID-19 pandemic disrupted learning for students around the world, and Virginia was no exception. We know that, both nationally and in Virginia, these disruptions affected families' decisions about whether and where to enroll their children in public schools but have limited evidence to date on how particularly vulnerable sub-groups of students were impacted. We might expect, for example, students qualifying for special education services to have been disproportionately affected given these students often have different learning needs than the rest of the student population. Additionally, there was variation across districts and schools in terms of how schools operated after the pandemic's onset and the broader public health conditions in the surrounding communities which also could have impacted families' decisions about whether to seek out new schools or to stay put and minimize disruptions. Understanding these patterns could have important implications for the efforts to support students with disabilities going forward, particularly since previous research has suggested that transferring schools tends to negatively impact learning outcomes. It also likely has implications for education funding given the connection between student enrollment, disability status, and school finance, especially if any changes are sustained.

#### **Tracking Mobility and Special Education Status**

In partnership with the Virginia Department of Education (VDOE), we analyzed statewide administrative data that allowed us to track individual students over time between school year 2010-11 and 2021-22 (the second full post-pandemic onset school year) to address the following research questions:

**1)** How did the mobility—between schools and between districts—of students with disabilities change after the onset of the pandemic? How did this change differ between students who did and did not receive services from a special teacher? How

did this compare to the change for students without disabilities over this same period?

**2)** How did changes in these mobility patterns vary across disability type?

**3)** Did changes in mobility patterns after the start of the pandemic vary based on student academic performance from prior to the pandemic?

To quantify between-school mobility, we counted a student as having moved schools if they were enrolled in a Virginia public school in the fall of a given year but were enrolled in a different Virginia school in the fall of the previous year. This means we identify a student observed at different schools in the fall of 2014 and 2015 as having made a between-school move for the fall of 2015. (Throughout this brief, we refer to a school year by the fall of an academic year, e.g., 2015 refers to school year 2015-16.) These moves are either structural or non-structural. A structural move is a move required by how the division allocates grades across schools. For example, in many districts, students advancing from the 5th to 6th grade must move from their elementary school to a middle school in the same division. All other moves are non-structural and are more likely to be driven by the student's family. [1] While we examined both types of moves, we focused primarily on nonstructural moves (including moves to a new division) as these are more likely to reflect the enrollment decisions families made. We included figures for both types of between-school moves in the appendix.

One important implication of our method for calculating mobility was that in any given year, the mobility rate was calculated only among those students who were present in both the given year and the previous year. We were, therefore, limited here to examining mobility only among students who remained in the Virginia public schools. Our analysis did not capture enrollment shifts out of the public school system. We have written a separate

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brief that explores some of these issues related to changes in enrollment after the onset of the pandemic. [2]

We identified three groups of students: (1) students with disabilities (SWD) receiving special education services (SPED), (2) SWDs not receiving SPED services, and (3) students without disabilities. SWDs were students who were listed in the data as having a disability in the given year. SPED represents students spending time each week with a special education teacher. All students receiving SPED services were identified as SWDs. Not all students with disabilities, however, were receiving SPED services. Specifically, 55 percent of SWDs were receiving SPED services across all years. Between 2011 and 2021, the percentage of students who did not have a disability declined from 85 to 81% and percentages of students who had a disability but did not receive SPED services declined from 9 to 8%. Over this same period, the percentage of students who had a disability and received SPED services increased from 6 to 10%.

The data identified 14 different disabilities, and

33

31

29 Percent

27

25

23

242,063

students could have up to three disabilities each year (primary, secondary, and tertiary disabilities). For our second research question on how mobility rates varied across disability types, we included students with multiple disabilities in the samples for each of their disabilities. We choose not to report results for students with the "Deaf-Blindness" disability due to small cell/sample sizes that could compromise student privacy; however, these students were included in the pooled results by disability and special education status.

Our third sought to understand how changes in mobility rates since the start of the pandemic varied depending on a student's academic achievement prior to the pandemic. We used student-level Standards of Learning (SOL) test performance data for the last full pre-COVID year (2018-19) to generate statewide quartiles of baseline performance. We used the grade 3-8 reading scores, given there was less variation in terms of which exams students took within grade levels in reading than in math. This analysis was therefore focused on the subset of students who took SOL exams in 2018-19 and were still enrolled in K-12 public schools in the post-COVID-onset period.

#### Trends in Mobility Rates by Disability and **Special Education Status**

We found that mobility rates were relatively flat in the pre-COVID era for all three groups. In Figure 1, we plot the percentage of students switching schools for students without disabilities (Non-SWDs), SWDs not receiving SPED services (SWD-No SPED), and SWDs receiving SPED services (SWD-SPED). Roughly 27% of students moved schools,



29 795

247.581

243.033

22,323

30.812

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32,701

31,573

249.324

236,631

251,152

251,305

251 131

overall, for either structural or non-structural reasons. Throughout the period analyzed, we observed higher rates of mobility among SWDs than students without disabilities and higher rates among SWDs not receiving SPED services than those receiving SPED services. For example, roughly 30% of SWDs not receiving SPED services switched schools in the average pre-COVID year while this was true for approximately 28% of SWDs not





2021

*Note:* The figures include the number of students contributing to the numerator for each data point. SWD=students with disabilities. SPED=special education services.

receiving SPED services and 26% of students without disabilities. Between-school mobility declined for all three groups in the first year of the pandemic and then increased in the second year.

These patterns change when we restrict our analysis to non-structural moves – those more reflective of the enrollment decisions family made – as shown in **Figure 2**. Whereas SWDs not receiving

SPED services were most likely to move between schools for any reason, SWDs receiving SPED services were the most likely to move for non-structural reasons (panel A). In the pre-COVID period, SWDs receiving SPED services were 1-2 percentage points more likely than other SWDs to make a non-structural move among schools and 3-4 percentage points more likely than students without disabilities. Roughly 46% of the between-school mobility observed among SWDs receiving SPED services were non-structural moves compared to only 38% of betweenschool mobility for SWDs not receiving services and 36% for students without disabilities. Further narrowing our analysis between-division moves to (panel B), SWDs receiving SPED services were again the most likely to make this type of nonstructural move, about one percentage point higher than SWDs not receiving SPED services.

With the onset of the pandemic, the mobility of all groups decreased in the fall of the first full post-COVID onset year (fall

of 2020) and then increased in the second year (fall of 2021). The fall 2020 decline in the non-structural between-school and between-division mobility rates were largest for SWDs receiving services (1.8 and 0.7 percentage points, respectively) and the smallest for non-SWDs (1.2 and 0.4 percentage points, respectively; see Figure 2). Relative to fall 2020, the between-school mobility rates increased in fall 2021 the most for non-SWDs (2.0 percentage points) and the least for SWDs not receiving services (1.3 percentage points; panel A). As for the betweendivision mobility, the rates increased 1.4 percentage points for both non-SWDs and SWDs receiving services and 0.8 percentage points for SWDs not receiving services (panel B).

What was the cumulative change over the two-year post-COVID period? For between-school mobility, the cumulative effect of the 2020 dip and 2021 bounce-back was virtually no pre-/ post-COVID change in the rates of non-structural school switching for SWDs and a small increase for students without disabilities. The 2021 between-school mobility rate for non-SWDs was 9% higher than in 2019 while it was 3% higher for SWDs not receiving services and 2% higher for those receiving services. For between-division mobility, the story was different in that the bounce back in 2021 surpassed the decline in 2020 for all three groups, but more so for non-SWDs and less so for SWDs not receiving services. The 2021 betweendivision mobility rate for non-SWDs was 23% higher than in 2019 versus 8% and 13% for both groups of SWDs.

## Post-Pandemic Onset Change in Mobility Rates by Disability Type

To explore further the post-pandemic onset changes in mobility, we

examined the change in mobility since 2019 separately for 13 disability types. The 2019 mobility rates varied across the disability types, meaning that some types with more potential for a decline or increase than other types. We, therefore, present the year-to-year change in mobility rates as a percent of the 2019 mobility rates. We show the percentage change in non-structural mobility rates between fall 2019 and fall 2020 in **Figure 3** and the percentage change in mobility rates between fall 2019 and fall 2021 in **Figure 4**. We ordered the disability types by their prevalence within the student population with Specific Learning Disabilities being the most prevalent and Traumatic Brain



**Figure 3.** Percentage change in non-structural between-school and between-division mobility rates among students by disability and special education status and disability type, 2019 to 2020

*Note:* The disability types are sorted by the size of the group from largest to smallest. SPED=special education services.

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Injured the least prevalent (see Figure A1 in the appendix for trends in the prevalence of these disabilities over time).

Between fall 2019 and fall 2020, the non-structural between-school and between-division mobility rates declined for all disability types except for the between-school rate for Orthopedic Impairments (**Figure 3**). The percent change was larger for some disability types than others, such as those students identified as having a Visual Impairment (48% decline in between-school mobility and 59% decline in between-district mobility). It is important to keep in mind, however, that some of these disability type



**Figure 4.** Percentage change in the non-structural between-school and between-division mobility rates among students by disability and special education status and disability type, 2019 to 2021 *Note:* The disability types are sorted by the size of the group from largest to smallest. SPED stands for special education services.

categories were quite small (e.g., 900 students or fewer in the Visual Impairment category in any year) and the percentage change was quite sensitive to the absolute number in a given category.

When it came to the overall change from fall of 2019 to fall of 2021, the non-structural between-school mobility rates tended to decrease while the between-division mobility rates tended to increase (Figure 4). The 2021 between-school mobility rates were between 1 and 28% lower than in 2019 while they were higher among students with Autism and Section 504 disabilities (1 and 5%, respectively). The 2021 between-division mobility rates were between

1 and 25% higher than in 2019 except for Orthopedic and Visual Impairments where the 2021 rates were 15 and 38% lower. Again, the largest changes were among students with Visual impairments.

## Mobility Rate Patterns by Baseline Exam Performance and Disability Type

Our final research question was how did mobility patterns change pre-/ post-COVID-onset based on student academic performance in reading observed prior to the pandemic? As a reminder, to be included our analysis students had to have a test score in Spring 2019. Our sample for this analysis is, consequently, slightly different from that included in the analyses up to this point. More specifically, it includes 41% of the overall non-SWD sample, 51% of the overall sample of SWDs not receiving services, and 37% of the overall sample of SWDs receiving services. To define four groups based on prepandemic reading performance, we began by standardizing the Spring 2019 scores separately by test on

COVID-19 Impacts Research Brief Series No. 5, Nov. 2023 Available at bit.ly/COVIDequity. the full population of test takers. We then assigned our analytic sample for this research question to quartiles of standardized reading scores. As we show in **Table 1**, SWDs were overrepresented in the lowest achieving group and underrepresented in the highest achieving group.

We found evidence that the declines in non-structural between-school mobility rates in 2020 were smaller among the highest scoring students and largest among the lowest scoring students, regardless of

disability or special education status (**Figure 5**, panel A, on the next page). When it came to the overall change as of 2021 (panel C), the declines continued to be largest for the lowest scoring students and were smaller for the highest scoring students. A noticeable difference is that between-school mobility increased among SWDs receiving services in three of the four groups including 40% higher for the highest scoring group.

The story was similar when it came to non-structural between-division mobility. As shown in panel B of Figure 5, the declines in between-division mobility between 2019 and 2020 were largest for the lowestscoring students and smaller for higher scoring students. One noticeable difference from the between-school results was that the betweendivision mobility increased in 2020 among the highest scoring SWDs - 8% among those not receiving services and 26% among those receiving services. Shifting our focus to 2021 relative to 2019, we found that non-structural between-division mobility rates increased at all performance levels regardless of disability and special education status (panel D). There was one exception - the lowest scoring SWDs not receiving services - for whom between-division mobility decreased slightly in 2021 2019. Between-division mobility rates from increased the most among the highest scoring

**Table 1.** Number and percent of students in each statewide baseline performance quartile by disability and special education status, SY 2018-19

Reading Quartile	Statistic	Non-SWD	SWD-No SPED	SWD-SPED	Total
1 (lowest	Ν	92,061	20,931	27,941	140,933
achieving)	%	19.6	42.9	59.8	24.9
2	N	119,074	12,184	10,346	141,604
	%	25.3	25.0	22.1	25.0
3	Ν	126,927	8,707	5,472	141,106
	%	27.0	17.9	11.7	24.9
4 (highest	N	131,944	6,906	2,955	141,805
achieving)	%	28.1	14.2	6.3	25.1
Total	Ν	470,006	48,728	46,714	565,448
	%	100.0	100.0	100.0	100.0

*Note:* This table includes all students who tested in 2018-19 even if we did not observe them in the post-COVID period.

students (23% among non-SWDs, 26% among SWDs not receiving services, and 111% among SWDs receiving services).

#### Closing

The COVID-19 pandemic led to initial declines in movement across both schools and divisions in the Virginia context, and the declines in betweendivision mobility were more pronounced for students with than without disabilities. Mobility rates, however, rebounded in the second full postpandemic year regardless of disability status. By fall 2021, the rates of between-school mobility were on par with pre-pandemic trends with mobility slightly higher for students without disabilities. Rates of between-district mobility exceeded the expected rates based on pre-pandemic patterns, regardless of disability or special education status. The direction of these changes in mobility were the same across all disability types with a few exceptions. The mechanisms behind these patterns might have differed when it came to families' decisions about whether to transfer schools versus districts given that we found differences in how mobility changed between relatively lower- and higher-achieving students. Further research is needed to unpack the reasons for these patterns and would be worth doing to better understand the

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130

120

110

100

90

80

[1] An exception are 8th graders in Lexington City who make a structural move to the 9th grade in Rockbridge County.

A. Between-School Mobility, 2019-2020

130

120

110

100

90

80

[2] Schueler, B. E., & Miller, L. C. (2023). Post-Pandemic Onset Public School Enrollment and Mobility: Evidence from Virginia. Educational Evaluation and Policy Analysis. The research reported here was supported by the Institute of Education Sciences, U.S. Department of Education, through R305S210009 to the VDOE. The opinions expressed are those of the authors and do not represent views of the Institute of the U.S. Department of Education. We thank Daniel Lipscomb for research assistance and Drs. Samantha Hollins, Xianxuan Xu, and Dave Myers for research partnership.

B. Between-Division Mobility, 2019-2020

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# Appendix



Figure A1. Number of students by disability type for more and less prevalent types, 2010-2021



**Figure A2**. Percentage change in between-school mobility rates (structural and non-structural moves) among students by disability and special education status and disability type, 2019 to 2020 and 2019 to 2021

*Note*: The disability types are sorted by the size of the group from largest to smallest. SPED=special education services.



**Figure A3.** Percent change in between-school mobility rates (structural and non-structural moves) among students by baseline performance quartile (Q1=lowest performing) and by disability and special education status, 2019 to 2020 and 2019 to 2021

*Note:* Baseline performance quartiles defined on reading SOL scores from SY 2018-19. We generated four quartiles of baseline performance (across all grades, though quartile ranks shift for less than 1% of students when we generate the quartiles separately by grade). SPED=special education services