

# SECTION I

## FULL-TIME VIRTUAL SCHOOLS: ENROLLMENT, STUDENT CHARACTERISTICS, AND PERFORMANCE

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### Executive Summary

An array of education services is delivered online. On one end of the continuum, individual courses are delivered to students who are otherwise enrolled in brick-and-mortar schools. The middle terrain includes a wide array of blended programs and schools serving students with a combination of face-to-face and online activities. On the other end of the continuum, full-time virtual schools provide all curriculum and instruction via the internet and electronic communication, usually asynchronously with students at home and teachers at a remote location.

This report focuses only on full-time virtual schools. During the pandemic a large portion of primary and secondary schools switched to virtual instruction for some of the most challenging months. Please note that this report does not include schools making these temporary changes. This section includes a detailed overview and inventory<sup>1</sup> of full-time virtual schools. Also included are key findings related to student demographics, school characteristics, and state-specific school performance measures. Evidence indicates that student and school characteristics differ considerably from characteristics of traditional, brick-and-mortar public schools.

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Data for virtual schools also indicate that they are performing poorly, a finding that has not changed either in NEPC's 10 reports on virtual schools since 2012, or in other national studies. Even while outcomes are often abysmal, enrollment growth has continued. Dominating this sector within the public school system are for-profit education management organizations (EMOs) that operate exceedingly large virtual schools. School districts are becoming more active in opening virtual schools, but district-run schools have typically been small, with limited enrollment.

## **Current Scope and Growth of Full-Time Virtual Schools**

- A total of 726 full-time virtual schools met selection criteria for the 2021-22 school year, 249 more than existed in 2019-20, which was the reference year for our previous report. Between 2019-20 (pre-pandemic) and 2020-21, enrollment in full-time virtual schools nearly doubled, increasing from 332,379 students to 643,930 a year later (an increase of 331,551 students). Given the rapid increase in enrollment during the pandemic, it is interesting to note that as the pandemic eased up between 2020-21 and 2021-22 school years, enrollments in full-time virtual schools declined by 65,000 students. This drop in enrollments occurred even though the net number of full-time virtual schools continued to grow.
- One third of all virtual schools are organized as charter schools (33.3%), but together they accounted for 58.4% of enrollment. Districts created 245 new full-time virtual schools during the pandemic, while charter schools added only a net of four virtual schools. The district schools added 160,000 students over the past two years, while charter schools added 86,000 students.
- Virtual schools operated by for-profit EMOs were around two and a half times as large as other virtual schools. They enrolled an average of 1,483 students. In contrast, those operated by nonprofit EMOs enrolled an average of 656 students, and independent virtual schools enrolled an average of 562.
- Although for-profit and nonprofit EMOs operated only 32% of full-time virtual schools, those schools enrolled 52% of all virtual school students.

## **Student Demographics**

- Full-time virtual schools have tended to enroll fewer minority students compared to national public school enrollment. During the pandemic, although most minority groups increased their numbers in virtual schools, the proportion of Hispanic students was still eight percentage points lower than national norm.
- Virtual schools continue to educate substantially fewer low-income students relative to national public school enrollment, and this gap increased during the pandemic.
- While the population in the nation's public schools is slightly weighted toward males

(51.3% males and 48.7% females), the 2021-22 student population in virtual schools was skewed toward females: 51.9% females and 48.1% males.

### **Student-Teacher Ratios**

- The average student-teacher ratio in the nation's public schools was 14.8 students per teacher. Virtual schools reported having 1.65 times as many students per teacher (24.4).
- Higher numbers of students per teacher at virtual schools were associated with lower graduation rates and school performance ratings.

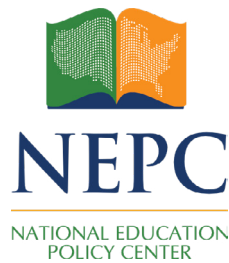
### **School Performance Findings**

- Because many states continue to have frozen accountability systems or to have implemented new systems excluding overall school ratings, only 18 of 35 states with virtual schools had data on school performance available. Still, compared to prior reports, much more data was available overall. Because the 2021-22 results were relatively incomplete, we also did a second analysis that considered the school rating for the most recent year available. We limited this to the last three years and found that the total number of schools with a rating jumped from 296 to 380.
- Overall, many virtual schools continued to receive low performance ratings, with the proportion of acceptable ratings for virtual schools in 2021-22 dropping to 41.2%. This is a slight drop from 2019-20 when 42.8% of virtual schools received acceptable ratings. When we consider schools who had performance ratings from one of the last three years, we were able to add 40 more schools to our analysis, but the outcome was similar, with 42.6% of virtual schools receiving an acceptable ratings from their respective state education agency.
- Although the overall performance of virtual schools was poor, the report highlights some exceptions as well as a few examples of especially poorly performing states.
- Four-year graduation rate data were available for 228 full-time virtual schools. The graduation rate of 65.1% in virtual schools fell far short of the overall average national graduation rate of 86.5%. Our analysis with 409 virtual schools that had graduation rate data for at least one of the last three years (most recent year), found a graduation rate of 61.9%.
- District-operated virtual schools reported higher graduation rates than virtual charter schools (66.7% graduation rate compared with 59.4% for charter virtual schools).

## Recommendations

In light of current evidence that full-time virtual schools continue performing poorly, we recommend that policymakers:

- Require federal and state education agencies to accurately identify and monitor full-time virtual schools, remedying gaps in information transparency on performance measures and accountability.
- Ensure and enforce sanctions for virtual schools performing inadequately.
- Enhance performance accountability mechanisms to inform funding, renewal, nonrenewal, and revocation decisions.
- Establish requirements for reduced student-to-teacher ratios and regular contact between teachers and online students.
- Slow or stop the growth of virtual schools until substantial academic and/or non-academic outcomes improve and benefits are comparable with brick-and-mortar public schools.
- Sponsor research on full-time virtual schools. This research also needs to focus on alternative models for full-time virtual schools such as school- or district-run programs, as well as the promising models for blended learning.
- Develop project and grant priorities that document best practices and promising models for virtual schools, including district efforts born of the pandemic. Promote cross-sector collaborations and partnerships to strengthen professional development for teachers and the quality and rigor of students' online learning experiences.
- Convene events with scholars, practitioners, representatives from state and federal education agencies, and other policymakers to carefully design a model for full-time virtual schools that can work. Such a model should include finance and oversight mechanisms ensuring that virtual schools focus on the interests of taxpayers and students, not of corporations.



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### Introduction

Since 2012, the National Education Policy Center has issued research reports on full-time virtual schooling at the primary and secondary levels.<sup>2</sup> Between 2015 and 2021, full-time blended learning schools were also included in these reports. In addition to a wide range of related policy issues, topics covered in this series of reports have included who is enrolling in virtual schools, what the characteristics of these schools are, and how these schools are performing. As a national inventory, these reports are intended to track developments and inform policymakers and education officials about this fast-growing form of school choice.

This section of the report documents a few of the most tumultuous years for primary and secondary schooling, as this sector was heavily impacted by the COVID-19 pandemic. The section devotes considerable attention to detailing how and where virtual schools expanded during the pandemic.

Between 2016 and 2020, there was very slow growth in the total number of new virtual schools opened. During this time, the average enrollment in virtual schools continued to grow, leading to modest net enrollment increases. The fact that there was any growth at all prior to the pandemic was surprising, since evidence on outcomes was predominately negative over the previous decade.

<sup>i</sup>The authors wish to recognize Ana Laura Vasquez-Quino for assistance in collecting data from Alaska and Alabama.

The COVID-19 pandemic that started affecting primary and secondary schools in the spring of 2020 ended up having a dramatic impact on the virtual school sector. Enrollments in full-time virtual schools nearly doubled, and the number of full-time virtual schools that met our inclusion criteria for our national inventory increased from 477 in 2019-20 to 726 in 2021-22.<sup>3</sup> Charter schools accounted for a net increase of only four new virtual schools, while school districts accounted for 245 new full-time virtual schools. It is important to note that districts and charter schools around the country were switching to virtual instruction for extended periods of time during the pandemic. These changes were not permanent, so these schools did not become classified as full-time virtual schools. Instead, they switched to virtual instruction when required by education officials, and when possible, they returned to classroom-based instruction.

This report focuses largely on data for 2021-22, which is the most recent year from which we could obtain relatively complete data. Trends and comparisons are made with data from earlier years to provide context. The report details student demographics, key school characteristics, school performance, and sector growth. Research questions include:

- How many full-time virtual schools operate in the U.S.? How many students do they enroll?
- What are the key organizational characteristics of these schools, and who operates them?
- What are the demographic characteristics of students enrolled? How do students enrolled in virtual schools differ from those enrolled in brick-and-mortar schools?
- How do virtual schools perform in terms of school performance ratings and graduation rates?

Student demographics reported include grade level, race-ethnicity, sex, and socioeconomic status (measured by the percentage of students qualifying for free and reduced-price lunch). Data on school performance includes state-assigned school performance ratings and graduation rates; when possible, comparisons are made with national norms. Also included are data on student-teacher ratios.

The findings presented in this report are based on publicly available data for the 2021-22 school year. Data came primarily from state education agencies, sometimes supplemented by information from school and district websites. Data on student demographics and school characteristics came from the National Center for Education Statistics (NCES). Please note that Appendix I-A contains details about methods, data sources, and limitations.

## **Growth and Current Scope of Full-Time Virtual Schools**

An array of education services is delivered online. On one end of the continuum, individual courses are delivered to students who are otherwise enrolled in brick-and-mortar schools. The middle terrain includes a wide array of blended programs and schools serving students

with a combination of face-to-face and online activities. On the other end of the continuum, full-time virtual schools provide all instruction online. This report will only focus on full-time virtual schools. Full-time virtual schools are especially important to track because they are the fastest growing form of school choice. They are expected to deliver a full education and are supported with the same or similar funding formula as brick-and-mortar charter schools in most states.

Although these schools still account for a relatively small portion of the overall school choice options in the U.S., they constitute a fast-growing enrollment option (as of 2021-22, virtual schools account for 1.4% of the nation's public school students). As initial evidence suggests, the pandemic that struck in spring 2020 resulted in a very large growth in this sector. We have initial data that indicates that enrollments in full-time virtual schools dropped after the pandemic, but it is still too early to determine if these schools will revert to enrollment levels prior to the pandemic.

Virtual schools overlap with two other choice options: homeschooling and charter schools. For some students, the virtual school experience supplements the homeschool experience. In addition, 58.4% of virtual school students are enrolled in virtual charter schools, making them both virtual school students and charter school students. Appendix I-B contains charts that depict the number of virtual schools and students by state. During the 2021-22 school year, 35 states had full-time virtual schools that met our criteria for inclusion.<sup>4</sup>

A total of 726 full-time virtual schools met the selection criteria for the 2021-22 school year, 249 more than existed in 2019-20, which was the reference year for our previous report. Between 2019-20 (pre-pandemic) and 2020-21, enrollment in full-time virtual schools nearly doubled, increasing from 332,379 students to 643,930 a year later. In the following year (between 2020-21 and 2021-22), total enrollments in full-time virtual schools declined by 65,000 students. This drop in enrollments occurred even though the net number of full-time virtual schools continued to grow with the addition of 74 more virtual schools, which were largely smaller district virtual schools. In 2019-20, there were 477 virtual schools, and this increased to 653 in 2020-21 and 726 virtual schools in 2021-22. This sharp decrease in enrollments can be attributed to the reduced impact of the pandemic and the eagerness for families to have their children back in brick-and-mortar schools.

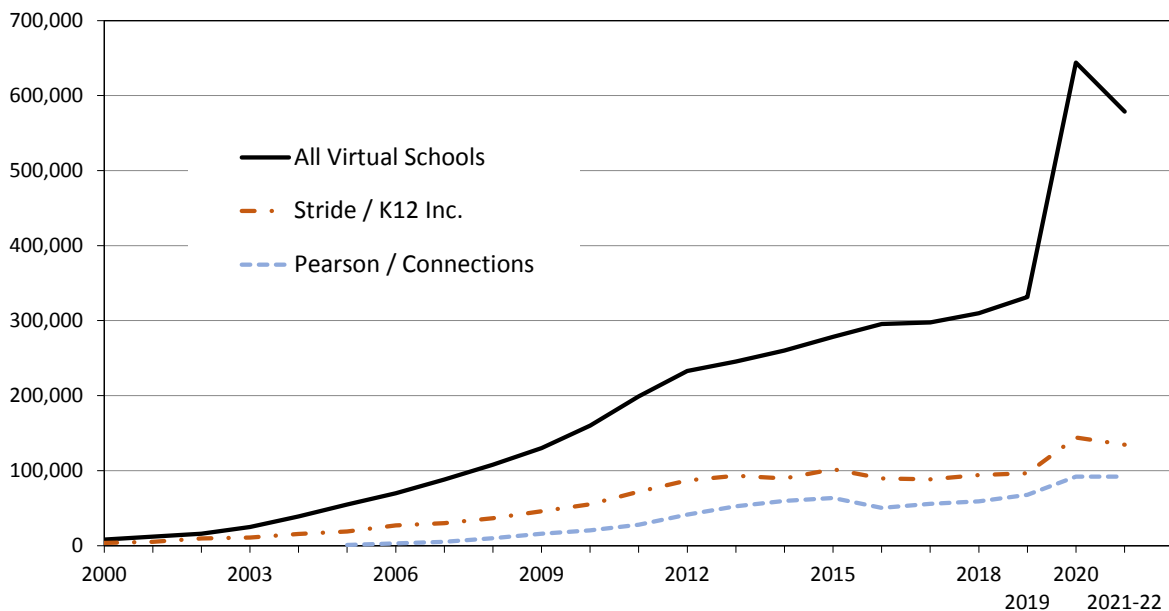
Figure 1 illustrates the estimated enrollment growth in full-time virtual students over the last two decades.<sup>5</sup> Figure 1 also illustrates the proportion of students in schools operated by the two largest for-profit Education Management Organizations (EMOs), Stride/K12 Inc. and Pearson/Connections. Stride/K12 Inc. schools accounted for 23% of all virtual school enrollments. Pearson/Connections schools accounted for 16% of all enrollments. Overall, the market share of these two large companies has been decreasing as districts open more of their own virtual schools. Nevertheless, except for a small decrease between 2020-21 and 2021-22, these two key corporate, for-profit players appear to be consistently growing both in the number of schools they operate or work with and the number of students they enroll.

Figure 1 fluctuations for these two for-profit EMOs likely reflect shifts in their relationships with schools or, in some cases, masking relationships entirely by using intermediary nonprofit organizations. For example, these corporations as well as others sometimes shift

their relationship with schools from “operators” with executive control over the school (i.e., EMOs) to “vendors.” As vendors, the private companies provide specific services or products, primarily access to the EMO’s learning platform and curriculum.

As Figure 1 illustrates, there was an extremely large expansion of full-time virtual school students between the 2019-20 school year and the 2020-21 school year. The COVID-19 pandemic started to impact schools in the spring of 2020, with many schools temporarily switching to online instruction or offering families the option to attend an online program or school to finish that school year. Over the summer of 2020, school districts went into action, and 181 new full-time virtual schools were established, and 64 more were added in 2021. Most of these were district-operated and, to a lesser extent, charter schools were creating new virtual schools. We identified more than 70 schools that were previously identified as blended learning schools that had become full-time virtual schools in 2020 and 2021. The large for-profit charter virtual school operators did not see the number of their schools change much, although they did expand their enrollments dramatically as families sought alternatives to their in-person public schools that either were staying with face-to-face instruction or communicated uncertain plans for the 2021-22 school year.

**Figure 1. Enrollment Trends in Full-Time Virtual Schools**



Between 2019-20 (pre-pandemic) and 2020-21, enrollment in full-time virtual schools nearly doubled, increasing from 332,379 students to 643,930 a year later (an increase of 332,379 students). Given the rapid increase in enrollment during the pandemic, it is interesting to note that as the pandemic eased up between 2020-21 and 2021-22 school years, enrollments in full-time virtual schools declined by 65,000 students. This drop in enrollments occurred even though the net number of full-time virtual schools continued to grow.

Between 2019-20 and 2020-21, Stride/K12 Inc. added nearly 48,000 students, and Pear-



son/Connections added just over 24,000 students. Of the drop in net enrollments in virtual schools in 2021-22 mentioned above, Stride/K12 Inc. accounted for a decrease of nearly 10,000 students.

Before the pandemic, districts were adding most to the new pool of full-time virtual schools, although the district schools tended to be small relative to virtual charter schools (see Table 1). During the pandemic, districts had a net increase of 242 additional full-time virtual schools, although these still tended to be relatively small schools in enrollment. In total, district virtual schools enrolled an additional 160,000 students during the pandemic, while charter virtual schools added 86,000 students.

In 2021-22, 484 district virtual schools and 242 charter virtual schools were operating. District schools now account for two thirds of all virtual schools, but their share of enrollments is only 41.6%; charters account for 58.4%. Both continue to increase average school size. District average enrollment per school is 498, while charters average 1,396. A possible explanation is that district schools typically serve smaller targeted populations within district boundaries, while charter virtual schools are more likely to target statewide markets. Another possible explanation is that for-profit companies, which prioritize larger school sizes to maximize profit, rarely operate district virtual schools.

**Table 1. Distribution of Virtual Schools and Students Across District and Charter Sectors, 2021-22**

	Total Number of Schools in 2021-22	Percent of All Schools	Students	Percent of All Enrollment	Average Enrollment Per School
District	484	66.67%	240,841	41.62%	498
Charter	242	33.33%	337,818	58.38%	1,396
Total for All Virtual Schools	726	100.00%	578,659	100.00%	797

Private EMOs operated 32% of all full-time virtual schools, accounting for 52% of enrollment (see Table 2). Nonprofit EMOs gained 1 percent of the market share since 2019-20, and independent virtual schools (those that have no EMO) increased their market share in that time period by 11%. Although charter schools were much more likely than district schools to be operated by a for-profit EMO, 75 district schools were operated by for-profits, primarily Stride/K12 Inc.

Stride/K12 Inc. remains the largest EMO in this sector; in 2021-22, it operated 78 full-time virtual schools enrolling 134,525 students, an increase of nearly 38,000 students during the last two years. Pearson/Connections, the second largest for-profit EMO, operated 46 virtual schools enrolling 92,102 students, an increase of some 23,000 students since 2019-20. With six full-time virtual schools, EPIC Charter Schools, largely concentrated in Oklahoma, nearly doubled their enrollment to 44,000 students between 2019-20 and 2020-21; the following year, their enrollment dropped by 15,000 students.

It is important to note that this report’s data on private operators likely underrepresents the role of for-profit EMOs. In addition to operating some schools as EMOs, Stride/K12 Inc. and Pearson/Connections also have vendor relationships with scores of others. When an EMO operates a school, it has executive control of the school, including curriculum and programs, as well as the hiring of administrators and teachers. In vendor relationships, the private company typically leases its learning platform and curriculum to the school, which retains management of all other aspects, including hiring teachers and administrators. In 2018, California adopted legislation that restricted for-profit EMO management of public schools. However, close examination of management contracts reveal only minor changes in the terms of the management arrangements and, in many cases, the use of nonprofit intermediary organizations have allowed for-profit EMOs to continue doing business as they did before the legislation.

Aside from Stride/K12 Inc. and Pearson/Connections, several other for-profit EMOs have entered the marketplace, although they still remain relatively small. Given the relatively lucrative circumstances<sup>6</sup> under which full-time virtual schools can operate, however, it is likely that still more for-profit EMOs will expand their business models to include full-time virtual schools growth.

**Table 2. Distribution of Virtual Schools and Students by Operator Status, 2021-22**

	Total Number of Schools in 2021-22	Percent of All Schools	Students	Percent of All Enrollment	Average Enrollment Per School
Independent	494	68.0%	277,593	48.0%	562
Nonprofit EMO	52	7.2%	34,096	5.9%	656
For-profit EMO	180	24.8%	266,970	46.1%	1,483
Total for All Virtual Schools	726	100.0%	578,659	100.0%	797

Variance in the for-profit sector’s enrollments is great, with some for-profit EMOs operating schools with more than 10,000 students. The largest school in 2021-22 was Commonwealth Charter Academy in Pennsylvania with 18,087 students. The Ohio Virtual School, was next largest with 16,161 students. Pennsylvania and Texas each had two virtual schools with more than 10,000 students—and one enrolling more than 18,000 students in a single school unit. Not surprisingly, 70% of the full-time virtual schools with more than 5,000 students were organized as for-profit charter schools.

Nonprofit EMOs operated only 52 virtual schools in 2021-22 and increased enrollments by 18,000 students since 2019-20. None are very large or control more than a handful of schools. The largest are Learning Matters Educational Group (seven schools), Idaho Virtual

Academy (four schools), Compass Charter schools (three schools), and Virtual Education Services Association (three schools).

Independent virtual schools which have no private EMO also grew in the last two years, with an addition of 200 schools and an increase of just under 158,000 students. Independent virtual schools averaged 562 students, nonprofit EMO-operated schools averaged 656 students, and—in stark contrast—for-profit EMO-operated schools averaged 1,483 students.

### *Distribution of Virtual Schools by State*

A total of 35 states have full-time virtual schools that met our selection criteria. See Appendix I-B with the list of states and charts that illustrate the number of virtual schools by state and the number of students enrolled in virtual schools. Michigan has the most full-time virtual schools with 81. Perhaps more relevant is the actual number of students enrolled in these schools. Some states only need a few of these schools that enroll students from all districts in the state. California has the most students enrolled in full-time virtual schools, with just under 60,000. Pennsylvania is close behind with 57,800 students. States with between 30,000 and 50,000 students include Texas, Arizona, Oklahoma, Ohio, and Michigan.

### *Analyses Based on NCES Indicators Related to Virtual Instruction*

A separate analysis of data from the National Center for Education Statistics (NCES) was undertaken to verify the trends in virtual school enrollments observed during the pandemic. The NCES uses a unique classification of schools to distinguish the extent to which they use virtual instruction. One category is for exclusively virtual schools which they label “FullVirtual.” Next, they identify schools that are primarily virtual but have some supplemental instruction that occurs face-to-face with teachers in a school building; this is referred to as “FaceVirtual.” The third category is “SuppVirtual” which refers to schools that are mostly provide in-person instruction, although they have supplemental learning activities or instruction that can take place virtually. The last category is “NotVirtual” which refers to the largest group of schools in the country, where students receive their full education in brick-and-mortar school buildings.

The overall number of FullVirtual schools reported by the NCES differs from the number of schools we classify as full-time virtual. Our dataset has been built and expanded over the past decade. Each time we update our national inventory of virtual schools, we carefully vet each school and assign the full-time virtual designation only when schools met our criteria for inclusion (see Appendix I-A for details about our selection criteria and methods). The NCES relies on reporting from states for their virtual status designations and this data appears to be unaudited. It is also important to note that the NCES results summarized in Tables 3 and 4 as well and Figure 2 exclude data from California.<sup>7</sup>

**Table 3. Number of Public Schools by Virtual School Status (2018-10 to 2021-22)**

Year	Total Public Schools	FullVirtual		FaceVirtual		SuppVirtual		NotVirtual		Not Reported or Missing	
		#	%	#	%	#	%	#	%	#	%
2018	99,911	675	0.7%	386	0.4%	7,503	7.5%	91,004	91.1%	343	0.3%
2019	99,624	691	0.7%	381	0.4%	8,333	8.4%	79,825	80.1%	10,394	10.4%
2020	99,763	818	0.8%	554	0.6%	23,363	24.4%	49,156	49.3%	24,872	24.9%
2021	100,425	1,093	1.1%	332	0.3%	16,834	16.8%	62,707	62.4%	19,459	19.4%

Table 3 outlines the number of schools in the U.S. (excluding California) according to their NCES-designated virtual school status, and Table 4 provides a similar breakout for the number of students enrolled. The figures show an increase from 691 FullVirtual schools in 2019-20 growing rapidly to 1,093 in 2021-22. Table 4 contains enrollment data broken out by NCES virtual codes. As can be seen, student enrollment in FullVirtual schools nearly doubled during the pandemic (2019-20 to 2021-22); this finding mirrors what we found in our dataset.

**Table 4. Number of Students by Virtual School Status (2018-2021)**

Year	Total Public Students*	FullVirtual		FaceVirtual		SuppVirtual		NotVirtual		Not Reported or Missing	
		#	%	#	%	#	%	#	%	#	%
2018	50,751,092	289,624	0.6%	126,735	0.2%	4,236,824	8.3%	46,082,166	90.8%	15,743	0.0%
2019	50,833,994	293,717	0.6%	142,378	0.3%	4,638,209	9.1%	39,756,919	78.2%	6,002,771	11.8%
2020	49,057,632	593,778	1.2%	247,661	0.5%	11,940,890	24.3%	22,406,541	45.7%	13,868,762	28.3%
2021	49,446,928	566,344	1.1%	106,219	0.2%	8,273,507	16.7%	29,238,797	59.1%	11,262,061	22.8%

\*Includes all public primary and secondary school students in the U.S., excluding California.

**Figure 2. Shift Away From “NotVirtual” Schools During Pandemic (Percentage of All Public Schools in the U.S., Excluding California)**

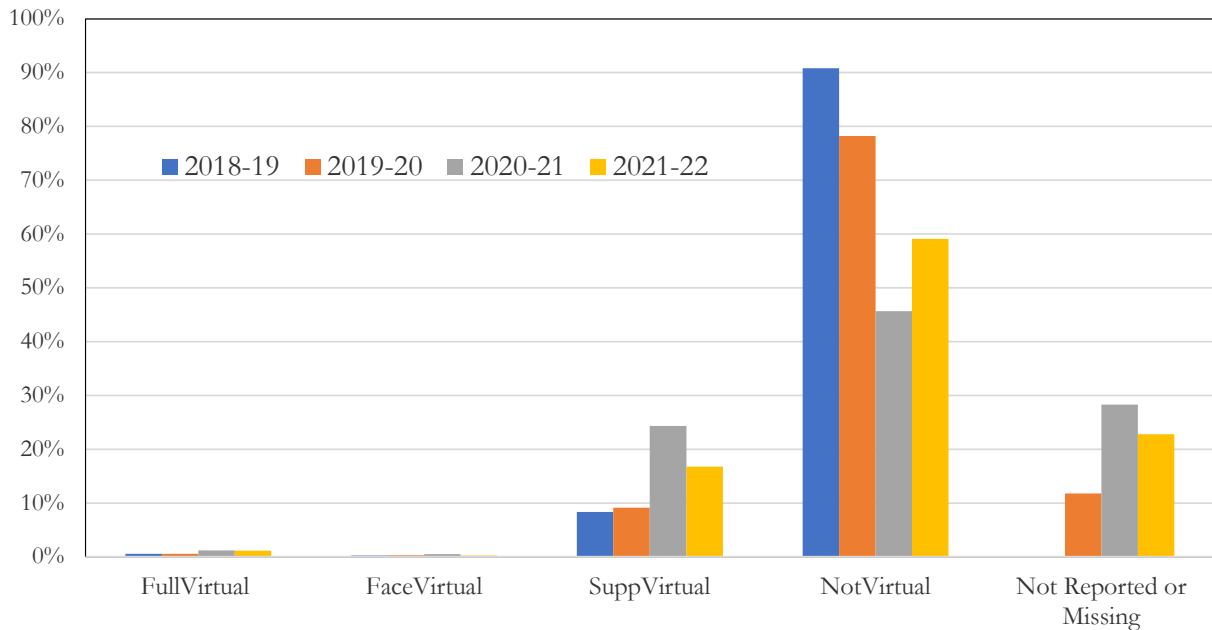


Figure 2 illustrates enrollment trends based on the NCES virtual codes. While the growth in full-time virtual schools is quite large, as a percentage of all public schools in the country the expansion of virtual schools was hardly noticeable. What is striking from the results in Figure 2 is that the percentage of schools classified as “NotVirtual” dropped from just over 90% in 2018-19 to 45.7% in 2020-21, and then came back up to 59.1 in 2021-22. Most of the shift away from the “NotVirtual” schools was a shift to schools using virtual means to supplement their instruction. Also, the number of schools in the country that either did not report their school’s “virtual status” or had missing data on this variable increased dramatically, with 11% in 2019-20, racing up to 28.3% in 2020-21 and 22.8% in 2021-22. The data on schools either having missing data or not reporting their virtual status speaks to the chaos that affected primary and secondary schools across the country during the pandemic.

### Student Demographics

Data on demographics came primarily from state education agencies and the National Center for Education Statistics for the 2021-22 school year.

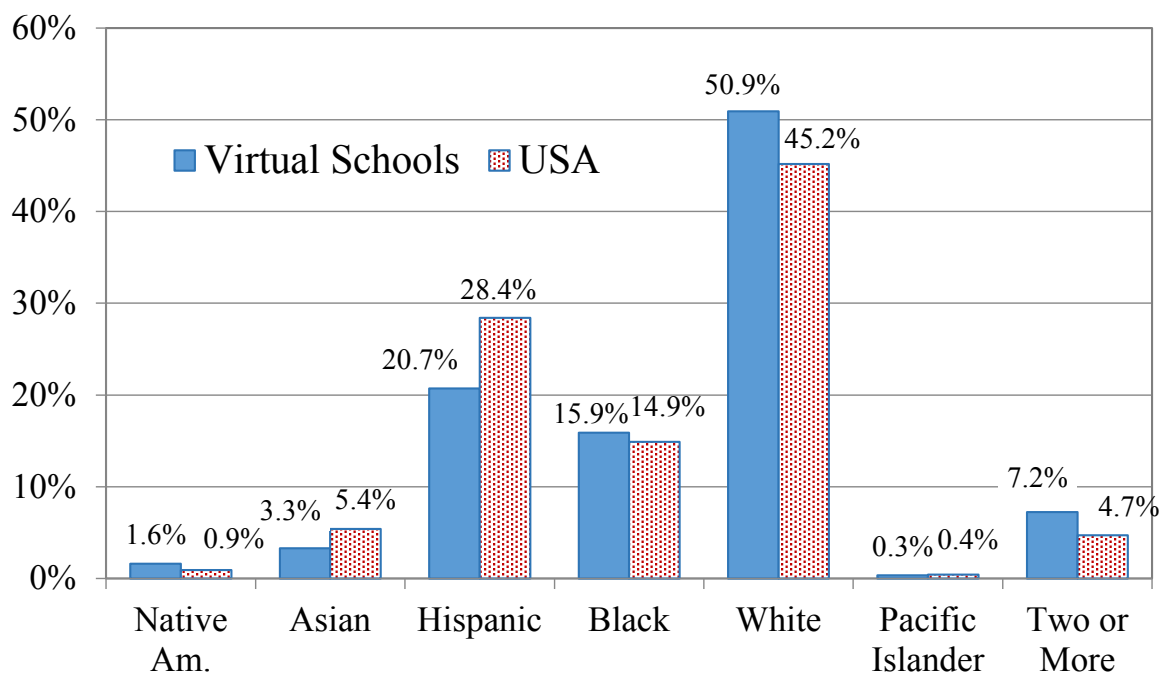
#### *Race-Ethnicity*

Data on race/ethnicity was available for 726 virtual schools. In prior years, the proportion

of minority students in virtual schools had slowly increased by a few percentage points each year. Over the last two years, however, there was a 6% increase in the proportion of Black students, a 4% increase in the proportion of Hispanic students, and a 2% increase in the proportion of Asian students. While the number of students in all racial groups increased during the pandemic, the proportion of White students relative to the overall enrollments in virtual schools dropped by 6%, and the proportion of Native Americans dropped by 1%.

The proportion of virtual school students who were White-Non-Hispanic was 45.2%, which is identical to the national norm (see Figure 3). Hispanic and Asian children were underrepresented relative to the national public school population, while other race/ethnicity groups are relatively similar.

**Figure 3. Race/Ethnicity of Students in Virtual Schools Compared with National Averages, 2021-22**



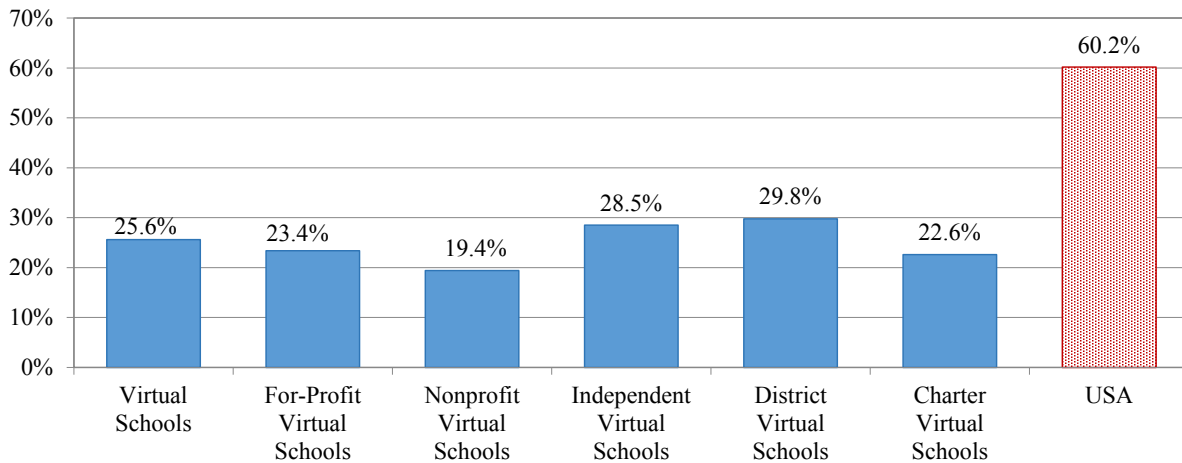
### *Free and Reduced-Price Lunch*

As illustrated in Figure 4, data on students qualifying for free or reduced-price lunch (FRL) was available for 474 virtual schools. Among students in those schools, 25.6% met FRL requirements—34.6 percentage points lower than the national average of 60.2%. Charter schools had a much lower percentage (22.6%) than districts (29.8%); for-profits had a slightly higher percentage (23.4%) than nonprofits (19.4%).

Before the pandemic the proportion of students qualifying for free or reduced-price lunch in full-time virtual schools was only slightly lower than the national average. With the rapid expansion of new virtual schools and near doubling of enrollment during the pandemic, we can now see signs that lower-income students who qualify for free and reduced-price lunch

were much less likely to switch to a virtual school. This drop in the proportion of virtual school students qualifying for FRL occurred across all categories outlined in Figure 3.

**Figure 4. Students Qualifying for Free and Reduced-Priced Lunch, 2021-22**



### *Sex*

While the population in the nation’s public schools is slightly weighted toward males (51.3% males and 48.7% females), the 2021-22 student population in virtual schools (726 schools with data) was skewed toward females: 51.9% females and 48.1% males. That gap of 3.8 percentage points is actually lower than pre-pandemic in virtual schools when females comprised 53.4% of all virtual school students. These ratios remained largely the same across different types of virtual schools, although females were slightly more prevalent in charter schools than district schools.

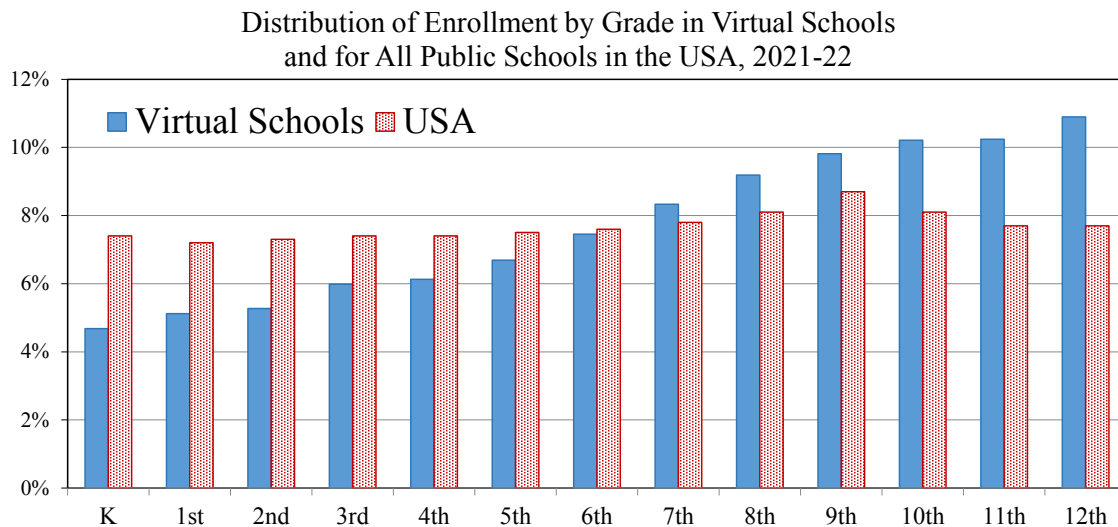
### *Enrollment by Grade Level*

To illustrate the distribution of students in virtual schools as accurately as possible, Figure 5 details actual student enrollment by grade for 2021-22; comparisons were based on national averages. A disproportionate number of virtual school students were in high school or upper secondary level, in contrast to the national picture where a relatively stable cohort of students was generally distributed evenly across grades, with a gradual drop from grades 9 to 12. This finding is a bit surprising because the lower cost of educating at the primary and lower secondary level has made those options more popular in brick-and-mortar charters, while in general, virtual schools more often serve upper secondary level options.

District-operated virtual schools served more students at the upper secondary level than charter schools. For-profit EMOs, unlike nonprofit EMOs and independent schools, served comparatively fewer upper-level students. And most of the for-profit EMOs also showed a steep enrollment drop after Grade 9. In contrast, many district-operated virtual schools serve only students in Grades 11 and 12, since these schools were originally based on credit recovery programs. It was noteworthy that for-profit-operated virtual schools had a more pronounced drop-off in enrollments after grade 10. This decline in the for-profit grade cohorts may be related to their lower graduation rates.

During the last two years, which overlap with the COVID-19 pandemic, it is possible to see that enrollments in virtual schools closed a few percentage points between the lower elementary grades and the upper secondary grades.

**Figure 5. Enrollment by Grade Level for Virtual Schools and U.S., 2021-22**



### Student-Teacher Ratios

Far more schools reported demographic data for their students than reported student-teacher ratios or metrics that allowed for calculating them. However, several states did report data on student-teacher ratios at the school level, allowing us to calculate means for them by using 2021-22 enrollment as a weight. Table 5 contains key indicators related to student-teacher ratios in full-time virtual schools. While the average ratio was approximately 14.8 students per teacher in the nation’s public schools, virtual schools reported 24.4 students per teacher. Even so, this represents a reduction since our previous report, when virtual schools had 27 students per teacher on average.

**Table 5. Student-Teacher Ratios in Virtual Schools, 2021-22**

	Number of Schools with Data	Mean Students per Teacher	Standard Deviation
All Virtual Schools	577	24.4	47.0
Independent	393	21.9	47.4
Nonprofit	34	24.9	31.8
For-Profit	150	27.4	49.1
District	369	22.9	50.1
Charter	208	25.5	40.9
National Average <sup>8</sup>		14.8	



Over the past two years, district-run virtual schools have expanded the most, resulting in a reduced student-teacher ratio in the district virtual schools (this figure dropped from 27.7 students per teacher in 2019-20 to 22.9 in 2021-22). The likely explanation for this drop in student-to-teacher ratio in district virtual schools is that these schools are less likely to be operated by for-profit EMOs, and they are less likely to use asynchronous student self-guided instruction. Charter schools had a higher student-teacher ratio with 25.5 students per teacher. Among virtual schools, independents had a somewhat lower average student-teacher ratio (21.9) than nonprofits (24.9) and for-profits (27.4). The Standard Deviation (SD) for all groups is very large, which indicates considerable variations across schools within each of the categories we designated.

Overall, student-teacher ratios in virtual schools continue to improve but still lag well behind the national average of 14.8 students. This has implications for school performance, which is examined in the next section.

Generally, poor student-teacher ratios will likely continue to perpetuate poor performance indicators in virtual schools. In most states, the funding formula for virtual schools is based on the funding model for brick-and-mortar charter schools. Virtual schools have obvious cost advantages relative to brick-and-mortar schools (consider for example, facilities, transportation, sports, extracurricular activities, etc.). Given these cost advantages, virtual schools should be able to afford more teachers and more support for students to ensure they learn and develop. As evidence in the next section indicates, the students in virtual schools need more support and instruction, because these schools continue a long and consistent record of very poor performance.

## **School Performance Findings**

This section reviews overall school report card ratings and on-time graduation rates. General findings and trends are presented and discussed here, while detailed findings by state appear in Appendix I-C.

Evidence on the performance of virtual schools as measured by school- or student-specific outcomes has been consistently negative ever since data on the outcomes for these schools have been summarized and reported. The first decade of the new millennium provided little research into full-time virtual school student achievement at the K-12 level, although the results were universally negative and indicated that students in virtual schools were learning less and falling behind. A review of early evidence on the performance of virtual schools is available in Miron and Urschel (2012)<sup>9</sup>. Research over the past dozen years, particularly the national reports released by NEPC, has verified that the performance of full-time virtual schools lags far behind, and the results are consistent from year to year with only occasional signs of small improvements. The findings in this report confirm what has long been apparent; the performance of full-time virtual schools is dramatically subpar.

## *Methodology*

State education agencies provide a metric for school performance when they assign school performance ratings, typically on school report cards. We focus only on school report cards or state-assigned school performance measures, because they provide a more holistic picture compared with aggregate scores on state assessments.. A second and more compelling reason is that over the last five years, many states introduced new tests aligned with college- and career-ready standards, while others changed their cut scores or expectations for “proficiency,” or they adopted a new scoring scale. When states took such actions, test results were no longer comparable over time. Moreover, some states now report limited or no school performance data from state assessments.

Gaps in reporting of school performance ratings are due to several factors. Due to the current flux in accountability systems resulting from new requirements under the 2015 Every Student Succeeds Act (ESSA) and from flexibility waivers and extensions granted under the Elementary and Secondary Education Act (ESEA), a number of states have suspended their accountability systems as they finalize new formats and transition to new standards and state tests. Several states offer some school report card data but are not currently assigning an overall performance rating; others have no current school report card data and offer no explanation. Another reason is that waivers granted by states during the COVID-19 pandemic resulted in no school performance measures being reported or released. As a result, school performance ratings for virtual schools were available for only 18 of the 35 states included in this report.

## *State School Performance Ratings*

Current report card data is comparable to our last report, although it still suffers from the same limitation: a lack of available data for all states. Further, some states also lack details about what measures or indicators are used to determine school performance. While annual school report cards and school performance ratings often include multiple measures varying from state to state, they tend to include student performance in math and English/language arts, graduation rates, and achievement gaps. Increasingly, some states’ measures also include performance in science and social studies; percentage of students taking advanced coursework like Advanced Placement (AP), International Baccalaureate (IB), and dual-credit courses; performance growth; college and career readiness; attendance; staff retention; student and parent satisfaction; and/or ACT/SAT scores. But even as the type, number, and weighting of such indicators in formulas to determine overall school performance ratings vary across states, such ratings do reflect an individual state’s educational values. Therefore, they reasonably represent an individual school’s performance relevant to state expectations.

For the purposes of this report, a coding system was used to aggregate ratings across the 18 states with school performance data. Each received one of two possible ratings: “academically acceptable” or “academically unacceptable.” An acceptable rating means the school is, generally speaking, meeting at least the minimum requirements of that state’s performance expectations; unacceptable would be the opposite in that these performance expectations are

not being met. Due to the impacts of COVID-19, many states opted not to offer summative performance ratings for the 2021-22 school year. These include Alaska, California, Florida, Georgia, Idaho, Indiana, Kansas, Kentucky, Massachusetts, Maine, Minnesota, Montana, Nebraska, New Hampshire, New Mexico, Nevada, and Ohio.

When states did include overall ratings, state agencies may have provided guidance about how to interpret them. We also sought to interpret state ratings based on guidelines from the Every Student Succeeds Act (ESEA).<sup>10</sup> It is important to note that states' respective standards and expectations vary, with some states setting high standards and others being more lenient. In Texas, for example, schools are given a letter grade from A to F based on school performance measures. Guidance from the state education agency indicates that schools that receive a grade from A to D have acceptable performance, and only schools with an F are considered not be meeting expectations.

School performance ratings for virtual schools were available for only a portion of the states included in this year's report, either for reasons noted above or because state ratings for 2021-2022 had not been released in time for this report's publication. Of the 726 virtual schools included in this inventory, only 296 had school performance ratings assigned by their respective state education agency in 2021-22. That means a full 430 schools did not have a school performance rating assigned, and most of these schools were located in states that simply did not report this outcome data in 2021-22. If we consider only states that did report data, there were 114 schools that we should have expected to have a performance rating but for some unexplained reason, they did not.

Because the 2021-22 results were relatively incomplete, we also did a second analysis that considered the school rating for the most recent year available. We limited this to the last three years and found that the total number of schools with a rating jumped from 296 to 380. Generally, as we expanded the analyses to include more virtual schools, the results became more negative for virtual schools. Table 6 highlights key results in terms of school performance ratings for 2021-22 and for the most recent year that schools had data available.

Overall school performance ratings for 2021-22 are based on report cards. Performance ratings were potentially available for half of the full-time virtual schools. Fewer virtual schools received acceptable state ratings for 2021-22 compared to 2019-20, with the percentage for virtual schools dropping slightly from 42.8% to 41.2%. Of the 74 for-profit EMO virtual schools rated, 43.2% were found acceptable. Nonprofit EMO virtual schools had few schools with a rating but 88.9% had acceptable ratings. Independent virtual schools had 213 schools and 38.5% of these had acceptable ratings (see Table 6).

**Table 6. Percentage of Virtual Schools with Acceptable School Performance Ratings, 2021-22 and Most Recent Year of Data**

	2021-22				Most Recent Year			
	Acceptable		Unacceptable		Acceptable		Unacceptable	
	N	Percent	N	Percent	N	Percent	N	Percent
All Full-Time Virtual	122	41.2%	174	58.8%	162	42.6%	218	57.4%
Independent	82	38.5%	131	61.5%	112	42.6%	151	57.4%
Nonprofit	8	88.9%	1	11.1%	12	80.0%	3	20.0%
For-Profit	32	43.2%	42	56.8%	38	37.3%	64	62.7%
Charter	44	52.4%	40	47.6%	57	47.9%	62	52.1%
District	78	36.8%	134	58.8%	105	40.2%	156	59.8%

Note. The total number of virtual schools with ratings in 2021-22 was 296. The total number of schools that had at least one performance rating in the last three years was 380.

While the left-hand columns in Table 6 contain findings from 2021-22, we also tallied ratings based on the most recent year in which there was a performance rating (see the right-hand side of Table 6). That means that if a school did not have a performance rating in 2021-22, we included the rating from the most recent year prior to 2021-22. This approach allowed us to gather performance ratings on twice as many schools.

### *Graduation Rates*

Four-year graduation rates were obtained from state sources and checked to ensure a common measurement standard of students graduating from high school within four years after entering ninth grade. Percentages include all types of diplomas, brick-and-mortar and otherwise, although states may specify different rates for different types of diplomas.

Some states did not issue report cards due to the coronavirus pandemic and did not have graduation data available for 2021-22. In states with available graduation rates, some schools' rates were masked because of low enrollment; other relatively new schools may not have had a complete 9-12 student cohort. And, of course, many schools served only grades below the high school level. Of the 726 virtual schools in the inventory, information on graduation rates was available in 2021-22 for a third of the schools. In order to sample a larger number of schools, we also created a variable for the most recent year with graduation rate data. If schools did not have graduation rate data in 2021-22, then we included the most recent graduation rate data available going back as far as 2019-20. This analysis allowed us to obtain an indicator from an additional 181 virtual schools. Table 7 includes data for both 2021-22 and the most recent year for which graduation rate was available.

As Table 7 illustrates, on-time graduation rates of 65.1% for 2021-22 (N=228) and 61.9% for most recent year available (N=409) are noticeably lower than the national average of 86.5%.

Nevertheless, virtual schools have experienced improvements of close to five percentage points since 2019-20. Much of this improvement appears to be connected with the net addition of 242 additional district virtual schools in the last two years.

**Table 7. Four-Year Graduation Rates, 2021-22**

	2021-22		Most Recent Year	
	Number of Schools with Data	Graduation Rate	Number of Schools with Data	Graduation Rate
All Virtual Schools	228	65.1%	409	61.9%
Independent Virtual	165	67.1%	266	62.4%
Nonprofit Virtual	10	55.4%	32	55.4%
For-Profit Virtual	53	64.4%	111	62.2%
District Virtual	152	68.8%	227	66.7%
Charter Virtual	76	61.4%	182	59.4%
National Average <sup>11</sup>		86.5%		86.5%

Despite modest improvement in recent years, 2021-22 graduation rates across all subgroups of virtual schools are poor compared to the 86.5% national average. District-operated schools reported higher graduation rates than charter schools for virtual (68.8% graduation rate compared with 61.4% for charter virtual schools). Independently managed virtual schools performed slightly better than virtual schools with a private EMO. Rates in for-profit and nonprofit virtual schools for 2021-22 were 64.4% and 55.4%, respectively.

## Recommendations

Full-time virtual schools as they are currently designed do not show promise. Findings in this report reconfirm what we have seen since 2012; the overall performance of full-time virtual schools remains poor with little substantive improvement evident over time. Moreover, their continued expansion undermines the overall education system in two ways. First, most students who choose these schools fare poorly in terms of measurable learning. And second, the reforms redirect an increasing portion of the public resources away from brick-and-mortar schools that perform better.

The prevalent model used today for virtual schools was established by the large for-profit EMOs. This corporate model has generally been adapted by other providers, including some districts. This model does not work. It is failing our children and siphoning off limited taxpayer resources for education. It is time for policymakers to engage and support a comprehensive redesign of full-time virtual schools. Developing a new model for virtual schools needs to be based on evidence and involve input from scholars and practitioners who were not at the table when the dominant model was created. If policymakers are willing to engage and support redesign of these schools, it is possible that the future for virtual schooling may be more promising.

The COVID-19 pandemic had a substantial and negative impact on primary and secondary schools across the nation. This study documents not only a large shift toward full-time virtual schools between the 2019-20 and 2020-21 school years, but also a shift in brick-and-mortar schools using more virtual instruction to supplement classroom-based instruction and to provide an alternative means of delivering instruction during the most challenging months of the pandemic. Early signs are that many families are returning to brick-and-mortar schools from the full-time virtual schools they chose during the pandemic. However, work, shopping, and social engagement changed during the pandemic, and so too has schooling. An often-heard expression related to the impact of the pandemic is, “There is no going back to normal”; instead we need to recognize how things have changed and consider a new normal. While this report has focused largely on full-time virtual schools, it is important that changes in brick-and-mortar schools are followed. New research and evaluations need to examine districts’ efforts to use virtual instruction to supplement classroom-based instruction.

In light of current evidence that full-time virtual schools continue performing poorly, we recommend that policymakers:

- Require federal and state education agencies to accurately identify and monitor full-time virtual schools, remedying gaps in information transparency on performance measures and accountability.
- Ensure and enforce sanctions for virtual schools performing inadequately.
- Enhance performance accountability mechanisms to inform funding, renewal, nonrenewal, and revocation decisions.
- Establish requirements for reduced student-to-teacher ratios and regular contact between teachers and online students.
- Slow or stop the growth of virtual schools until substantial academic and/or non-academic outcomes improve and benefits are comparable with brick-and-mortar public schools.
- Sponsor research on full-time virtual schools. This research also needs to focus on alternative models for full-time virtual schools, such as school- or district-run programs, as well as the promising models for blended learning.
- Develop project and grant priorities that document best practices and promising models for virtual schools, including district efforts born of the pandemic. Promote cross-sector collaborations and partnerships to strengthen professional development for teachers and the quality and rigor of students’ online learning experiences.
- Convene events with scholars, practitioners, representatives from state and federal education agencies, and other policymakers to carefully design a model for full-time virtual schools that can work. Such a model should include finance and oversight mechanisms ensuring that virtual schools focus on the interests of taxpayers and students, not of corporations.

## Notes and References Section I

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- 1 The authors will consider requests to obtain or review their school-level data sets from which findings are based.
- 2 Miron, G. & Urschel, J.L. (2012). *Understanding and improving full-time virtual schools: A study of student characteristics, school finance, and school performance in schools operated by K12 Inc.* Retrieved March 26, 2021, from <https://nepc.colorado.edu/sites/default/files/nepc-rb-k12-miron.pdf>

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- 3 Only public primary and secondary schools are included. Programs within schools and districts are excluded. Each included school must have a unique school or building ID assigned to it. Finally, only schools with 10 or more students were included.
- 4 Beyond the 35 states with full-time virtual schools, some states also allow other virtual education options, in several alternative formats such as individual online classes, or supplemental online coursework, as full-time blended models. These were beyond the scope of this research. Further, virtual programs as well as individual class innovations that occur within districts and brick-and-mortar schools are also excluded from this study because they are not classified as “schools.”
- 5 Estimates for 2000 to 2010 are based on two sources, the annual *Profiles of for-profit and nonprofit education*

management organizations from NEPC, and the annual *Keeping pace* reports from Evergreen Education, a consulting group that prepares reviews of policy and practice for online learning.

- 6 Miron, G. & Urschel, J.L. (2012). *Understanding and improving full-time virtual schools: A study of student characteristics, school finance, and school performance in schools operated by K12 Inc.* Retrieved December 11, 2014, from <http://nepc.colorado.edu/files/nepc-rb-k12-miron.pdf>  
  
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- 7 Although California was excluded from the NCES summary, we did separately examine similar virtual classification used by the California Department of Education. Specifically, we examined California data for 2019-20 and 2021-22 and found a similar trend for what is demonstrated in the NCES summary which is illustrated in Tables 3 and 4, as well as Figure 2.
- 8 Unless otherwise indicated, national averages or norms are from 2021-22 and sourced from the National Center for Education Statistics.
- 9 Miron, G. & Urschel, J. (2012). *Understanding and improving full-time virtual schools: A study of student characteristics, school finance, and school performance in schools operated by K12 Inc.* Boulder, CO: National Education Policy Center. Retrieved November 27, 2018, from <http://nepc.colorado.edu/files/nepcrbk12miron.pdf>
- 10 According to ESEA, schools classified on performance measures as Comprehensive Support and Improvement (CSI), Targeted Support and Improvement (TSI), and Additional Targeted Support and Improvement (ATSI) are receiving one of three forms of assistance for low-performing schools. Therefore, we considered schools with ratings that were designated as CSI/TSI/ATSI as having unacceptable school performance ratings. Public schools outside these designations receive general support under ESSA and are considered in good standing and we would classify these as having acceptable school performance ratings.
- 11 The national average four-year graduation rate is for 2019-20. This data was sourced from the National Center for Education Statistics.

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