

MELISSA KAY DILIBERTI, HEATHER L. SCHWARTZ

# Educator Turnover Has Markedly Increased, but Districts Have Taken Actions to Boost Teacher Ranks

## Selected Findings from the Sixth American School District Panel Survey

**A**t least until spring 2022, the dismal teaching conditions induced by the coronavirus disease 2019 (COVID-19) pandemic surprisingly had not led to notably higher educator turnover (Aldeman, 2022; Bleiberg and Kraft, 2022; Diliberti and Schwartz, 2021; Goldhaber and Theobald, 2022; Rosenberg and Anderson, 2021; Steiner, Doan, et al., 2022).

### KEY FINDINGS

- Teacher turnover increased 4 percentage points above prepandemic levels, reaching 10 percent nationally at the end of the 2021–2022 school year. Principal turnover increased too, reaching 16 percent nationally going into the 2022–2023 school year.
- Teacher turnover in 2021–2022 was highest (around 12 to 14 percent) in urban districts, high-poverty districts, and districts serving predominately students of color. Meanwhile, principal turnover was highest (around 21 to 23 percent) in high-poverty districts and in rural districts.
- District leaders generally perceived staffing shortages to be less acute in 2022–2023 than they were in 2021–2022. However, in fall 2022, staffing shortages continued to be most acute for substitute teachers, special education teachers, and bus drivers. High-poverty districts in particular had considerable shortages in several teaching categories.
- Ninety percent of districts experienced one or more policy changes, which either they or their state enacted, to boost teacher ranks in response to shortages. Chief among these changes were increased pay and/or benefits and the expansion of grow-your-own teacher preparation programs.

However, surveys of educators continue to show that many teachers and principals plan to push up their anticipated retirement date because of the pan-

demic, and morale among educators looks to be at an all-time low (Jotkoff, 2022; Steiner, Schwartz, and Diliberti, 2022; Superville, 2021). The question remains whether educators' continued frustration and exhaustion will make them leave the profession. Evidence from superintendents suggests that at least some school leaders have decided to see the pandemic through before leaving, implying that resignations and retirements might begin to increase now that the pandemic is receding (Schwartz and Diliberti, 2022b).

To see whether educator turnover increased nationally at the end of the 2021–2022 school year and to learn whether districts continued to experience staff shortages during the 2022–2023 school year, we surveyed a random sample of 300 district and charter network leaders between October 13, 2022, and December 12, 2022. We then weighted their responses to make them nationally representative of school districts across the country. We use the terms *districts* and *district leaders* in this report to refer to leaders from 293 traditional public school districts and seven charter management organizations (CMOs) who took our fall 2022 survey. We focus on staff *turnover*—which refers to voluntary departures, such as retirements and resignations, and does not include involuntary ones, such as layoffs—and on staff *shortages*, which we defined in the survey as “unfilled open positions.” We defined *high-poverty districts* as those where more than half of student enrollees qualified for a free or reduced-price meal.

Throughout this report, we describe only those differences among district subgroups that are statistically significant at the 5 percent level. Although we include CMOs in the total responses that we report, we do not display their results separately because of their small number of completed surveys. Additional details about our methods and the survey, including definitions used to categorize district subgroups, can be found at the end of this report in the “How This Analysis Was Conducted and Limitations” sidebar.

This is the second of two reports with results from the fall 2022 survey of the American School District Panel (ASDP). The ASDP is a research partnership between the RAND Corporation and the Center on Reinventing Public Education. The

panel also collaborates with several other education organizations—including the Council of the Great City Schools, Kitamba, and The School Superintendents Association. In our first report, we examined the extent to which political polarization about COVID-19; critical race theory; and lesbian, gay, bisexual, transgendered, queer, questioning, and more (LGBTQ+) issues were interfering with schooling as of fall 2022 and the steps that districts leaders were taking to address it (Jochim et al., 2023).

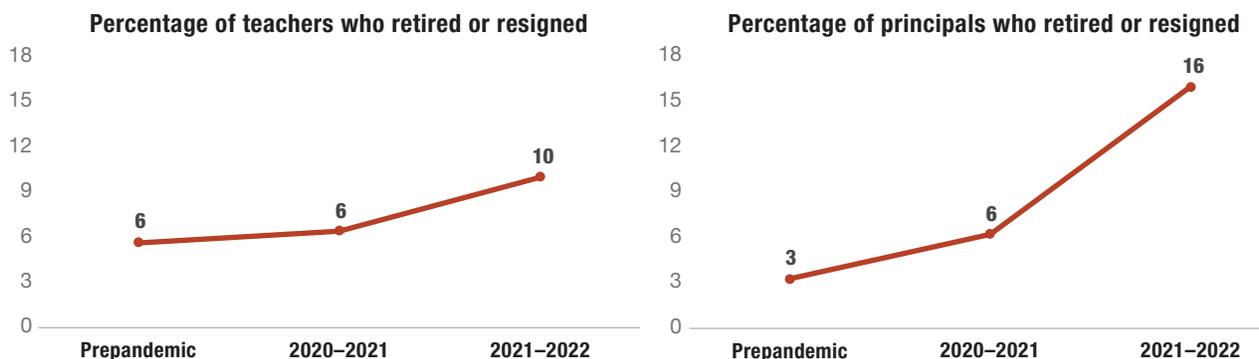
## **2021–2022 Was the School Year When Teacher and Principal Turnover Notably Increased Above Prepandemic Levels**

District leaders estimated that 10 percent of their teachers retired or resigned at some point during or after the 2021–2022 school year, which is a 4 percentage point increase over the previous school year (2020–2021) when turnover was on par with prepandemic levels (see Figure 1).<sup>1</sup> This increase corresponds to roughly an extra 114,000 teachers leaving their position nationally compared with the previous school year.<sup>2</sup> The national uptick in teacher turnover we document here generally comports with findings from recent state-specific trend studies (e.g., Bacher-Hicks, Chi, and Orellana, 2022; Bastian and Fuller, 2023; Camp, Zamarro, and McGee, 2022).

School principal turnover during the pandemic has received far less attention in the media than teacher turnover, yet it is among principals that we see the largest turnover. Our nationally representative sample of district leaders estimated that 16 percent of their principals retired or resigned in 2021–2022, which is more than double the rate from 2020–2021.<sup>3</sup> A 16 percent turnover rate translates into roughly 19,000 more school leaders leaving their position relative to the previous school year.<sup>4</sup> The few data points we could find about principal turnover during the pandemic also generally suggest that principal attrition is starting to tick upward after holding steady or even declining through the first few pandemic school years (e.g., Bastian and Fuller, 2023; Makkonen and Jaquet, 2021; Steiner, Doan, et al., 2022; Superville, 2022; Wisconsin Policy Forum, 2022).

FIGURE 1

## District Leaders Reported Teacher and Principal Attrition Increased in the 2021–2022 School Year



NOTE: This figure depicts response data from the following survey questions: “What percentage of your [teachers or school principals] retired or resigned at any point during the 2021–2022 school year? Include those who left during the school year or at the end of it,” which was administered in fall 2022 ( $n = 295$ ); “What was the typical percentage of your [teachers or school principals] who retired or resigned annually prepandemic?” which was administered in summer 2021 ( $n = 279$ ); “What percentage of your [teachers or school principals] retired or resigned at the end of the 2020–2021 school year?” which was administered in summer 2021 ( $n = 278$ ). For all questions, respondents were asked to enter a percentage into an open-ended text box.

We caution readers that these trend data we report were compiled using survey items asking district leaders to report turnover rates in their district, including a prepandemic rate. It is possible that their self-reports could over- or underestimate the actual turnover rate, which is best measured by administrative records on individual teachers and principals over time. However, the survey data we report fill a critical gap because they are the only national trend data of which we are aware that bridge the prepandemic and pandemic eras.

### Teacher Turnover in 2021–2022 Was Highest in Urban Districts and Majority–Student-of-Color Districts; Principal Turnover Was Highest in Rural Districts and High-Poverty Districts

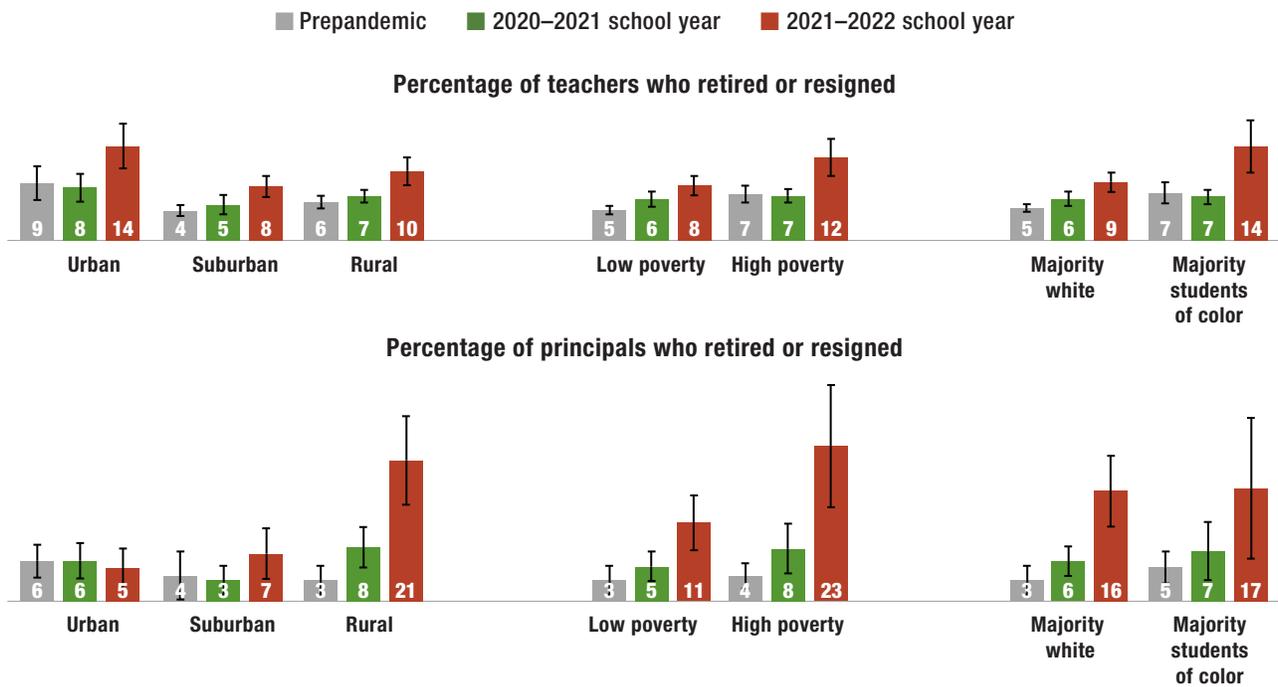
Educator turnover in 2021–2022 was higher in some types of school districts than others (see the red bars in Figure 2). Nationally, teacher turnover in 2021–2022 was highest in urban districts (14 percent)—the majority of which serve predominately students of color—and high-poverty districts, where teacher turnover was 12 percent. (To learn more about how

to interpret turnover rates, see the “How to Interpret These Turnover Rates” sidebar.) (We depict the high degree of correlation among locale, poverty status, and race in the “How This Analysis Was Conducted and Limitations” sidebar at the end of this report.) Furthermore, teacher turnover in these districts has grown the most since the previous school year, as shown by the difference in height between the red and green bars in the top half of Figure 2. For example, teacher turnover increased by 7 percentage points in districts serving mostly students of color between 2020–2021 and 2021–2022. In contrast, teacher turnover increased only slightly in districts serving majority-white students, low-poverty districts, and suburban districts.

Principal turnover was also substantial in high-poverty districts (23 percent), three-quarters of which are rural districts. Those districts with the highest principal turnover as of 2021–2022 (i.e., high-poverty districts and rural districts) also saw the greatest increases of principal turnover over time, widening the gap between rural and high-poverty districts and their counterparts. However, we caution over-interpretation here; because rural districts tend to have a small number of schools, the departure of even one additional principal can substantially increase the district’s turnover rate.

FIGURE 2

## District Leaders' Estimated Teacher and Principal Attrition Rates over Time, by District Type



NOTE: This figure depicts response data from the following survey questions: “What percentage of your [teachers or school principals] retired or resigned at any point during the 2021–2022 school year? Include those who left during the school year or at the end of it,” which was administered in fall 2022 ( $n = 295$ ); “What was the typical percentage of your [teachers or school principals] who retired or resigned annually prepandemic?” which was administered in summer 2021 ( $n = 279$ ); and “What percentage of your [teachers or school principals] retired or resigned at the end of the 2020–2021 school year?” which was administered in summer 2021 ( $n = 278$ ). For all questions, respondents were asked to enter a percentage into an open-ended text box. The vertical black bars represent the 95 percent confidence interval for each estimate.

### There Were Still Widespread—Though Less Severe—Shortages for Substitute Teachers, Special Education Teachers, and Bus Drivers as of Fall 2022

Higher-than-normal turnover rates can lead to staff shortages in cases in which districts cannot hire a sufficient number of new employees to fill open slots. We asked district leaders to what extent they were experiencing shortages in 12 different teaching and nonteaching positions as of fall 2022.

Among teaching staff, district leaders most commonly reported moderate or considerable shortages of substitute teachers (78 percent) and special education teachers (53 percent), as shown in Figure 3. Roughly a third of district leaders reported moderate

or considerable shortages of math teachers (38 percent), science teachers (33 percent), and English as a second language teachers (32 percent). A quarter or fewer of district leaders reported moderate or considerable shortages of English or language arts teachers and elementary school teachers.

Among nonteaching staff, nearly seven in ten district leaders (68 percent) reported moderate or considerable shortages of bus drivers. Slightly less than half of district leaders also reported this level of shortage for paraprofessionals (46 percent) and mental health professionals (41 percent). Fewer district leaders (27 percent) reported moderate or considerable shortages of tutors, and leaders rarely reported any level of shortage for library staff.

Substitute teachers, special education teachers, and bus drivers are all job categories that schools have historically had a difficult time filling (National

## How to Interpret These Turnover Rates

We used the Common Core of Data (CCD) to obtain the typical (i.e., median) number of full-time equivalent (FTE) employees in urban, suburban, and rural districts in 2021–2022.<sup>a</sup> We applied the attrition rates in 2020–2021 and 2021–2022 that district leaders reported in our surveys to these FTE counts to estimate the number of educators retiring or resigning annually. Finally, we calculated the difference in the number of estimated educators leaving between 2020–2021 and 2021–2022. We present the results of our rough calculations in Table S.1.

The typical urban school district tends to employ around 350 teachers. In 2021–2022, an estimated 50 of

these teachers retired or resigned, or 22 more teachers than had left in the previous school year, as shown in Table S.1. Meanwhile, the typical suburban district saw six extra teachers leave in 2021–2022 than in 2020–2021, and the typical rural district saw only two extra teachers leave.

In contrast, the typical school district—especially the typical rural school district—tends to employ only a small number of principals. Thus, the increases we observed in principal turnover rates generally translate into at most only one additional person leaving.

TABLE S.1

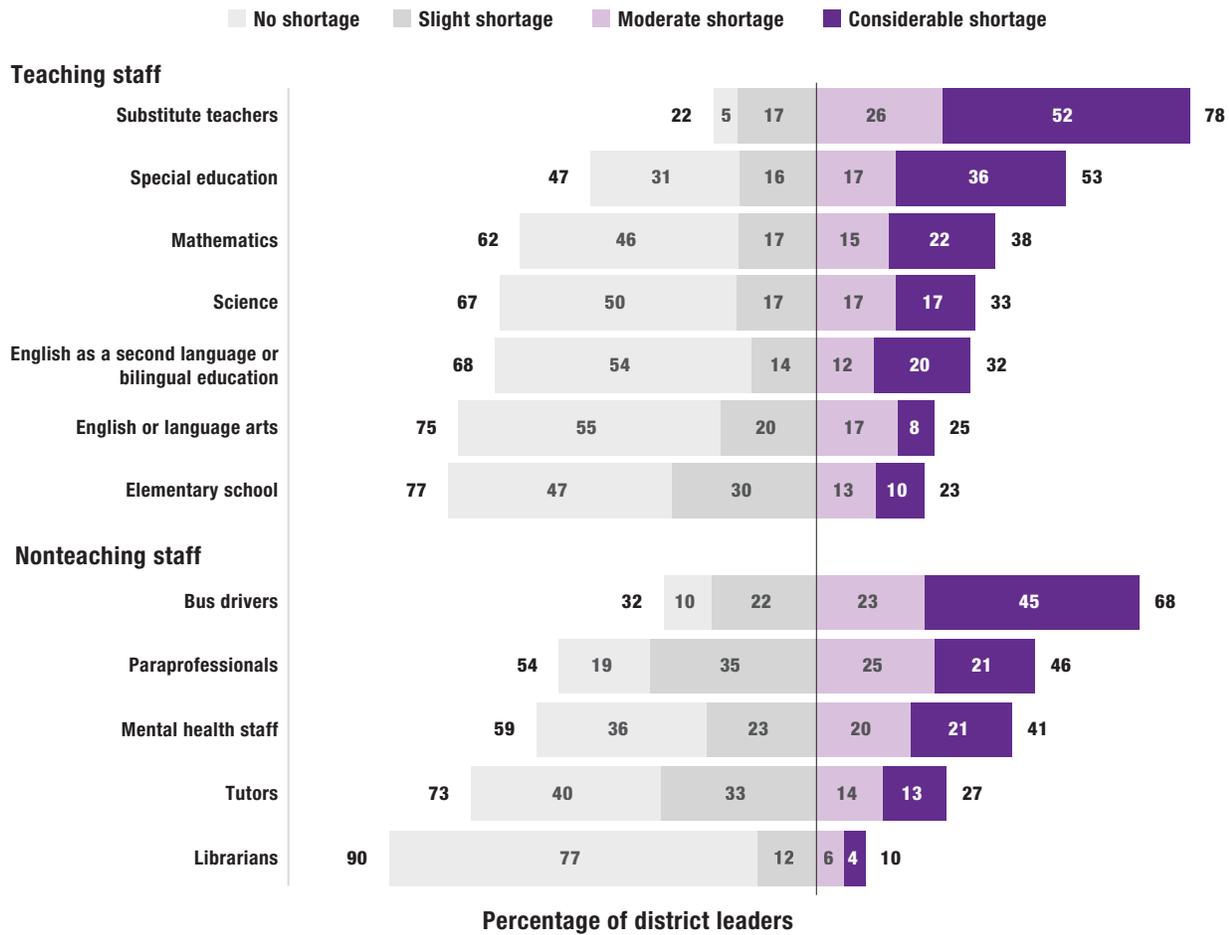
Estimated Number of Educators Who Left a Typical Urban, Suburban, and Rural School District This School Year (2021–2022) Compared with the Previous School Year (2020–2021)

Locale	Teacher				Principal			
	Median FTE Employees	Estimated Departures in 2020–2021	Estimated Departures in 2021–2022	Difference	Median FTE employees	Estimated Departures in 2020–2021	Estimated Departures in 2021–2022	Difference
Urban	353	28	50	22	21	1	1	0
Suburban	211	11	17	6	11	0	1	1
Rural	64	4	7	2	3	0	1	1

NOTE: To estimate results for a typical school district, we use the median school district in each locale. Numbers might not sum to totals because of rounding.

<sup>a</sup> We exclude districts composed of a single school. These tend to be single charter schools located in urban areas, and including them in this analysis substantively biases our results.

FIGURE 3  
District Leaders' Perceptions of Staffing Shortages in Fall 2022



NOTE: This figure depicts response data from the following survey questions: “For which school level and subject area(s), if any, does your district currently have teacher shortages? By shortage, we mean your district has unfilled open positions in the given job category” ( $n = 291$ ) and “For which types of non-teaching staff, if any, does your district currently have shortages? Include contract workers and direct district employees in your answer. By shortage, we mean your district has unfilled open positions in the given job category” ( $n = 293$ ). This figure excludes respondents who selected “not applicable” because they do not employ teachers in that subject area or grade level, or nonteaching staff in that job category. Bars might not sum to 100 percent because of rounding.

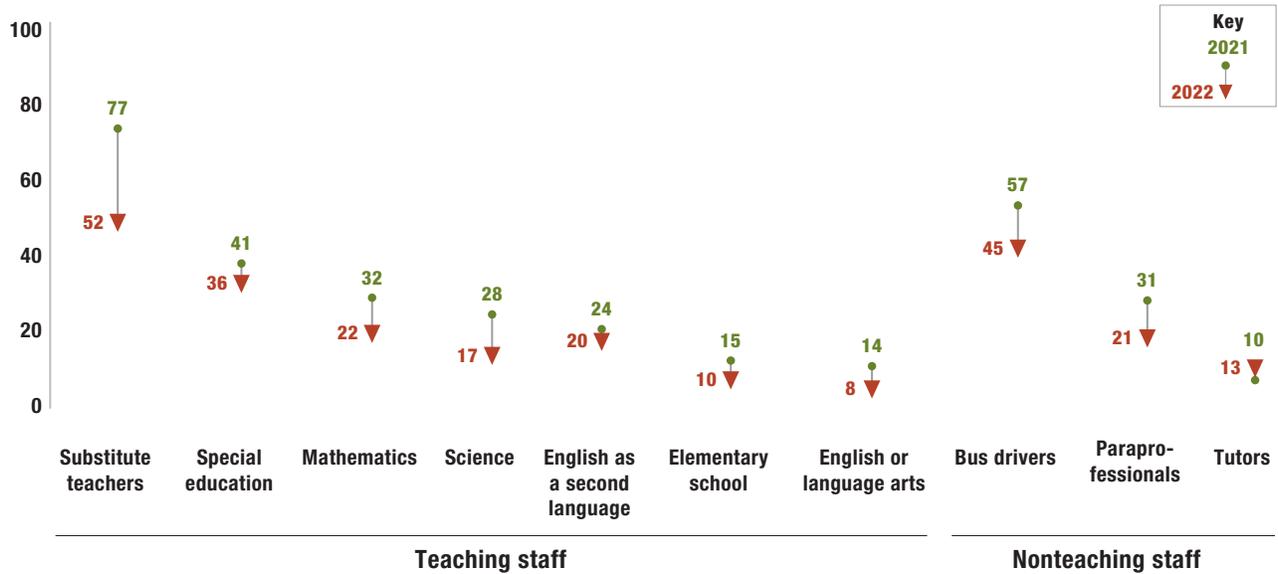
Center for Education Statistics, undated-c; Sutchter, Darling-Hammond, and Carver-Thomas, 2016). The shortages we observed in fall 2022 are no exception to this historical trend. Furthermore, these 2022 survey results also generally comport with findings from a federal survey conducted around the same time on schools’ vacancy rates. Like our results, the federal government’s data show that vacancy rates were high for special education teachers and bus drivers (Institute of Education Sciences, undated).

To see whether shortages have shrunk or grown, we show in Figure 4 the percentage of districts lead-

ers who reported a “considerable” shortage of various teaching and nonteaching staff in fall 2022 and the percentage of district leaders who reported the same on our fall 2021 survey. Figure 4 shows a large, 25 percentage point drop in the percentage of district leaders reporting a considerable shortage of substitute teachers. We also observe smaller declines—around 10 percentage points or less—in several additional categories. For the remaining job categories, leaders’ perceptions of considerable shortages were relatively unchanged over time and, for tutors, possibly even grew.

FIGURE 4

Change from Fall 2021 to Fall 2022 in the Percentage of District Leaders Who Perceived a Considerable Shortage of Various Teaching and Nonteaching Staff



NOTE: This figure depicts response data from the following survey questions from fall 2022: “For which school level and subject area(s), if any, does your district currently have teacher shortages? By shortage, we mean your district has unfilled open positions in the given job category” ( $n = 291$ ) and “For which types of non-teaching staff, if any, does your district currently have shortages? Include contract workers and direct district employees in your answer. By shortage, we mean your district has unfilled open positions in the given job category” ( $n = 293$ ). In fall 2021, we asked, “For which subject area(s), if any, does your district currently have teacher shortages?” ( $n = 349$ ); “For which types of non-teaching staff does your district currently have shortages, if any?” ( $n = 342$ ); and “For which school level(s), if any, does your district currently have shortages of teacher shortages [sic]?” ( $n = 343$ ). This figure excludes respondents who selected “not applicable” because they do not employ teachers in that subject area or grade level, or nonteaching staff in that job category. We are not able to display trend for mental health staff and librarians because we did not ask about these job categories in fall 2021.

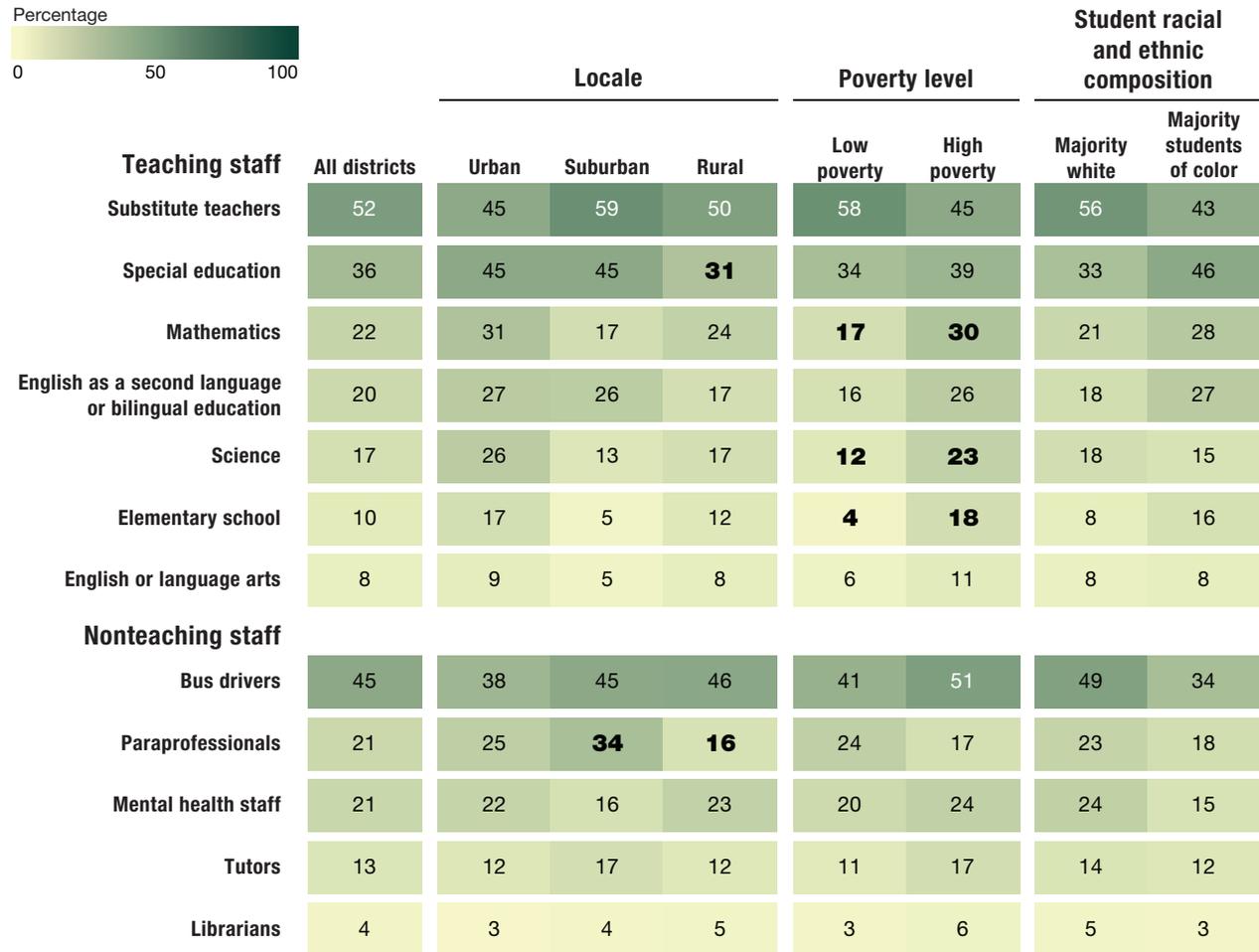
Several things could explain the reductions in district leaders’ perceptions about staffing shortages in fall 2022 relative to fall 2021. First, fewer teacher absences in 2022–2023 due to COVID-19 quarantines and sickness could have reduced districts’ demand for substitute teachers in particular. Second, fewer school staff absences could also have decreased district leaders’ perception of shortages generally, although we defined shortages on the survey as “unfilled open positions.” Third, district leaders may have more successfully staffed up by the 2022–2023 school year due to such factors as eased hiring requirements, greater number of applicants for positions, or longer lead time to fill open positions.

### High-Poverty Districts Continue to Have the Most-Severe Teacher Shortages

As we have seen in a prior survey of district leaders conducted during the pandemic, high-poverty districts continued to have the most-acute staff shortages in the greatest number of teaching positions (Schwartz and Diliberti, 2022a). Figure 5 shows that a higher percentage of high-poverty district leaders than of low-poverty district leaders reported considerable shortages for staff (other than substitute teacher and bus driver positions, which were uniformly in short supply as of fall 2022 across all seven district types we examined). More specifically, a higher percentage of leaders of high-poverty districts than of low-poverty districts were concerned about considerable shortages of math, science, and elementary school teachers. However, despite their concerns

FIGURE 5

Percentage of District Leaders Who Reported Considerable Teaching and Nonteaching Shortages in Fall 2022, by District Type



NOTE: This figure depicts response data from the following survey questions: “For which school level and subject area(s), if any, does your district currently have teacher shortages? By shortage, we mean your district has unfilled open positions in the given job category” (n = 291) and “For which types of non-teaching staff, if any, does your district currently have shortages? Include contract workers and direct district employees in your answer. By shortage, we mean your district has unfilled open positions in the given job category” (n = 293). This figure excludes respondents who selected “not applicable” because they do not employ teachers in that subject area or grade level, or nonteaching staff in that job category. Values shown in bold indicate that the subgroup percentage of district leaders reporting a considerable shortage is statistically significantly different (p < 0.05) from the remainder of district leaders not in that subgroup who said the same.

about shortages of teachers, high-poverty districts did not have notably more-significant shortages in nonteaching staff.

### Roughly Half of Leaders Said That Their State or District Has Increased Pay or Expanded Grow-Your-Own Programs in Response to Teacher Shortages

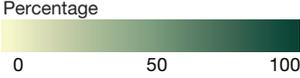
To learn whether and how districts are responding to teacher shortages, we listed nine potential policy changes on the survey and asked district leaders to indicate whether their district or state had adopted

them for the 2022–2023 school year. Ninety percent of districts said they or their state took at least one of the nine potential policy actions (or a tenth “other” action) we listed on the survey (see Figure 6). The typical district reported three actions in total. In Figure 6, we group these policy changes into three

topics: increasing pay, increasing the teacher pipeline, and easing requirements for teaching.

Of the policies we asked about on the survey, the two most popular policy changes for 2022–2023 were increasing teacher pay and/or benefits and expanding grow-your-own programs. Five to six out of every 10 districts reported increased teacher pay and/or ben-

FIGURE 6  
Percentage of District Leaders Who Said That Their State or District Has Taken Various Actions in Response to Teacher Shortages, by District Type



	All districts	Locale			Poverty level		Student racial and ethnic composition	
		Urban	Suburban	Rural	Low poverty	High poverty	Majority white	Majority students of color
<b>Increasing pay</b>								
<i>At least one change to pay</i>	62	61	<b>50</b>	<b>67</b>	62	63	63	62
Increase pay and/or benefits for at least some categories of teachers	56	60	47	60	55	60	56	59
Offer bonuses for at least some categories of teachers	32	34	<b>21</b>	<b>36</b>	27	39	<b>27</b>	<b>47</b>
<b>Increasing the pipeline</b>								
<i>At least one change to increase the pipeline</i>	57	70	<b>45</b>	61	52	63	53	67
Create or expand a grow-your-own program for teachers	55	69	<b>42</b>	59	51	61	52	64
Increase the number of accredited teacher education programs	8	11	8	7	7	9	7	12
<b>Easing requirements</b>								
<i>At least one change to ease requirements</i>	58	47	65	56	59	57	55	67
Ease requirements for teachers gaining a certification while on the job	36	<b>20</b>	32	39	37	35	37	32
Reduce requirements for teacher certification	28	23	<b>38</b>	24	30	25	26	34
Ease hiring requirements for teachers (e.g., shorter application)	23	28	20	24	22	27	23	28
Reduce the accreditation requirements of teacher education programs	14	17	20	11	12	16	11	20
Ease requirements for continued certification for sitting teachers	10	11	8	10	12	8	10	11

NOTE: This figure depicts response data from the survey question: “Have teacher shortages caused your [district or CMO] or state to take any of the following actions effective for 2022–2023? By teacher shortage, we mean either unfilled open positions or positions filled by under-qualified staff” ( $n = 298$ ). Respondents were instructed to select all that apply. The survey question included an “N/A—Neither my state nor my district have taken any of these actions” option, which was selected by 10 percent of respondents, and an “other” option, which was selected by 4 percent of respondents. These results have been omitted from this figure. Numbers in bold indicate that the subgroup percentage of district leaders indicating that their district or their state has taken an action is statistically significantly different ( $p < 0.05$ ) from the remaining district leaders not in that subgroup who said the same.

efits, as shown in the second row in Figure 6. District leaders said that increasing salary or benefits was more common than one-time pay bonuses, which about three out of ten districts said they or their state has done.

The second most common policy change that district leaders reported was the creation or expansion of grow-your-own programs, which we defined on the survey as a “partnership between a district, community organizations (such as afterschool programs), and teacher preparation programs to train prospective teachers to become certified.” Two-thirds of urban districts, high-poverty districts, and majority-student-of-color districts reported creation or expansion of grow-your-own programs.

Finally, slightly more than half of districts reported easing of at least one type of requirement for either teacher certification or hiring. Of the potential policies we listed in this topic area, the most common were easing requirements for sitting teachers to gain certification (36 percent of districts), easing requirements for teacher certification (28 percent of districts), and easing hiring requirements of teachers (23 percent of districts).

## Implications

The substantial increase in teacher and especially principal turnover in 2021–2022 is worrying. However, we do not yet know whether this uptick is a one-time deviation: It could simply reflect exits among those teachers and principals who decided to see the pandemic through before leaving, did not want to leave a stable job under uncertain economic conditions, or were exiting because of COVID-19. On the other hand, it could reflect frustration with systemic problems in the teaching and principal professions, suggesting this uptick could be a new norm.

Recently published research analyzing 50-year trends suggests that current challenges facing the teacher workforce predate the pandemic. Kraft and Lyon (2022) document a drop in the professional prestige of teaching, less interest among high school and college students in the profession, and less job satisfaction among teachers. Perhaps even more worrying is the absence of national trend

data on the prestige, pipeline, and satisfaction rates of the school principal workforce, which leaves us relatively in the dark about the school principal profession. Although only available for 2022, we do have evidence to suggest that principals are currently experiencing high levels of job-related stress (Steiner, Doan, et al., 2022).

A silver lining—at least with respect to teachers—is that most districts or their states have enacted changes to help build the teacher pipeline and to increase pay and/or benefits, the latter of which is consistently a top wish among teachers and one of the main reasons teachers cite for leaving the profession (Diliberti, Schwartz, and Grant, 2021; Goldring, Taie, and Riddles, 2014; Steiner, Greer, et al., 2022). Although increasing pay is an important policy tool to making the teaching profession more attractive, higher pay places higher burdens on district leaders and policymakers who will need to find a way to finance it. Meanwhile, pipeline strategies, such as teacher residencies and grow-your-own programs, will take time to build up to augment the traditional pathways into the teaching profession. The rapid rise of grow-your-own programs in particular holds promise to not only build up the pipeline but also racially diversify it (Education Trust, 2022; Podolsky et al., 2019).

Given the uncertainty about what educator attrition will look like in the future and whether the combination of changes that districts and states are making will help turn the tide—both for those educators already in the profession and for those who may be considering a career in public education—district leaders need to be prepared for multiple possible futures. With this uncertainty in mind, we offer the following recommendations:

1. **Give principals the same kind of policy attention as teachers.** Researchers, philanthropies, professional associations of school principals, and the federal department of education should seek to understand how the school leader job is changing. These individuals and organizations should also develop policies to attract and retain high-quality principals. Both state-specific and national work is needed.

2. **Stay focused on quality when boosting teacher pipelines.** Although most districts or their states have enacted changes to boost the ranks of teachers, the overarching goal is to produce *qualified* teachers who want to remain in the profession, not just lower qualification requirements to boost applicants and fill positions. A 2022 nationally representative teacher survey and a convened expert panel about increasing the racial diversity of teachers did not support easing requirements. Instead, they ranked highest loan forgiveness and increased pay as possible options to consider, with grow-your-own programs close behind for the expert panel (Steiner, Greer, et al., 2022). In addition to boosting the pipeline, the recurring theme of heightened job-stress in teaching—which was much higher than among other U.S. workers (Steiner, Doan, et al., 2022)—suggests that workplace conditions need to change to retain qualified teachers. In December 2020, recent teacher leavers cited “increased flexibility” as one of the factors that attracted them to their new job, suggesting that the inflexible nature of the 8:00 a.m. to 3:00 p.m. teaching schedule is one working condition that could be changed to help improve teachers’ job satisfaction (Diliberti, Schwartz, and Grant, 2021). Increased flexibility could come from several sources, including job sharing and specialization of teachers’ roles to let teachers narrow their focus, build a career ladder (e.g., novice teacher, master teacher, and content coach), and gain greater leeway in scheduling (Darling-Hammond et al., 2020; DeMonte, 2017; Williamson, Cooper, and Baird, 2015). Districts and state departments of education must not only develop forms of financial aid to help more teachers get into the profession but also consult with teachers about how to lower stress on the job.

## How This Analysis Was Conducted and Limitations

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RAND Corporation researchers fielded the sixth survey of the ASDP from October 13, 2022, through December 12, 2022. Our methodology for analyzing survey data remains consistent between survey waves. Therefore, the description of our methods below is a simply an update from a previous publication (Diliberti and Schwartz, 2022).

Researchers randomly sampled districts and CMOs to invite them to enroll in the ASDP. All enrolled districts were invited to complete this survey. Of the 1,148 districts and CMOs that enrolled in the panel between fall 2020 and fall 2022, 300 district leaders completed surveys on behalf of their districts (26.1 percent completion rate). Responses reflect district leaders' perceptions, which might or might not align with districts' actual experiences. Also, respondents might not have consistently interpreted terms on the survey, such as "considerable shortage," which could affect how they completed survey items.

Survey responses have been weighted to be representative of the national population of public school districts, not the national population of public school students. Students are not evenly distributed across school districts. More specifically, among the population of 13,000 school districts in the United States, only 9 percent are urban, whereas 25 percent are suburban and 66 percent are rural (Grant et al., 2023). Yet roughly 30 percent of the nation's 50 million public school students are enrolled in urban districts (National Center for Education Statistics, undated-a), and the nation's 120 largest school districts—many of which are urban—alone account for roughly 20 percent of all student enrollment (National Center for Education Statistics, undated-b). Thus, although rural district leaders represent a majority of school districts, they do not represent a majority of public school students. Accompanying technical documentation provides more information about the weighting procedures (Grant et al., 2023).

Because districts' experiences vary, we examined differences in district leaders' responses by district characteristics. We obtained the data on district characteristics by linking survey data files to the 2020–2021 CCD

issued by the National Center for Education Statistics. We also used some data from the 2019–2020 school year, given lower-than-normal levels of data quality on student poverty status in the 2020–2021 CCD. We analyzed the following three categories that yield seven subgroups:

1. locale (urban, suburban, and rural)<sup>a</sup>
2. student racial and ethnic composition (we categorize districts in which more than half of students are Black, Hispanic, Asian, Pacific Islander, American Indian/Alaska Native, or of two or more races as having majority students of color, with the remaining districts categorized as having majority white students)
3. district poverty level (districts in which half or more of students qualify for a free or reduced-price meal are categorized as high poverty, whereas the remainder are categorized as low poverty).

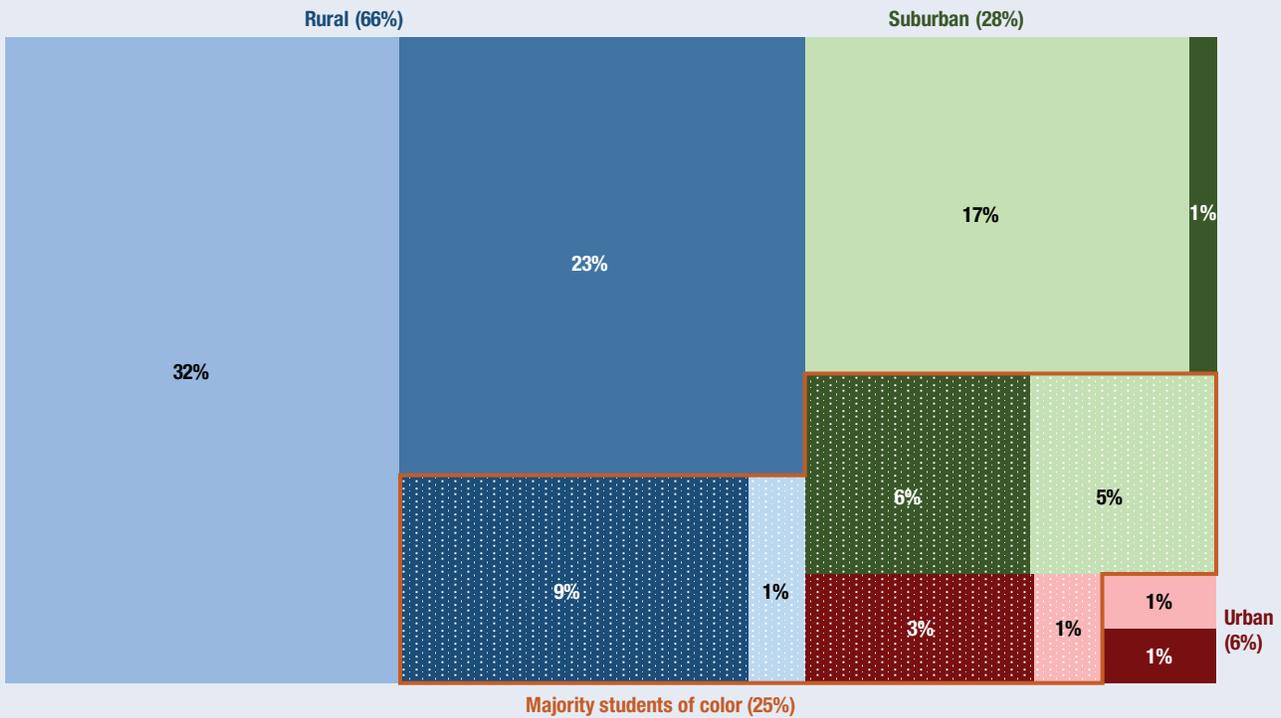
In this report, we do not separately analyze differences between traditional public districts and CMOs because of the small number of CMO leaders who completed our surveys. It is important to keep in mind that each district in the survey belongs to three of the seven subgroups—for example, a single school district that is suburban, low poverty, and enrolls mostly white students. Thus, patterns observed across district locale, poverty status, and student racial and ethnic composition might be driven by the same set of districts that share multiple characteristics. Figure S.1 shows the overlapping nature of these demographic characteristics among the districts in our sample. A few findings are immediately clear. First, the vast majority of districts in the sample (66 percent)—and districts nationally—are rural. Most rural districts serve predominately white students (as shown by the solid boxes in blue), and most are also low poverty (as shown by the light blue color). At the other end, few districts in our sample (only 6 percent) are urban, as shown in red. Over half of these districts are high poverty (as shown by the dark color), and most of these also serve predominately students of color (as shown by the spotted boxes).

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<sup>a</sup>Our locale definition aligns with the four-category locale definition used by the National Center for Education Statistics, with the exception that we collapsed the districts located in towns into the rural category for sample size reasons.

FIGURE S.1

Overlap Between District Locale, District Poverty Status, and District's Student Racial and Ethnic Composition Among the Districts in Our Sample



NOTE: For the population of school districts in our sample, this figure shows the proportion of districts that fall into three overlapping demographic categories: locale (urban, suburban, or rural), poverty status (high or low poverty), and student racial and ethnic composition (majority white or majority students of color). Coloring is used to show district locale, where blue = rural, green = suburban, and red = urban. Tone is used to differentiate between poverty status; high-poverty districts are shown in darker colors and low-poverty districts are shown in lighter colors. Patterned versus solid fill is used to illustrate districts' student racial and ethnic composition. Solid shading is used for districts serving mostly white students, and dotted filling is used for districts serving mostly students of color.

In this report, we describe only those differences among district subgroups that are statistically significant at the 5 percent level, unless otherwise noted. For all fall 2022 survey estimates, we conducted significance testing to assess whether subgroups were statistically different at the  $p < 0.05$  level. Specifically, we tested whether the percentage of district leaders in one subgroup reporting a response was statistically different from the remaining district leaders who took the survey (e.g., leaders of urban districts versus other respondents who did not lead an urban district). However, we did not conduct formal significance testing of differences across survey waves (e.g., comparing district leaders' responses on survey items from fall 2021

versus fall 2022) because of a lack of longitudinal survey weights that properly account for the partial overlap in respondents and changes in representativeness of survey respondents across years. Estimates for each survey were separately produced using cross-sectional survey weights designed specifically to provide nationally representative estimates at the time when the survey was administered. When feasible, we included confidence intervals when comparing across time points to help readers interpret changes over time. Nevertheless, comparisons across time points should be made with caution. Furthermore, because of the exploratory nature of this study, we did not apply multiple hypothesis test corrections.

## Notes

<sup>1</sup> As others have noted, limited data are available to track annual teacher turnover at the national level. The last federal data collection to measure annual teacher turnover before the pandemic began was conducted in 2012–2013. From this data collection, federal statisticians estimated that 8 percent of teachers leave the profession annually (*leavers*) and another 8 percent move between schools (*movers*) (Goldring, Taie, and Riddles, 2014). Although the federal 8 percent leaver rate is roughly on par with the 6 percent normal annual prepandemic turnover rate estimated by our district leaders in summer 2021, we cannot be sure whether the district leaders who took our survey were including only leavers or leavers plus movers in their estimates of annual teacher turnover. However, because most teachers (59 percent) who are movers transfer between schools within the same district, we expect that district leaders would not include these internal movers in their estimates.

<sup>2</sup> To calculate this estimate, we obtained the number of FTE public school teachers (roughly 3.2 million) in 2021–2022 from the CCD. We apply the 2020–2021 and 2021–2022 turnover rates to this estimate and calculate the difference.

<sup>3</sup> In summer 2021, our nationally representative sample of district leaders estimated that 3 percent of their school leaders retired or resigned annually in a normal prepandemic school year. The last federal data collection to measure annual principal turnover before the pandemic began was conducted in 2016–2017 (Golding, Taie, and O’Rear, 2018). From this data collection, federal statisticians estimated that 10 percent of principals leave the profession annually and another 6 percent move between schools (Golding, Taie, and O’Rear, 2018). Regardless of whether our district leaders included only leavers in their estimates of annual prepandemic turnover or whether they included leavers plus movers, the prepandemic principal turnover estimate provided by our district leaders is lower than the rates documented by federal statisticians.

<sup>4</sup> We perform the same calculation for principals that we do for teachers. In 2021–2022, there were an estimated 192,000 FTE principals serving in U.S. public schools.

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## About This Report

To obtain a national picture of educator turnover at the end of the 2021–2022 school year and districts’ staffing shortages at the beginning of the 2022–2023 school year, we surveyed 300 district and charter network leaders in the American School District Panel (ASDP) from October to December 2022.

The American Educator Panels (AEP) are nationally representative samples of teachers, school leaders, and district leaders across the country. The panels are a proud member of the American Association for Public Opinion Research’s Transparency Initiative. The American School District Panel (ASDP) is a partnership between the RAND Corporation and the Center on Reinventing Public Education. The panel also collaborates with several other education organizations—including the Council of the Great City Schools, Kitamba, and The School Superintendents Association—to help ensure we produce actionable results. For more information, visit the ASDP website at [www.americanschooldistrictpanel.org](http://www.americanschooldistrictpanel.org).

If you would like to know more about the data set, survey recruitment, administration, and sample weighting, see *Technical Documentation for the Sixth American School District Panel Survey* (RR-A956-15, available at [www.rand.org/t/RR-A956-15](http://www.rand.org/t/RR-A956-15)). If you are interested in using AEP data for your own surveys or analysis or in reading other AEP-related publications, visit [www.rand.org/aep](http://www.rand.org/aep) or contact [aep@rand.org](mailto:aep@rand.org).

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