



October 2022

K-12 EDUCATION:

Education Should Assess Its Efforts to Address Teacher Shortages

Accessible Version

GAO Highlights

Highlights of [GAO-23-105180](#), a report to congressional committees

Why GAO Did This Study

For years, parents and policymakers have raised concerns about teacher shortages. These concerns escalated during the COVID-19 pandemic, amid reports of teachers leaving the profession, fewer new teachers entering, and schools struggling to hire teachers.

The Explanatory Statement accompanying the Further Consolidated Appropriations Act, 2020 includes a provision for GAO to examine K-12 teacher shortages. This report examines (1) the prevalence of public K-12 teacher shortages and characteristics of the teacher workforce; (2) key recruitment and retention challenges contributing to shortages; and (3) the extent to which Education's efforts address these key challenges.

GAO analyzed nationally representative data for 2011-2021 (depending on dataset) to determine the prevalence and characteristics of shortages. GAO also conducted 19 non-generalizable focus groups, including with current and former teachers; hiring officials; and state officials. Further, GAO reviewed methodologically sound research and policy papers published in the last 12 years; relevant federal laws, regulations, and agency documents; and interviewed Education officials, researchers, and subject matter experts.

What GAO Recommends

GAO is making two recommendations, including that Education develop a more comprehensive strategy to execute its vision. Education neither agreed nor disagreed with our recommendations.

View [GAO-23-105180](#). For more information, contact Jacqueline M. Nowicki at (202) 512-7215 or nowickij@gao.gov.

October 2022

K-12 EDUCATION

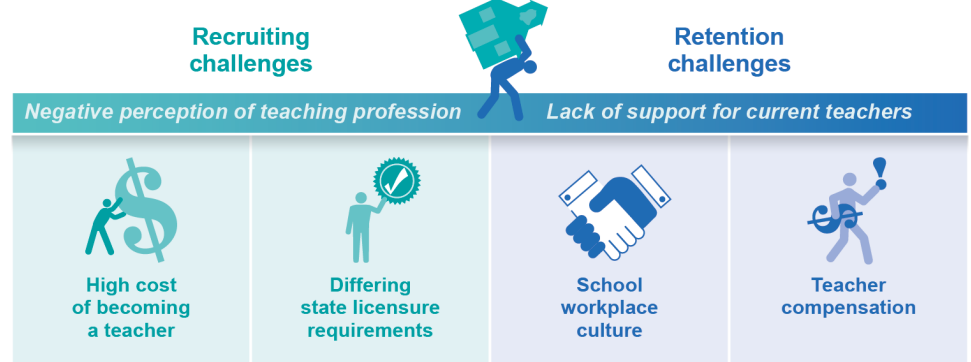
Education Should Assess Its Efforts to Address Teacher Shortages

What GAO Found

Public K-12 teacher shortages occurred nationwide, but were more prevalent in specific geographic and demographic areas and specific subject matters, according to GAO's analysis of the most recent available national data. GAO found that shortages were most prevalent in the West, urban and rural areas (not suburban), schools predominantly serving non-White students, and subjects such as science and foreign languages. GAO also found that, as of school year 2017-18, the teacher workforce was mostly White (80 percent) and female (75 percent).

Negative perception of the teaching profession and perceived lack of support for current teachers are among key recruitment and retention challenges, according to GAO's literature review of research published from 2011-2021 (see figure). These same themes also surfaced repeatedly in all of 19 focus groups GAO held with current and former teachers, hiring officials, state officials, and officials from teacher preparation programs. GAO found that this perceived lack of support exists at the state, school district, and community level and increased during the COVID-19 pandemic.

Key Recruitment and Retention Challenges Contributing to Teacher Shortages



Source: GAO analysis of studies, Education data, and focus group transcripts. | GAO-23-105180

The Department of Education's plans for addressing teacher shortages do not have all of the elements GAO previously has determined as necessary for successful strategies. In summer 2022, Education announced an overarching vision for "Supporting and Elevating the Teaching Profession." The vision includes five specific strategies and various activities to support teacher professional development and address recruiting and retention challenges. While Education has taken important steps to develop a comprehensive strategy to address teacher shortages, it has not yet clearly communicated time frames, milestones, or performance measures to gauge results of their efforts. Education officials said that the agency's priority to date has been on the initiatives associated with their vision. By building time frames and measures into its overall strategy, Education would be better positioned to know whether its efforts to help schools, states, and districts address teacher shortages are working.

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Abbreviations

ACS	American Community Survey
CCD	Common Core of Data
CPS	Current Population Survey
Education	U.S. Department of Education
ESEA	Elementary and Secondary Education Act of 1965, as amended
ESL	English as a Second Language
HEA	Higher Education Act of 1965, as amended
IPEDS	Integrated Post-Secondary Education Data System
NTPS	National Teacher and Principal Survey
OMB	Office of Management and Budget
SASS	School and Staffing Survey

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October 27, 2022

The Honorable Patty Murray
Chair
The Honorable Roy Blunt
Ranking Member
Subcommittee on Labor, Health and Human Services, Education, and
Related Agencies
Committee on Appropriations
United States Senate

The Honorable Rosa DeLauro
Chair
The Honorable Tom Cole
Ranking Member
Subcommittee on Labor, Health and Human Services, Education, and
Related Agencies
Committee on Appropriations
House of Representatives

It is widely acknowledged that a high-quality, diverse teacher workforce is critical to children’s success in school. Shortages of K-12 public school teachers may place many students at risk of not obtaining the education critical to their success. For years, parents and policy-makers have raised concerns about a shortage of teachers in the nation’s public elementary and secondary schools. These concerns escalated during the COVID-19 pandemic, with many teachers saying they plan to leave the profession, and school district officials struggling to find qualified teachers to head classrooms.¹ In some instances, shortages have led to district superintendents, state officials, and National Guard members filling in as teachers or schools temporarily closing.

¹See, for example, Steiner, Elizabeth D and Ashley Woo, *Job-Related Stress Threatens the Teacher Supply: Key Findings from the 2021 State of the U.S. Teacher Survey* (Santa Monica, CA: RAND Corporation, 2021).

The Explanatory Statement accompanying the Further Consolidated Appropriations Act, 2020² includes a provision for GAO to study trends in geographic and demographic characteristics of districts facing the greatest shortages; factors contributing to teacher shortages nationwide, and ways to improve the effectiveness of federal policy to improve teacher recruitment and retention.

This report examines: (1) the prevalence of teacher shortages nationwide, and characteristics of the teacher workforce; (2) the key recruitment and retention challenges that contribute to teacher shortages; and (3) the extent to which the Department of Education's (Education) efforts related to recruiting and retaining teachers address key challenges.

To examine the prevalence of teacher shortages nationwide and characteristics of the teacher workforce, we analyzed nationally representative data from several datasets on teacher vacancies, unemployment rates, and the pipeline of individuals entering the profession from 2010-21, using the latest available data in each dataset. Because there is no federal database for tracking teacher shortages, we assessed indicators of teacher shortages using data from Education's National Teacher and Principal Survey (NTPS) and its predecessor the Schools and Staffing Survey (SASS) for school years 2011-12 and 2015-16.³ Using these data, we examined data reported by principals on teaching vacancies overall and by subject. To determine which schools experienced teacher shortages, we analyzed survey responses from principals reporting teacher vacancies and who indicated that they had at least one position they either could not fill or that was difficult to fill.

We supplemented our analysis of NTPS data with data from Education's Baccalaureate and Beyond Longitudinal Study (B&B) longitudinal study of

²See Explanatory Statement, 165 Cong. Rec. H11061 (daily ed. Dec. 17, 2017) (statement of Rep. Lowey) and Pub. L. No. 116-94, § 4, 133 Stat. 2534, 2536 (2019) (clarifying that the explanatory statement regarding this act shall have the same effect as a joint explanatory statement with respect to the allocation of funds and implementation of certain divisions).

³NTPS replaced SASS beginning in school year 2015-2016. The NTPS surveys a representative sample of schools. We analyzed SASS data for school year 2011-2012 and NTPS for school years 2015-16 and 2017-18. Because the samples that were used to calculate the estimates in this report were selected using probability procedures based on random selections, each sample is only one of a large number of samples that might have been drawn from the relevant population. Since each sample could have resulted in different estimates, we express our confidence in the precision of each particular sample's results using a 95 percent confidence interval. Unless otherwise noted, all comparisons are statistically significant at the 95 percent confidence level.

students and Common Core of Data (CCD) on public education to test for patterns in teacher shortages. Specifically, we used B&B data to examine the characteristics of current and former teachers within areas we determined to have teacher shortages. We also linked the data reported by principals on teaching vacancies with CCD school-level data including demographics, urbanicity, and enrollment trends with the NTPS data to test for patterns. For example, we compared student demographics, such as percent minority or percent eligible for free or reduced-price lunch, in schools where our analysis revealed the presence or absence of teacher shortages.

In addition, we analyzed unemployment rates from 2011-21 for teachers relative to other occupations using data from the Current Population Survey (CPS). To examine the teacher pipeline, we analyzed data from Education's Integrated Post-Secondary Education Data System (IPEDS) for 2010-2020 on the number of students who complete a postsecondary education program in the field of education as an indicator of interest in the profession. Neither IPEDS nor other national databases track data on enrollment in alternative certification programs; as such, we were unable to examine trends in the number of teachers obtaining alternative certifications.

To examine key characteristics of the teacher workforce, we analyzed data from the CCD and NTPS on selected school district characteristics, such as student demographics and the diversity of the district's teacher workforce, and described any patterns between teachers and the schools and school districts where they teach. Specifically, we compared teacher demographics with those of students they teach. We also examined how median teacher pay compared with other professions across states using the Census Bureau's American Community Survey (ACS).

To assess the reliability of these data and databases and determine that they were reliable for the purposes of describing the characteristics of teacher shortages and the teacher workforce, we reviewed technical documentation and our past analyses of the reliability of these federal datasets. For more information on these databases and how we used them, including relevant variables and the years data are available, see appendix I.

To identify key challenges associated with teacher recruitment and retention, we conducted a literature review of research and policy papers published between 2011 and 2021 and analyzed them for common themes. We included only research from peer-reviewed journals or

papers we determined to be of sound methodology and relevant content, and that had a non-homogeneous or nationally generalizable focus or sample. We also interviewed Education officials as well as subject matter experts to obtain a variety of perspectives on teacher shortages and the key recruiting and retention challenges contributing to them. To obtain a variety of first-hand perspectives from teachers as well as individuals responsible for educating, licensing, and hiring them, we conducted 19 non-generalizable focus groups to discuss K-12 teacher shortages, including key recruiting and retention challenges contributing to them.⁴ Each focus group included three to 12 participants. We conducted at least two focus groups with each of the following:

- current teachers,
- current special education teachers,
- former teachers,
- former special education teachers,
- school district hiring officials,
- state educational agency officials,
- traditional teacher preparation providers, and
- officials from other teacher certification programs, often referred to as alternative certification providers.

We established criteria to screen focus group participants representing a variety of grade levels and subjects taught, location (e.g., city and state), school community (e.g., urban, rural, or suburban), pathway to teaching (e.g., traditional teacher preparation or alternative certification), years of teaching experience, and—for former teachers—years since they left the classroom. We used a standardized list of questions, specific to each focus group type, to ask participants about their experiences with teacher shortages, as well as challenges related to teacher recruitment and retention. In addition, we asked about the programs and policies intended to recruit and retain public school teachers, and any associated

⁴Methodologically, focus groups are not designed to demonstrate the extent of a problem, generalize results to a larger population, or provide statistically representative samples or reliable quantitative estimates. Instead, they are intended to generate in-depth information about the reasons for the focus group participants' thoughts, experiences, and preferences on specific topics. The extent to which the information produced by our focus group sessions is representative of other teachers, former teachers, school district hiring officials, state educational agency officials, traditional teacher preparation providers, or alternative certification providers with similar characteristics is limited. The experiences and preferences expressed may not reflect the experiences and preferences of others.

challenges at the federal, state, and local level to address recruitment and retention challenges.

To identify the key challenges to teacher recruitment and retention that emerged from our focus groups, we conducted a content analysis of transcripts from all the focus groups. Specifically, we identified the key challenges as those identified by most focus groups (our main unit of analysis) and as a secondary measure, those challenges that were mentioned the most frequently across all 19 focus groups. We also compared these focus group themes to those we identified in the literature. The evidence collected from our focus groups supported nearly all of the themes identified from the literature. We then looked for specific examples from our focus group transcripts supporting the themes that were common across the literature review and the focus groups.

To assess the extent of Education's efforts to address teacher shortages, we interviewed Education officials and reviewed relevant agency documents and relevant federal laws and regulations. Our review of agency documentation included the department's strategic plans, information-sharing clearinghouses maintained by the department, and documents with information pertinent to the recruitment and retention of teachers.

For more information on our objectives, scope, and methodology, please see appendix I and the bibliography of studies that discuss challenges to recruiting and retaining teachers, including information on which studies addressed specific challenges, in appendix II.

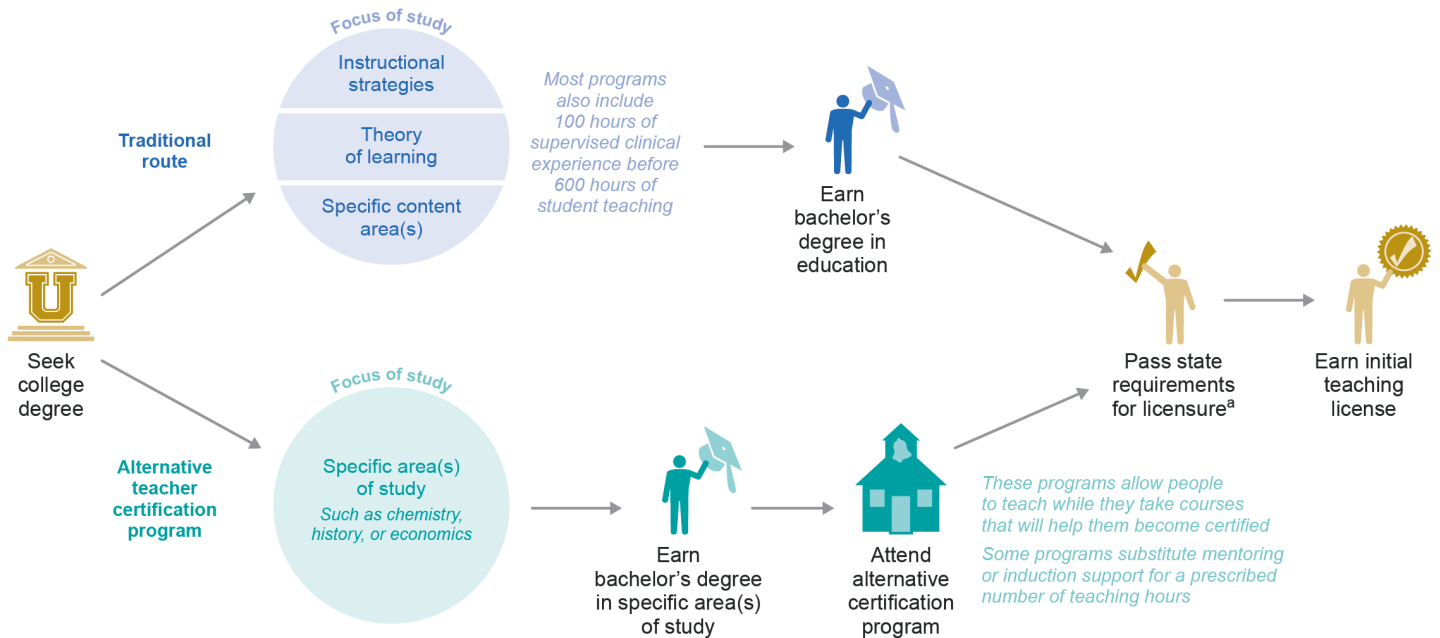
We conducted this performance audit from April 2021 to October 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Paths to Becoming a Public School Teacher

People can enter the teaching profession and receive their initial teaching license through traditional or alternative pathways (See fig. 1). The traditional pathway is a bachelor's degree in education with a focus in a specific field, such as elementary education or special education. Alternative certification programs are for individuals who, for example, have a bachelor's degree in a specific area of study and may have prior work experience, but may want to switch careers. They may be administered by institutions of higher education, school districts, or nonprofit organizations, among others.

Figure 1: Typical Pathways into Public K-12 Teaching



Source: GAO analysis of Department of Education, nonprofit organization, and other documents. | GAO-23-105180

^aStates set licensure requirements, which can vary.

State, Local, and Federal Roles for Recruiting and Retaining Teachers

The federal government generally has a limited role in K-12 education, including addressing teacher shortages. Each state determines its own requirements for teacher certification. Prospective teachers wishing to teach in a particular state must satisfy that state's requirements. While these vary among states, they often include completing a state-approved teacher preparation program and passing licensure tests that assess subject matter knowledge or other skills. Our work has shown that some states prescribe recurring requirements, such as professional development, that teachers must meet to maintain their certification. Local educational agencies (referred to in this report as school districts or districts) are responsible for things like hiring, setting salaries, and making staff assignments.⁵

Federal funding available for teacher recruitment and retention historically has been provided through certain programs authorized by the Elementary and Secondary Education Act (ESEA) of 1965, as amended, and the Higher Education Act of 1965, as amended (HEA).⁶ For example, Title II of ESEA authorizes programs focused on preparing, training, and recruiting elementary and secondary education teachers, principals, and other school leaders. The HEA also authorizes programs that can address teacher recruitment and retention, including the Public Service Loan Forgiveness, Teacher Loan Forgiveness, and the Teacher Education Assistance for College and Higher Education (TEACH) Grant programs. To receive benefits associated with these programs, teachers must meet certain requirements.

In addition, certain COVID-19 emergency relief provided through the Elementary and Secondary School Emergency Relief Fund, Governor's Emergency Education Relief Fund, and the Higher Education Emergency Relief Fund can be used to address teacher shortages. For example, according to Education, the Governor's Emergency Education Relief Fund and Elementary and Secondary School Emergency Relief Fund may be used by states and districts to make monthly payments on behalf

⁵GAO, *Teacher Quality: Sustained Coordination among Key Federal Education Programs Could Enhance State Efforts to Improve Teacher Quality*, [GAO-09-593](#) (Washington, D.C.: July 6, 2009).

⁶See Pub. L. No. 89-10, 79 Stat. 27 (codified as amended at 20 U.S.C. §§ 6301–8961); Pub. L. No. 89-329, 79 Stat. 1219 (codified as amended at 20 U.S.C. §§ 1001–1161aa-1).

of college graduates from low-income backgrounds who enter teaching and who enroll in a federal income-driven repayment plan to pay their student loans through 2024. In addition, the Higher Education Emergency Relief Fund can be used to cover the cost of additional courses or pay test fees to earn first or additional teaching licenses or certification.

K-12 Teacher Shortages Have Been More Concentrated in Specific Regions, Subjects, and Demographics, and Worsened during the COVID-19 Pandemic

National Picture of Teacher Shortages

Teacher shortages are more concentrated in western states, rural and urban communities, and high-poverty communities, according to our analysis of the most recent data available (2010-2021, depending on dataset).⁷ In addition, we found recent data suggest teacher shortages worsened during the COVID-19 pandemic.

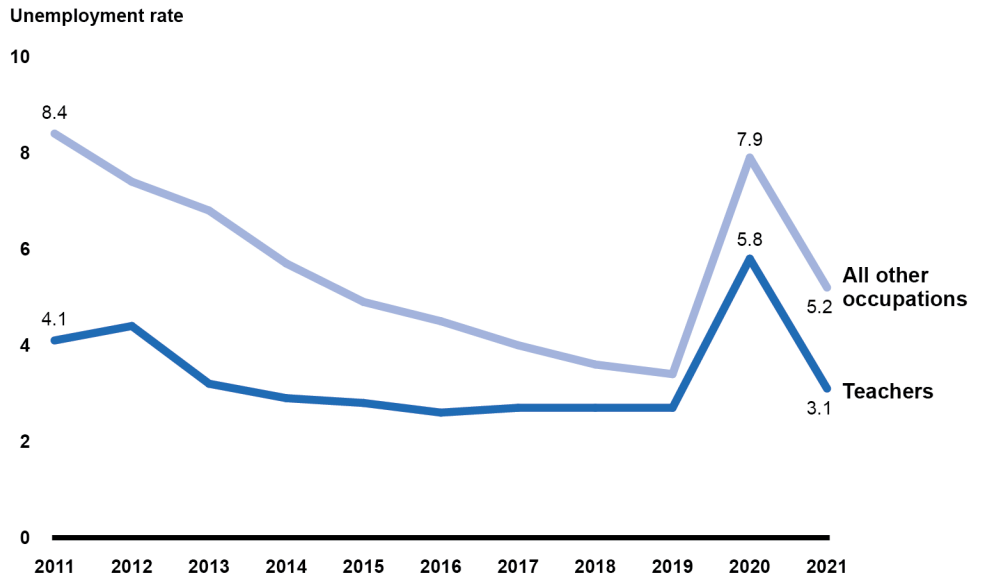
- **Unfilled and difficult to fill teacher vacancies.** According to our analysis of Education’s 2011-12 School and Staffing Survey (SASS) data and 2015-16 National Teacher and Principal Survey (NTPS) data, an estimated 31 percent of principals with vacancies reported facing teacher shortages in school year 2015-16, compared with an estimated 20 percent in school year 2011-12.⁸
- **Teacher unemployment rates.** According to our analysis of Current Population Survey data we found that the teacher unemployment rate

⁷Because comparable data on teacher shortages from a single source were not available, we used data on unfilled or difficult to fill teacher vacancies as reported by school principals (school years 2011-12 and 2015-16), and teacher unemployment rates (2011-21). In the 2011-12 SASS and the 2015-16 NTPS, principals were asked about how difficult vacancies were to fill in specific subjects, which we used to identify teaching vacancies (these questions were omitted in the 2017-18 survey).

⁸Education does not conduct all questionnaires within the NTPS (formerly SASS) regularly; for these variables, school years 2011-12 and 2015-16 are the most recent available within our 10-year window. During this time period, we found the difficulty and the number of schools reporting vacancies both increased. The 95 percent confidence interval for this analysis is (18.5, 21.1) for school year 2011-12 and (29.7, 32.7) for school year 2015-16.

was consistently lower than the unemployment rate for all other occupations between 2011 and 2021, meaning relatively fewer teachers were looking for employment and were unable to find it. For example, in 2021 the estimated unemployment rate for teachers was an estimated 3.1 percent compared with an estimated 5.2 percent for all other occupations.⁹ This suggests that the labor market for teachers is tight compared with the labor market overall, and that employers may be competing for a limited number of teachers who are willing and able to work (see fig. 2).

Figure 2: Estimated Unemployment Rate of Teachers Compared with Other Occupations, 2011-21



Source: GAO review of Current Population Survey data. | GAO-23-105180

Note: The margin of error for both estimated unemployment rates is no greater than plus or minus 0.3 percentage points at the 95 percent level of confidence.

⁹The 95 percent confidence interval is (2.9, 3.3) for the 2021 estimated unemployment rate for teachers and (5.1, 5.3) for the 2021 estimated unemployment rate for all other occupations.

Year	All other occupations	Teachers
2011	8.4	4.1
2012	7.4	4.4
2013	6.8	3.2
2014	5.7	2.9
2015	4.9	2.8
2016	4.5	2.6
2017	4.0	2.7
2018	3.6	2.7
2019	3.4	2.7
2020	7.9	5.8
2021	5.2	3.1
2011	8.4	4.1

K-12 Teacher Shortages Have Been More Prevalent in Specific Geographic and Demographic Areas and Specific Subject Matters

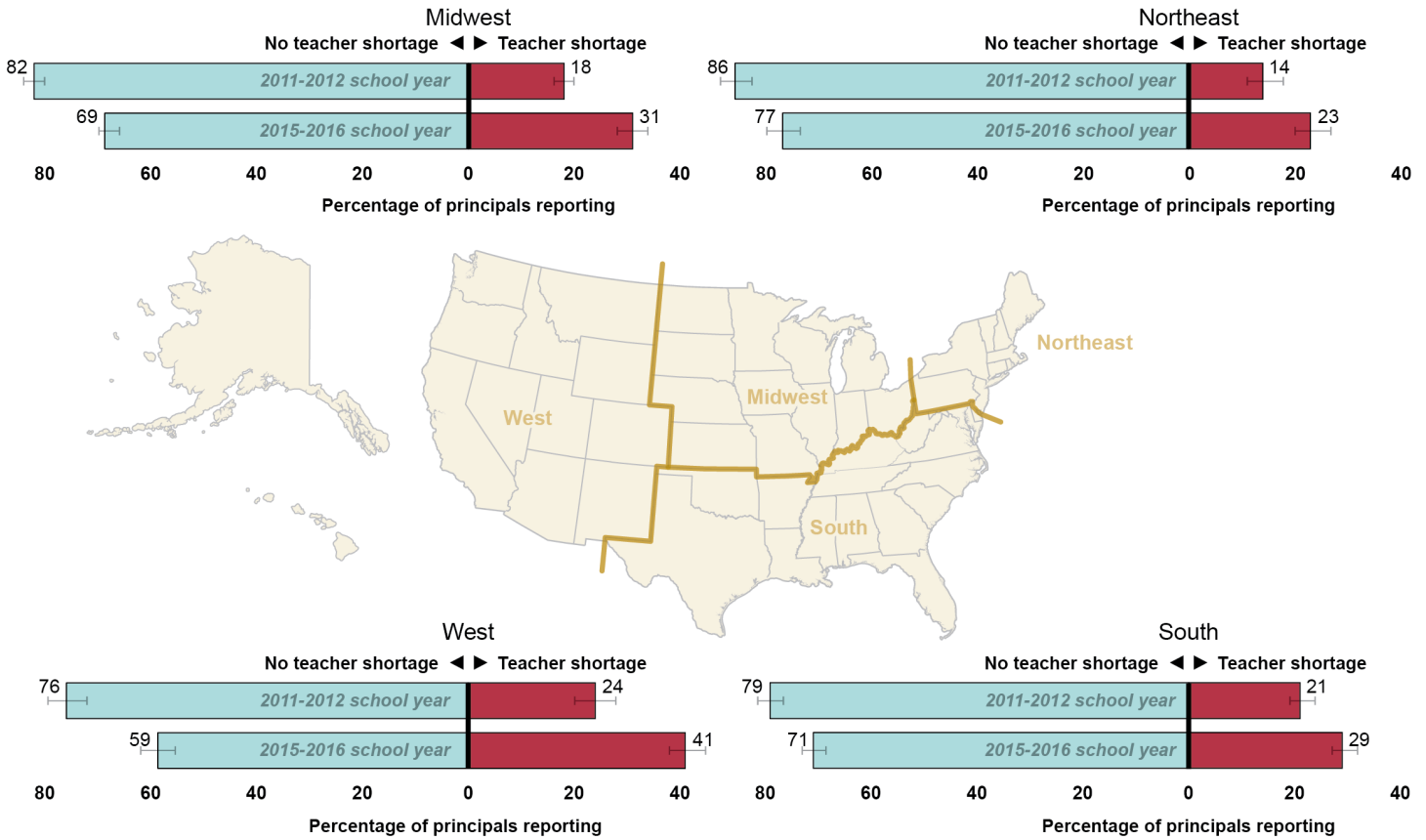
We found that the percentage of principals that reported teacher shortages varied depending upon three factors: the geographic location of the school, the demographic make-up of students within the school, and the subject matter. Specifically, our analysis of national data showed that teacher shortages were more prevalent in the West, urban and rural areas, schools with predominantly non-White students, and in specific subject areas such as special education.¹⁰

- Geographic location.** In every region, shortages were between 8-17 percentage points higher than five years earlier (see fig. 3). Compared with other regions, a higher percentage of principals with vacancies in the West reported shortages for both school years for which data were available.¹¹ In addition, in school year 2015-2016, a higher percentage of principals with vacancies in the West reported shortages than principals in the other regions.

¹⁰We analyzed Education’s 2011-12 SASS survey results and 2015-16 and 2017-18 NTPS survey results, but not all data variables were available for all 3 years.

¹¹The margins of error at the 95 percent confidence interval for these estimates are within plus or minus 5 percentage points, except for between regions in 2011-2012 and differences between the Midwest and South in 2015-2016.

Figure 3: Estimated Principal-Reported Teacher Shortages, by Region, School Year 2011-12 and 2015-16



Source: GAO analysis of Education’s Schools and Staffing Survey and National Principal and Teacher Survey data. | GAO-23-105180

Note: The thin bars display the 95 percent confidence interval for each estimate.

	Percentage of principals reporting no teacher shortage			Percentage of principals reporting a teacher shortage		
	Low	Est	Upper	Low	Est	Upper
Midwest 2011-2012 school year	80	82.2	84.2	16	18	20
Midwest 2015-2016 school year	65.8	68.9	69.8	28	31	34
Northeast 2011-2012 school year	82.3	85.7	88.6	11	14	18
Northeast 2015-2016 school year	73.3	76.7	79.8	20	23	27
West 2011-2012 school year	71.9	75.9	79.5	20	24	28
West 2015-2016 school year	55.2	58.6	61.9	38	41	45
South 2011-2012 school year	76.5	79.1	81.5	19	21	24
South 2015-2016 school year	68.4	70.9	73.2	27	29	32

In addition, an estimated 35 percent of principals with vacancies in urban and rural areas reported shortages for 2015-16 compared with an estimated 25 percent in suburban areas.¹² Shortages in all regions were more prevalent than 5 years prior, and gaps between rural and urban compared with suburban areas persisted.¹³

- **Student demographics.** The number of principals reporting teacher shortages were higher in predominantly non-White and high-poverty schools compared with predominantly White and low-poverty schools. For example, in predominantly non-White schools (schools in which 75 percent or more of students identified as non-White), an estimated 39 percent of principals with vacancies reported shortages compared with an estimated 26 percent in predominantly White schools in school year 2015-16.¹⁴ Looking at shortages across varying levels of school poverty, an estimated 40 percent of principals with vacancies in predominantly high-poverty schools reported shortages compared with an estimated 21 percent in predominantly low poverty schools in school year 2015-16.¹⁵ (See fig. 4.)

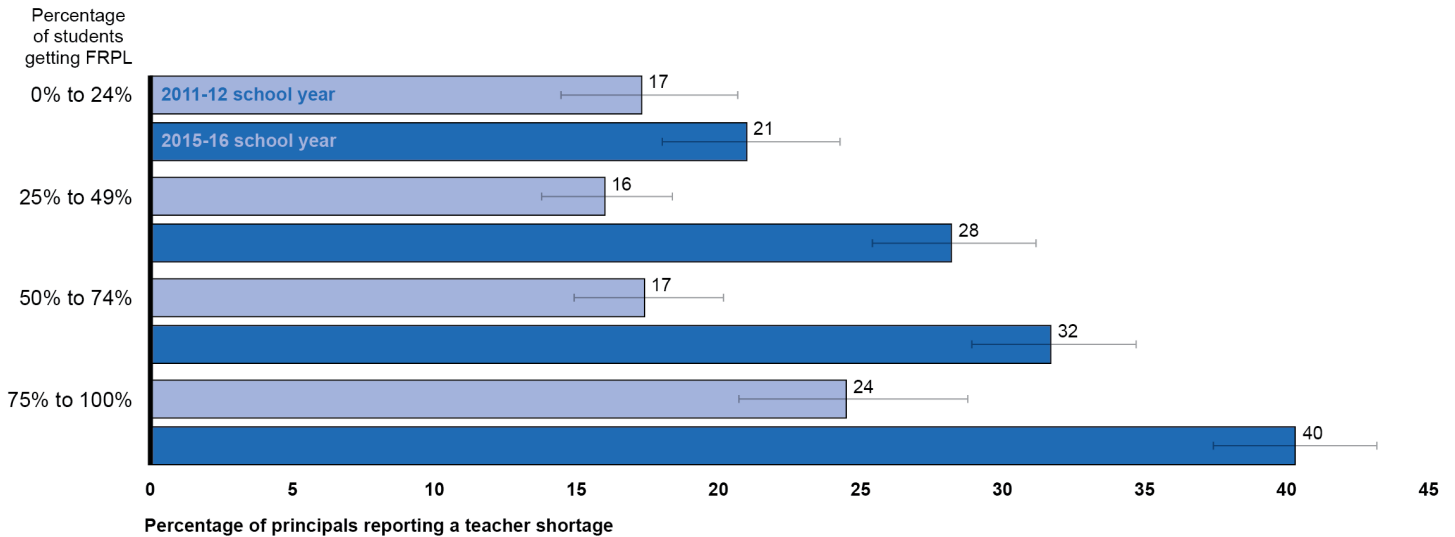
¹²The 95 percent confidence interval for school year 2015-16 are, (32.6, 36.6) for rural, (32.3, 37.8) for urban, and (22.1, 27.6) for suburban.

¹³For example, for school year 2011-12, an estimated 19 and 24 percent of principals in rural and urban areas, respectively, reported difficulty compared with 17 percent of suburban principals. The 95 percent confidence intervals for school year 2011-12 are (20.7, 27.7) for urban, (17.6, 20.9) for rural, and (13.9, 19.6) for suburban.

¹⁴We identified schools as predominantly White when more than 75 percent of the student body identified as White, and predominantly non-White when 75 percent or more of the student body identified as non-White. The 95 percent confidence intervals are (36.2, 42.2) for predominantly non-White schools and (24.3, 28.5) for predominantly White schools in school year 2015-16.

¹⁵High-poverty schools are those where at least 75 percent of students eligible for free or reduced-price lunch. The 95 percent confidence intervals are (37.4, 43.2) for high-poverty schools and (18.0, 24.3) for low-poverty schools in school year 2015-16.

Figure 4: Estimated Percentages of Principals Reporting Shortages, by Share of Students Eligible for Free or Reduced-Price Lunch, for School Year 2011-12 and 2015-16



Source: GAO analysis of Education’s Schools and Staffing Survey and National Teacher and Principal Survey data. | GAO-23-105180

FRPL= Free or reduced-price lunch program

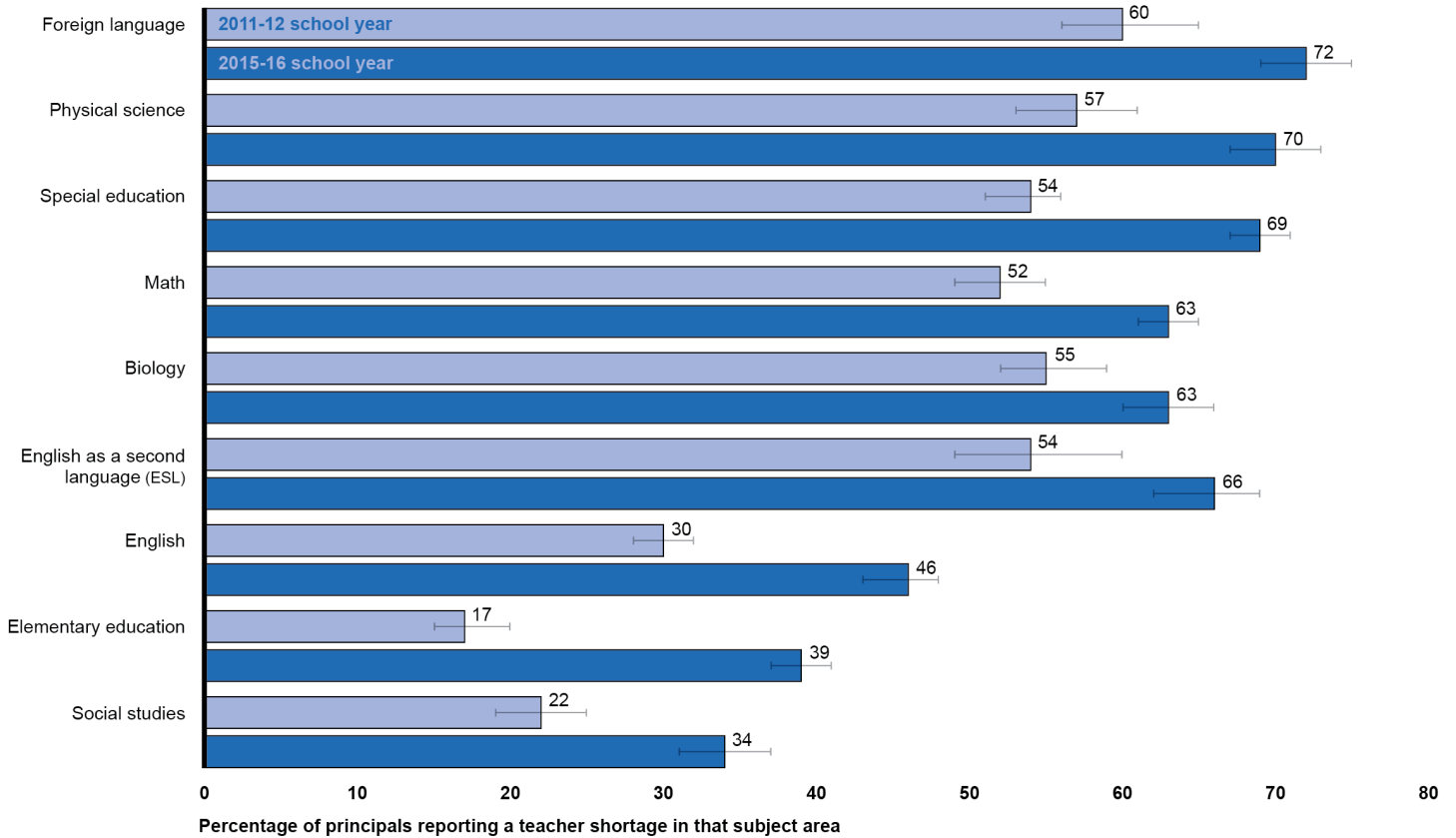
Note: The thin bars display the 95 percent confidence interval for each estimate.

Percentage of students getting Free or reduced-price lunch program (FRPL)	Percentage of principals reporting a teacher shortage		
	Lower bound	Estimate	Upper bound
0% to 24%, 2011-12 school year	14.4	17.3	20.7
0% to 24%, 2015-16 school year	18	21	24.3
25% to 49%, 2011-12 school year	13.8	16	18.4
25% to 49%, 2015-16 school year	25.4	28.2	31.2
50% to 74%, 2011-12 school year	14.9	17.4	20.2
50% to 74%, 2015-16 school year	28.9	31.7	34.7
75% to 100%, 2011-12 school year	20.7	24.5	28.8
75% to 100%, 2015-16 school year	37.4	40.3	43.2

- Subject matter.** Estimated shortages varied by subject matter and grew from school year 2011-12 to 2015-16. As shown in figure 5, the top three most commonly reported shortages include foreign language (72 percent), physical science (70 percent), and special education (69 percent) in school year 2015-16.¹⁶

¹⁶The 95 percent confidence intervals are (68.7, 75.1) for foreign language, (66.6, 73.0) for physical science, and (67.3, 71.3) for special education in school year 2015-16.

Figure 5: Estimated Principal-Reported Shortages by Selected Subject Matter, School Year 2011-12 and 2015-16



Source: GAO analysis of Education’s Schools and Staffing Survey and National Teacher and Principal Survey data. | GAO-23-105180

Note: The thin bars display the 95 percent confidence interval for each estimate.

Letter

	Lower bound	Estimate	Upper bound
Foreign language, 2011-12 school year	56	60	65
Foreign language, 2015-16 school year	69	72	75
Physical science, 2011-12 school year	53	57	61
Physical science, 2015-16 school year	67	70	73
Special education, 2011-12 school year	51	54	56
Special education, 2015-16 school year	67	69	71
Math, 2011-12 school year	49	52	55
Math, 2015-16 school year	61	63	65
Biology, 2011-12 school year	52	55	59
Biology, 2015-16 school year	60	63	66
English as a second language (ESL), 2011-12 school year	49	54	60
English as a second language (ESL), 2015-16 school year	62	66	69
English, 2011-12 school year	28	30	32
English, 2015-16 school year	43	46	48
Elementary education, 2011-12 school year	15	17	20
Elementary education, 2015-16 school year	37	39	41
Social studies, 2011-12 school year	19	22	25
Social studies, 2015-16 school year	31	34	37

In addition, we found that these factors—geography, demographics, and subject matter—sometimes compound one another. For example, an estimated 70 percent of principals with vacancies in the West reported shortages of English as a Second Language (ESL) teachers in school year 2015-16, compared with 66 percent for all principals with vacancies of ESL teachers on average.¹⁷ We also found that an estimated 62 percent of principals with vacancies in predominantly high-poverty, Western schools reported shortages compared with 35 percent of low-poverty schools in the same region.¹⁸

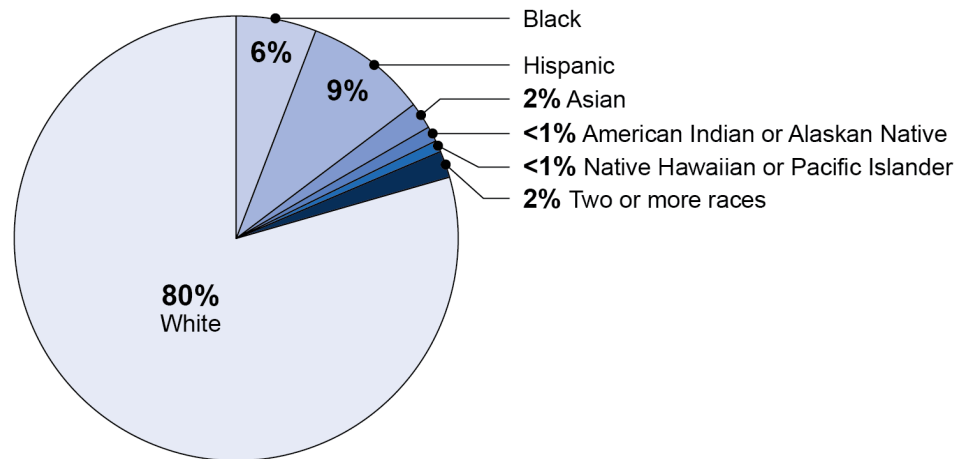
¹⁷Due to data limitations we cannot precisely identify the degree to which a particular factor contributes. The 95 percent confidence interval is (62.4, 76.2) for Western schools with reported shortages of ESL teachers and is (62.5, 69.3) for all principals with ESL vacancies.

¹⁸The 95 percent confidence interval for predominantly high-poverty, Western schools is (54.2, 70.0) and for low-poverty, Western schools is (25.9, 45.8) for school year 2015-16.

Teacher Workforce Has Been Mostly White and Female

For school year 2017-18, most teachers identified as White and female, according to our analysis of the most recent available NTPS teacher demographic data. Specifically, about 80 percent of K-12 teachers identified their race as White, compared with about 9 percent or less of teachers who identified as either Black, Hispanic, Asian, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, or multi-racial¹⁹ (see fig. 6).

Figure 6: Racial/Ethnic Composition of K-12 Public School Teachers, School Year 2017-18



Source: GAO analysis of Education's Schools and Staffing Survey and National Teacher and Principal Survey data. | GAO-23-105180

Notes: 1) The 95 percent confidence intervals are (79.4, 80.8) for teachers that identified as White, (8.7, 9.8) for Hispanic, (5.8, 6.6) for Black, (1.8, 2.2) for Asian, (1.5, 1.9) for multi-racial, (.4,.7) for American Indian/Alaska Native, and (.2,.3) for Native Hawaiian/Pacific Islander.

2) Percentages may not add to 100 due to rounding.

With little gender, racial, or ethnic diversity in the current teacher workforce, most non-White students do not have teachers that share their cultures or lived experiences, according to literature we reviewed.²⁰ We

¹⁹The 95 percent confidence intervals are (79.4, 80.8) for teachers that identified as White, (8.7, 9.8) for Hispanic, (5.8, 6.6) for Black, (1.8, 2.2) for Asian, (1.5, 1.9) for multi-racial, (.4,.7) for American Indian/Alaska Native, and (.2,.3) for Native Hawaiian/Pacific Islander.

²⁰See, for example, Seth Gershenson, et al. *Teacher Diversity and Student Success: Why Racial Representation Matters in the Classroom* (Cambridge, MA: Harvard Education Press, 2021).

found that in predominantly non-White schools, our review of NTPS data showed about half of teachers (an estimated 52 percent) identified as White in school year 2017-18.²¹ Moreover, men represent less than an estimated 24 percent of teachers in all public schools, and Black men are even rarer, at about 1.4 percent, of teachers in the classroom.²² Studies show, however, that students, particularly students of color, benefit from having teachers who look like them. These benefits include improved communication, heightened academic performance, fewer absences, and higher high-school graduation and college enrollment rates. For example, researchers have found that when Black students were randomly assigned to at least one Black classroom teacher in grade K-3, the students were more likely to complete high school and enroll in college.²³

Recent Data Suggest That Teacher Satisfaction and Teacher Shortages Worsened During the COVID-19 Pandemic

More recent indications that teachers are leaving the profession—by resigning versus retiring, or by leaving mid-year or without notice—suggest that teacher shortages worsened during the COVID-19 pandemic. For example, an Education pulse survey conducted in January 2022 found that of the schools reporting at least one vacancy, 51 percent reported that vacancies were due to resignations and 21 percent reported

²¹The 95 percent confidence interval is (50.6, 54.2) for teachers identifying as White within predominantly non-White schools in school year 2017-18.

²²The 95 percent confidence intervals are (22.9, 24.1) for teachers identifying as men and (1.3, 1.6) for Black men in school year 2017-18.

²³See, for example, Seth Gershenson, et al. *The Long-Run Impacts of Same-Race Teachers* (Cambridge, MA: The National Bureau of Economic Research, Nov. 2018, revised Feb. 2021).

that vacancies were due to retirements.²⁴ Other recent studies examining teacher satisfaction and likelihood of leaving the teaching profession showed similar patterns. For example, one study found that about 25 percent of respondents in a non-generalizable survey of teachers said they were likely to leave the teaching profession, a majority of whom said they were not likely to do so before the COVID-19 pandemic.²⁵ Another non-generalizable survey conducted in 2022 found that teachers reporting being very satisfied was at an all-time low. The survey found that 56 percent of teachers are satisfied with their jobs, but only 12 percent say they are very satisfied, down from 39 percent in 2012 and far lower than the record low of 33 percent in 1986.²⁶

Participants in almost all of our focus groups, as well as all of the subject matter experts and national organization representatives we interviewed, raised similar concerns that the COVID-19 pandemic has exacerbated shortages in areas where they already existed. Some of the focus group participants also noted that some schools that did not have difficulty filling vacancies before now are struggling to do so. For example, in several focus groups we heard that teachers more frequently are resigning mid-semester—a practice they said was rare prior to the pandemic.

²⁴Department of Education, National Center for Education Statistics, School Pulse Survey, data as of January 2022, <https://ies.ed.gov/schoolsurvey/>. Schools that reported at least one vacancy could select more than one reason for the vacancy. A sample of approximately 2,400 public elementary, middle, high, and combined-grade schools were contacted to participate in the 12-month School Pulse Panel during the 2021-22 school year. Approximately 700 public schools completed the January survey (29 percent response rate). While the results presented above have been weighted and adjusted for non-response, these experimental data should be interpreted with caution. Neither Census nor the Institute of Education Sciences has released a nonresponse bias analysis for the School Pulse Panel Survey. We do not know whether estimates based on respondents to this survey would represent nonresponding schools.

²⁵Dilberti, Melissa and Julia H. Kaufman, *Will This School Year Be Another Casualty of the Pandemic? Key Findings from the American Educator Panels Fall 2020 COVID-19 Surveys*, Santa Monica, CA: RAND Corporation, 2020. https://www.rand.org/pubs/research_reports/RRA168-4.html.

²⁶Kurtz, Holly, *A Profession in Crisis: Findings From a National Teacher Survey, Results of the First Annual Merrimack College Teacher Survey* (Washington, D.C.: EDWeek, April 14, 2022). <https://www.edweek.org/research-center/reports/teaching-profession-in-crisis-national-teacher-survey>

Selected Focus Group Comments on Teachers Leaving the Profession

“So approximately 50 percent of our staff quit. And last year (2020) during COVID ... it’s almost unheard-of for teachers to quit mid-year, right? Teachers don’t quit mid-year. You quit in June. We had so many teachers just say, “You know what? I’m done.” –Former teacher

“We’ve got to figure out a way to not only hire, you know, brand new people, but we’ve got to find a way to eliminate all these mid-year resignations, all these like two-week resignations, all these kind of things that are going on right now that is just – it has a huge impact on what we’re doing in education.” –District hiring official

“And the trend, we had, like, four people in October want out of their contract. And these were elementary teachers ... stating stress and anxiety. They just can’t do it anymore.” –District hiring official

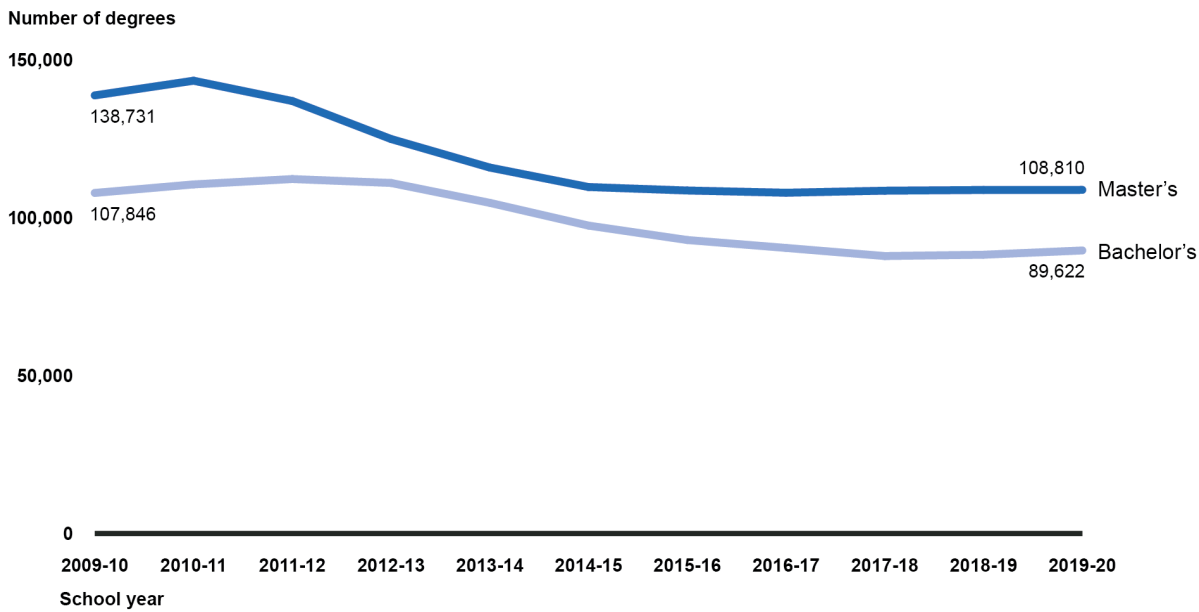
Source: GAO analysis of focus group transcripts. | GAO-23-105180

Note: We selected these comments because they provide real-life examples of the common themes identified through our data analysis and literature review. These themes were also repeated in our focus group discussions. (Methodologically, focus groups represent the views and experiences of focus group participants only.) In some cases, we edited responses for clarity or grammar.

Enrollment in Post-Secondary Education Teaching Programs Has Declined

We found the number of individuals majoring in education declined between the school years 2009-10 and 2019-20, raising concerns about the sufficiency of the teacher pipeline to mitigate shortages. Specifically, the number of students obtaining degrees in education-related majors at the bachelor’s and master’s level declined by about 17 and 22 percent, respectively (see fig. 7).

Figure 7: Number of Bachelor’s and Master’s Degrees Granted in Education from School Years 2009-10 through 2019-20



Source: GAO analysis of Education’s Integrated Post-Secondary Education Data System data. | GAO-23-105180

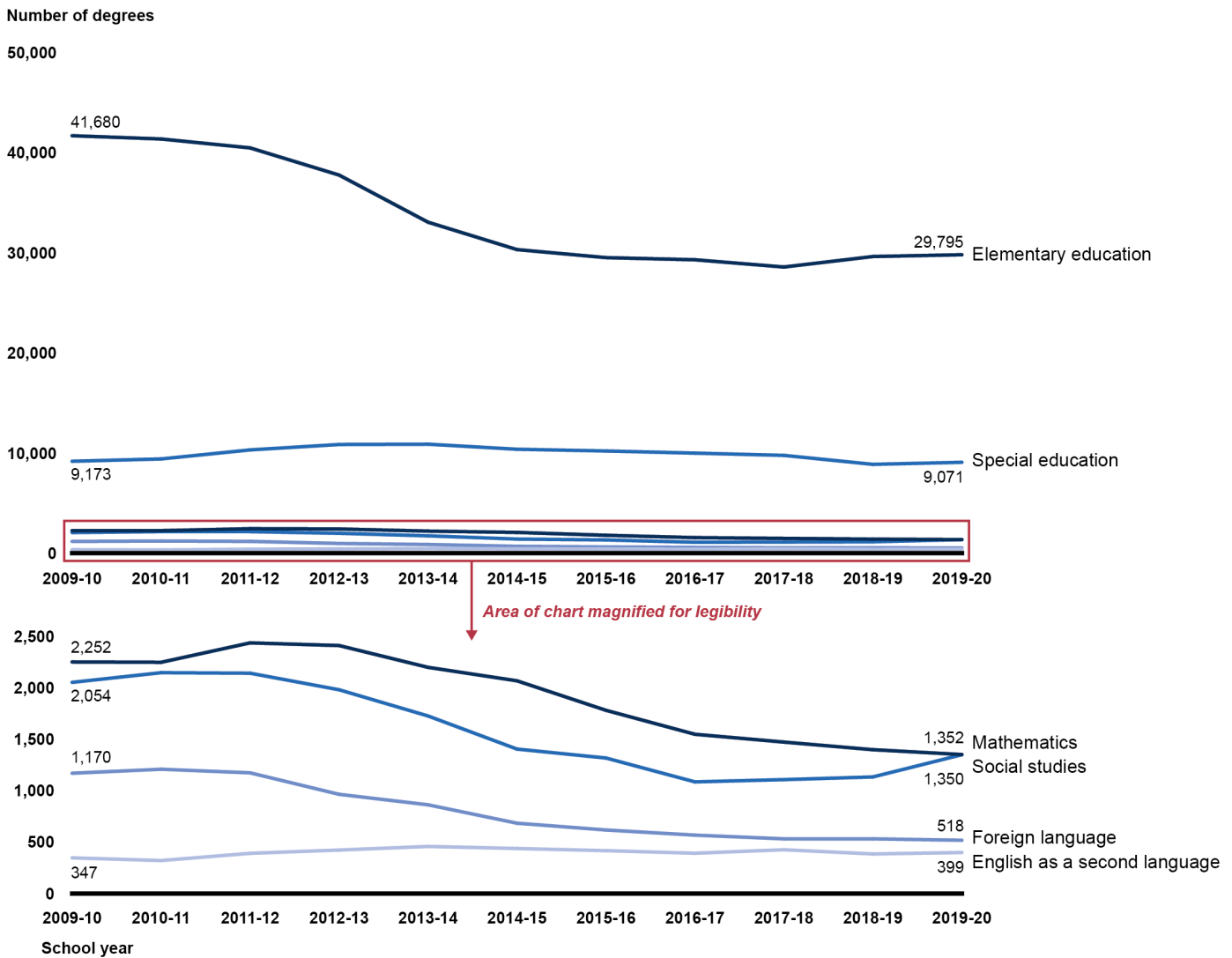
School year	Number of Master’s degrees	Number of Bachelor’s degrees
2009-10	107846	138731
2010-11	110542	143379
2011-12	112241	136948
2012-13	111004	124917
2013-14	104705	115883
2014-15	97503	109713
2015-16	92938	108615
2016-17	90431	107908
2017-18	87859	108554
2018-19	88278	108788
2019-20	89622	108810

Our analysis raises particular concern about various education fields, but for different reasons. Regarding elementary education, there were almost 30 percent fewer individuals obtaining elementary education degrees in school year 2019-20 compared with 10 years ago. Although principals did not recently report high rates of difficulty hiring elementary teachers, if this trend continues it could lead to eventual hiring difficulties. Regarding special education, the number of individuals obtaining special education degrees declined slightly, while the need for special education teachers

rose substantially during the same period.²⁷ According to Education's data, the number of students receiving special education services increased by about 11 percent, from 6.5 million in school year 2009-10 to 7.2 million in school year 2020-21. In other areas with current shortages, such as math and foreign language, the number of education degrees obtained generally decreased as well (see fig.8).

²⁷Due to data limitations and availability, we were unable to analyze trends in paraprofessionals and teacher aides, or in alternative certification programs, and the extent to which these may offset the decline in enrollments for traditional teacher programs is unknown.

Figure 8: Number of Degrees Obtained in Education Majors, School Years 2009-10 through 2019-20



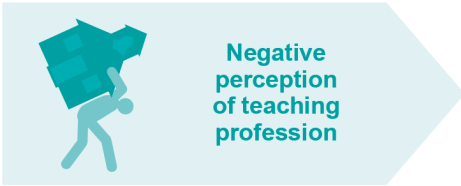
Source: GAO analysis of Education's Integrated Post-Secondary Education Data System data. | GAO-23-105180

Note: The term "majors" includes those obtaining bachelor degrees in fields of education.

School year	Elementary education	Special education	Mathematics	Social studies	Foreign language	English as a second language
2009-10	41680	9173	2252	2054	347	1170
2010-11	41354	9406	2249	2148	321	1209
2011-12	40464	10308	2438	2143	391	1174
2012-13	37752	10848	2412	1982	423	965
2013-14	33046	10879	2200	1727	458	863
2014-15	30310	10373	2069	1405	438	684
2015-16	29507	10201	1782	1318	417	618
2016-17	29293	9986	1549	1086	392	568
2017-18	28570	9761	1473	1108	426	532
2018-19	29618	8866	1399	1134	385	532
2019-20	29795	9071	1352	1350	399	518

Negative Perception of the Teaching Profession and Lack of Support Cited among Key Recruitment and Retention Challenges

In our literature review, we identified several key challenges that contribute to teacher shortages—challenges that emerged as key themes in our focus groups, as well. These challenges are in contrast to the motivations that draw teachers to the field, such as contributing to the community and providing representation to kids with backgrounds similar to theirs. While some challenges apply specifically to teacher recruitment or retention, the negative perception of teaching and perceived lack of support for teachers were consistent, overarching themes affecting both recruitment and retention (see fig. 9). Furthermore, the COVID-19 pandemic exacerbated challenges in both recruitment and retention.



Source: GAO. | GAO-23-105180

Figure 9: Challenges to Recruiting and Retaining Teachers



Source: GAO analysis of studies, Education data, and focus group transcripts. | GAO-23-105180

Negative Perception of Teaching Profession, High Cost of Teacher Preparation, and Differing Licensure Requirements Cited As Key Recruitment Challenges

In our literature review, we found that the main challenges to recruiting new teachers include the negative perception of the teaching profession, high teacher preparation costs, and differing state licensure requirements—challenges that emerged as key themes in our focus groups, as well (see fig. 9).

Negative Perception of the Teaching Profession

The negative perception of the teaching profession was a key challenge to teacher recruitment, as cited in studies we reviewed and as echoed in our focus groups. It included things like a lack of appreciation for teachers in society at large, discouragement by family and friends to enter the profession, and challenges specific to teachers in high-needs subject

areas or historically excluded groups.²⁸ For example, almost all of our focus groups identified the negative perception of the teaching profession in the media and in their communities being a deterrent for people considering the profession. These deterrents are in contrast to the motivations that draw teachers to the field, such as feeling a sense of duty to make positive contributions to their communities (see text box).

Motivations for Joining the Teaching Profession

According to our analysis of national survey data and studies we reviewed, as well as most of our teacher focus groups, teachers cited working with children and making positive contributions to their communities among their motivations to join the teaching profession. Further, teachers often felt called to the profession from a young age. For example, according to our analysis of national Baccalaureate & Beyond survey data on teacher motivation, 93 percent of teachers were motivated to work with children and 93 percent were motivated by the opportunity to contribute to society. Research we reviewed that discussed challenges to recruiting and retaining teachers generally found that teachers expressed a strong desire to give back to their communities through teaching.

We heard similar comments across our focus groups. For example, we heard about a sense of duty for teachers to teach in their communities and provide representation to kids with backgrounds and cultures similar to theirs. One current teacher said, "I felt like it was the highest calling to give back to my community." We also heard from teachers who were inspired to pursue the profession by memorable teachers when they were as young as elementary school age, and who grew up playing "school" at home.

Source: GAO analysis of focus group transcripts, studies, and Education data. | GAO-23-105180

Notes: 1) See, for example, J. Irizarry and M. L. Donaldson, "Teach for América: The Latinization of U.S. Schools and the Critical Shortage of Latina/o Teachers," *American Educational Research Journal*, vol. 49, no. 1 (2012): 155-194. For more details on the studies we reviewed, see appendix II.

2.) The confidence intervals at 95 percent are (88.0, 96.7) for motivated to work with children and (88.0, 96.1) for motivated by opportunity to contribute to society.

In our focus groups with district hiring officials and state educational agency officials, specifically, the negative perception of the teaching profession was noted as a particular challenge when recruiting teachers of color or in high-need subject areas. Research on teacher recruitment challenges also noted that teachers of color may not see themselves within the profession due to the lack of faculty diversity in their teacher preparation programs and the overall difficulty of being in an environment that did not reflect or respect their cultures or experiences.²⁹

²⁸When reporting the results of our analysis of focus group data, we use "a couple" to mean two groups, "a few" to mean three to five groups, "several" to mean six to nine groups, "most" to mean 10 to 15 groups, and "almost all" to mean 16, 17, or 18 of the 19 total focus groups.

²⁹See Carver-Thomas, D., *Diversifying the Teaching Profession: How to Recruit and Retain Teachers of Color* (Palo Alto, CA: Learning Policy Institute, 2018).

Selected Focus Group Comments on the Negative Perception of the Teaching Profession

“The overall climate and culture in public education right now is — it feels very toxic for us, for special education teachers, for [general education] teachers, I think for anyone.” –Former special education teacher

“I think we’re seeing so much negativity coming from the media about education; it’s driving people away because they don’t want to be part of that negative atmosphere.” –District hiring official

“My daughter at one point talked about wanting to become a teacher. And it was very sad because I said I would not recommend it. I would look into other things. She’s 25 now and she’s not a teacher.” –Current special education teacher

“When math and science folks are considering [a job on the west coast] you want to work for [big tech companies] or the public school system, I think those . . . tech companies will get the edge, the professional esteem, and the rewards.” – District hiring official

“[Challenges with recruitment] are heightened for teachers of color . . . the lack of representation of models of other teachers of color . . . the lack of support as a new teacher is probably heightened if you’re the only teacher of color, for example, in your school. Not only are you facing the challenge of being a new teacher but also a new teacher of color, which has its own unique challenges.” –State Educational Agency official

Source: GAO analysis of focus group transcripts. | GAO-23-105180

Note: We selected these comments because they provide real-life examples of the common themes identified through our data analysis and literature review. These themes were also repeated in our focus group discussions. (Methodologically, focus groups represent the views and experiences of focus group participants only.) In some cases, we edited responses for clarity or grammar.



Source: GAO. | GAO-23-105180

High Cost of Becoming a Teacher

The high costs of entering the teaching profession, including tuition, certification exams, and licensure fees, were cited in studies we reviewed and echoed in our focus groups. In particular, the groups noted the excessive student loan debt to obtain the necessary undergraduate and/or graduate degrees, and difficulty covering their living expenses while completing unpaid student teaching requirements. We also heard in a couple of groups that costly licensure exam fees were a barrier to hiring teachers, as they said states often require multiple exams before a teacher can apply for a job.

Selected Focus Group Comments on the High Cost of Becoming a Teacher

“[Teachers] have to pay for their certificate, they’re paying for school, they pay to student teach, they pay for housing while they student teach, and then they also have to pay for a licensure exam at the end. So they’re spending a lot of money before they can even start earning.” –Traditional teacher preparation provider

“When I graduated from my master’s program my student loan debt was double what my teaching salary was.” –Former teacher

“The cost of the [licensure] testing is huge. . . . Minority students have more trouble getting over the hurdle of taking standardized tests, due to the cost. . . . If we were intentionally trying [to make] state policy to scare people away from teaching, we would be doing little different than we’re currently doing, because we are not making the profession attractive.” –Traditional teacher preparation provider

Source: GAO analysis of focus group transcripts. | GAO-23-105180

Note: We selected these comments because they provide real-life examples of the common themes identified through our data analysis and literature review. These themes were also repeated in our focus group discussions. (Methodologically, focus groups represent the views and experiences of focus group participants only.) In some cases, we edited responses for clarity or grammar.



Differing state licensure requirements

Source: GAO. | GAO-23-105180

Differing State Licensure Requirements

Costs associated with periodic state licensure requirements were cited as a barrier to having a more mobile, diverse teacher workforce in studies we reviewed and were echoed in our focus groups. Although some states have reciprocal licensure transfer agreements, we heard in our focus groups that teachers sometimes struggle to meet requirements when moving across state lines. Further, in our focus groups with district hiring officials, we heard that burdensome licensing requirements for out-of-state teachers, such as time-consuming and costly coursework or testing, makes it cumbersome and inefficient to recruit teachers from out of state. Our focus groups with teacher-preparation providers, as well as research on the topic, noted that people of color sometimes face unique barriers, such as cultural bias in standardized test design.³⁰ All of these factors can limit the pool of hireable teachers.

Selected Focus Group Comments on the Challenges of Differing Licensure Requirements

“As a military spouse, it was not worthwhile to maintain the amount of certifications I would need to be hireable in most school districts, because by the time I would work through a master’s program to get those additional add-ons, I would be leaving the state. A lot of military spouses who are teachers don’t end up teaching, as they move from state to state every 2 to 5 years because it’s just too hard to keep up with the decentralized landscape of moving.” –Former special education teacher

“[State officials] want to increase the rigor and skill sets of teachers. ... But they’ve de-incentivized the entire process because teachers have to jump through all of these hoops ... and they only get certification to teach in one state. What happens then when they want to move to another state? They can’t.” –District hiring official

“There are multiple layers of assessments that teachers need to complete [to be certified to teach in our state], and some of the assessments are biased against English language learners. We live in a diverse community with first-generation English language learners, and they really have a hard time passing these exams.” –Traditional teacher preparation provider

Source: GAO analysis of focus group transcripts. | GAO-23-105180

Note: We selected these comments because they provide real-life examples of the common themes identified through our data analysis and literature review. These themes were also repeated in our focus group discussions. (Methodologically, focus groups represent the views and experiences of focus group participants only.) In some cases, we edited responses for clarity or grammar.

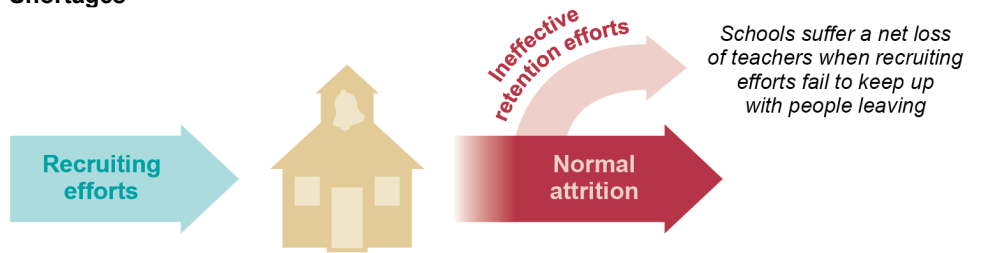
Lack of Support for Teachers, School Workplace Culture, and Teacher Compensation Cited As Key Retention Challenges

Recruitment challenges are only partly responsible for teacher shortages, as schools also face significant challenges retaining teachers, according

³⁰See, for example, Carver-Thomas, D., *Diversifying the Field: Barriers to Recruiting and Retaining Teachers of Color and How to Overcome Them*. (Palo Alto, CA: Learning Policy Institute, 2017).

to research we reviewed (see fig. 10).³¹ In addition, all of our focus groups with state agency and district hiring officials also identified high teacher attrition as the most important factor contributing to teacher shortages; and noted that hiring more teachers alone may not solve teacher shortages.

Figure 10: Teacher Recruitment Strategies Alone May Not Address Teacher Shortages



Source: GAO analysis of studies and focus group transcripts. | GAO-23-105180

In our literature review, we found that the main challenges to retaining teachers include the lack of support teachers perceive from their states, school districts, schools, and/or communities; school workplace culture; and teacher compensation—all challenges that emerged as key themes in our focus groups, as well.



Source: GAO. | GAO-23-105180

Lack of State, School District, School, and Community Support

Our analysis of qualitative data, as well as our literature review and focus groups, identified a lack of support for teachers as a major barrier to retention. According to our analysis of 2018 national Baccalaureate and Beyond (B&B) federal survey data, an estimated 75 percent of former teachers cited the lack of support from students’ parents and an estimated 72 percent cited the lack of support from school leadership among their reasons for quitting teaching.³² In almost all of our focus groups, we heard that teachers did not feel supported as professionals by

³¹See, for example, Espinoza, D., Saunders, R., Kini, T., and Darling-Hammond, L., *Taking the Long View: State Efforts to Solve Teacher Shortages by Strengthening the Profession*. (Palo Alto, CA: Learning Policy Institute, 2018).

³²The B&B is nationally generalizable survey of college students that graduated in 2008. We used the B&B to identify graduates who became teachers and left the profession within the first 10 years of teaching. The confidence intervals at 95 percent were (61.1, 84.6) for lack of support from students’ parents, and (61.1, 84.6) for lack of support from school leadership.

their states, school districts, schools, and community members. Studies we reviewed also cited teachers' lack of support to make their own professional decisions—including classroom autonomy and input on school-level decisions. In addition, test preparation and sanctions for low performance on tests were the most frequently cited area of dissatisfaction.³³

Furthermore, our focus groups also cited similar challenges, which many described as making them feeling exploited, demoralized, and unsafe, and were a key factor in causing many teachers in our focus groups to leave or contemplate leaving the profession. In addition to not feeling supported professionally, focus group participants noted school leadership's disregard for teachers' safety and concerns about well-being before and throughout the COVID-19 pandemic. For example, in a few focus groups, general education and special education teachers alike said they were threatened or physically assaulted by students, and that school leadership did not take action to support them.

Teachers also reported leaving the profession due to a lack of community support. Across most of our focus groups, we heard teachers cite concerns about disrespectful rhetoric and overbearing demands from community members. We repeatedly heard about teachers saying they felt like targets for blame in situations that they felt were often out of their control. Research we reviewed also cited particular challenges in this area for teachers of color. For example, in one study, Latino teachers reported being viewed as inferior to other teachers, and Black teachers reported facing racial discrimination and stereotyping in their schools, discouraging many from staying in the profession.³⁴

Selected Focus Group Comments on the Lack of State, School District, School, and Community Support

"Teachers have no say in their professional life, not any meaningful say. They have no voice in decisions. They have no voice in policy making. They have no voice in selecting materials. They have no voice, but they're the first people who take the blame from the public." –Former teacher

"My school leadership could not have cared less about what was going on [in my classroom]. I was reaching out for help from them. I was needing their support. And they would not hear me, would not help me, would not do anything to lessen that load." –Former special education teacher

"Teachers' safety was not a priority of school leadership. Teachers' concerns were not a priority." –Former teacher

Source: GAO analysis of focus group transcripts. | GAO-23-105180

³³See, for example, Sutchter, L., Darling-Hammond, L., & Carver-Thomas, D. *A Coming Crisis in Teaching? Teacher Supply, Demand, and Shortages in the U.S.* (Palo Alto, CA: Learning Policy Institute, 2016).

³⁴See, for example, Carver-Thomas, D. *Diversifying the Teaching Profession.*

Note: We selected these comments because they provide real-life examples of the common themes identified through our data analysis and literature review. These themes were also repeated in our focus group discussions. (Methodologically, focus groups represent the views and experiences of focus group participants only.) In some cases, we edited responses for clarity or grammar.

School Workplace Culture

Research we reviewed identified school workplace culture—namely unreasonable job demands, persistent student behavior concerns, and the resulting mental health concerns for teachers—as another reason teachers leave the profession. Workplace culture concerns also were echoed in our focus groups. According to studies we reviewed, poor school workplace culture has a heightened effect on historically excluded groups, and those in high-poverty schools often experience more challenging working conditions. Specifically, the more stressful teaching conditions found in many high-poverty schools—often due to facility problems, fewer supplies and supports, and larger class sizes—are a major reason why teachers in these schools are more than twice as likely to leave compared with those in low-poverty schools.³⁵ Our own research has made similar connections between school facilities and poverty. In June 2020, we found that about half of public school districts need to update or replace multiple building systems or features in their schools, and high-poverty schools face challenges securing funds to maintain school facilities.³⁶



Source: GAO. | GAO-23-105180

Additionally, in most of our focus groups, when discussing workplace culture, we heard that teachers' job responsibilities have increased, while time to tend to these responsibilities "on the clock" has decreased, often disrupting their work-life balance. Our focus groups with special education teachers, in particular, cited increasing caseloads without alleviating other responsibilities to offset the additional workload as particularly challenging because of the administrative meetings and paperwork responsibilities associated with each new case.³⁷ These challenges are compounded by

³⁵See, for example, Carver-Thomas, D., & Darling-Hammond, L. (2019). *The Trouble With Teacher Turnover: How Teacher Attrition Affects Students and Schools*. Education Policy Analysis Archives, 27 (36).

³⁶See, GAO, *K-12 Education: School Districts Frequently Identified Multiple Building Systems Needing Updates or Replacement*, [GAO-20-494](#) (Washington, D.C.: June 4, 2020).

³⁷For more information on the administrative burden associated with special education requirements, see, GAO, *Special Education: State and Local-Imposed Requirements Complicate Federal Efforts to Reduce Administrative Burden*, [GAO-16-25](#), (Washington, D.C., Published: Jan 08, 2016. Publicly Released: Feb 08, 2016).

increasingly aggressive student and parent behaviors, especially during the COVID-19 pandemic, according to our focus groups. Stress, fatigue, and deteriorating mental health commonly were cited in almost all of our focus groups as factors pushing teachers to leave the profession (see text box).

Selected Focus Group Comments on the School Workplace Culture

“We were expected to do a lot of extra professional development. ... We’re expected to do all that outside of contract hours, specifically nights, weekends, and holidays. That’s put into our email, when we’re expected to do this training. We are not given time to do it during the regular school day.” –Current teacher

“I kept trying to engage people to ask for help and nobody wanted to discuss it. Finally, I was like, nobody’s taking anything off my plate, and if nobody’s taking anything off my plate, my only option is to get up from the table.” –Former teacher

“I’ve got multiple students who hit me and kick me in my classroom, and there’s nothing done about it.” –Current teacher

“When I first started, my [special education student] caseload was 12. In the past 2 years it’s gone up to 28. ... We have to write Individualized Education Programs (IEPs) for each student, which are about 12 to 13 pages each. They take hours to write and you’re doing it on your own time. You’re up until midnight writing IEPs at home. ... The expectation is, I do all of this work outside of school and unpaid.” –Current special education teacher

“I developed chronic ulcers and I’m stuck with that for the rest of my life. That shouldn’t be the cost of being a teacher.” –Former teacher

“It’s not a question of am I able to. It’s a question of can I emotionally and mentally handle this, because now I’ve gone from history teacher to history teacher and psychologist and nurse and surrogate parent and counselor and everything that we as teachers already are, times a million, because the kids need that since they were in isolation for so long during the COVID-19 pandemic, and now they need so much support.” –Current teacher

Source: GAO analysis of focus group transcripts. | GAO-23-105180

Note: We selected these comments because they provide real-life examples of the common themes identified through our data analysis and literature review. These themes were also repeated in our focus group discussions. (Methodologically, focus groups represent the views and experiences of focus group participants only.) In some cases, we edited responses for clarity or grammar.



Source: GAO. | GAO-23-105180

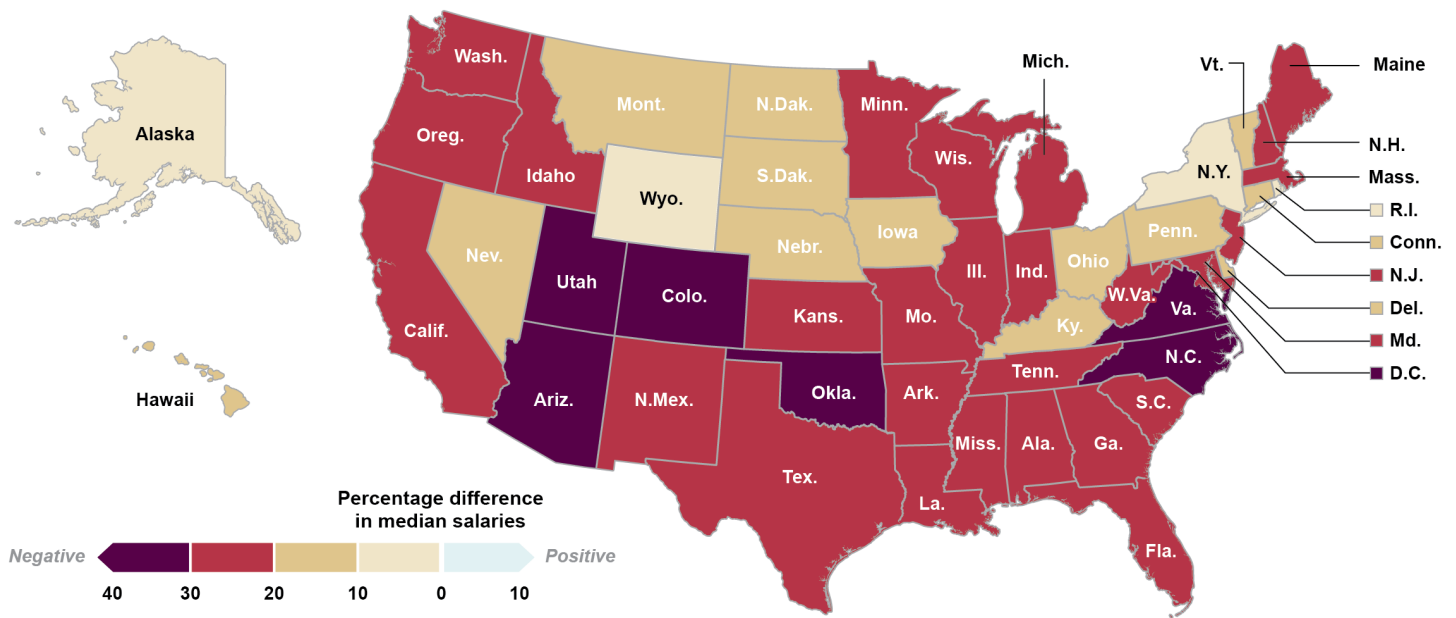
Teacher Compensation

Low salaries and other job benefit disparities were noted as a contributing factors to teachers feeling undervalued. According to research we reviewed, teachers’ low compensation and earning potential was a challenge for retaining teachers, and we heard in most of our focus groups that many teachers could not manage their financial responsibilities. According to studies we reviewed, districts with lower salaries had higher turnover rates of teachers.³⁸ Low salaries along with minimal opportunities for career advancement and an erosion of benefits, such as retirement package options, contribute to teachers feeling unappreciated, according to our focus groups.

³⁸See, for example, Carver-Thomas, D., & Darling-Hammond, L. (2019).

Our analysis of federal salary data bore out concerns of low pay. We analyzed the most recent 5 years of American Community Survey data (2015-19) and found that in 36 states, including the District of Columbia, teachers made an estimated median salary at least 20 percent less than the median salary for all other full-time college-educated workers in the same state³⁹ (see fig. 11). Furthermore, according to an Education Fact Sheet, in 38 states the average teacher salary is so low that mid-career teachers who are the head of household for a family of four qualify for two or more government benefits based on income.⁴⁰

Figure 11: Percent Difference in Median Teacher Salaries Compared with Other Professions



Source: GAO analysis of American Community Survey data. | GAO-23-105180

- Notes: 1) The margins of error for the relative salary differences for each state are no greater than plus or minus 6 percentage points at the 95 percent level of confidence.
- 2) For four of the 36 states (Del., Mass., Nev., and Ore.), we cannot conclude that the magnitude of our difference is greater than 20 percent.

³⁹Full-time refers to individuals that worked at least 50 weeks the past year and worked at least 35 hours in a typical week. For four of the 36 states (Delaware, Massachusetts, Nevada, and Oregon), we cannot conclude that the magnitude of our difference is greater than 20 percent.

⁴⁰Department of Education, *Fact Sheet for Sustaining Investments in Teachers Beyond the American Rescue Plan*, (Washington, D.C.: June, 2022).

Letter

State	Percentage difference in median salaries
Wyoming	+10%
Rhode Island	+6%
Vermont	0%
New York	-3%
Alaska	-4%
Montana	-9%
Pennsylvania	-9%
Connecticut	-12%
South Dakota	-12%
Nebraska	-12%
North Dakota	-12%
Iowa	-12%
Massachusetts	-13%
Nevada	-13%
Ohio	-13%
Kentucky	-14%
Hawaii	-14%
California	-16%
Oregon	-16%
Michigan	-16%
Delaware	-16%
Minnesota	-17%
Maine	-17%
Arkansas	-19%
Alabama	-20%
New Jersey	-20%
West Virginia	-20%
Illinois	-20%
Wisconsin	-20%
New Hampshire	-21%
Tennessee	-21%
Washington	-21%
Indiana	-21%
Mississippi	-22%
Florida	-22%
South Carolina	-22%
Kansas	-23%

Letter

State	Percentage difference in median salaries
New Mexico	-23%
Georgia	-23%
Louisiana	-23%
Texas	-23%
Idaho	-24%
Maryland	-25%
Missouri	-26%
Colorado	-27%
District Of Columbia	-27%
North Carolina	-28%
Utah	-28%
Oklahoma	-31%
Arizona	-34%
Virginia	-35%

While almost all focus groups cited teacher pay as a challenge, a few noted it as secondary compared with other challenges. In several focus groups, we heard teachers were aware of the salary limitations when they entered the profession, as many current teachers described a sense of being called to serve in the profession.

Selected Focus Group Comments on Teacher Compensation

“So many people say teaching isn’t a job for the money. But we’re humans and we need to make money to survive and money to live. And yes, we love what we do, but we deserve to have money that matches what we do for this world and this society.” –Former teacher

“The cost of childcare was more than my paycheck [while teaching]. So I was looking at, you know, at least 2 years of paying to work.” –Former teacher

“I knew getting into teaching I wasn’t going to get rich, but at the same time my wife and I both have master’s degrees. We started at roughly the same salary when I got into teaching. Over time, she was getting 10 percent raises every year [in her job], but I’ve gotten maybe 2 percent on the years where we got anything.” –Former teacher

Source: GAO analysis of focus group transcripts. | GAO-23-105180

Note: We selected these comments because they provide real-life examples of the common themes identified through our data analysis and literature review. These themes were also repeated in our focus group discussions. (Methodologically, focus groups represent the views and experiences of focus group participants only.) In some cases, we edited responses for clarity or grammar.

COVID-19 Pandemic Cited As Exacerbating Lack of Support for Teachers

In our focus groups, we consistently heard that, despite a brief period of gratitude and appreciation for the important roles teachers played, the COVID-19 pandemic exacerbated the public’s lack of support for teachers. We heard about a further decline in public perception of the profession, as school districts debated when to reopen schools. In a few groups, we heard about teachers feeling personally attacked and blamed for outcomes associated with pandemic mitigation strategies, which were almost entirely outside of their control. Teachers also noted that social media has played a role as well, specifically noting that they saw parents, policy makers, and politicians use these platforms to criticize and undermine teachers openly.

Selected Focus Group Comments on COVID-19 Pandemic Exacerbating Challenges

“Teaching always felt on the verge of unsustainable, and the COVID-19 pandemic pushed it over the edge for me.” –Former teacher

“The COVID-19 pandemic has highlighted for me problems in the profession that already existed, but has just made them worse.” –Current teacher

“The expectations right now for teachers are extremely high. They’re very different from what they were when many of us went into the profession.” –Traditional teacher preparation provider

Source: GAO analysis of focus group transcripts. | GAO-23-105180

Note: We selected these comments because they provide real-life examples of the common themes identified through our data analysis and literature review. These themes were also repeated in our focus group discussions. (Methodologically, focus groups represent the views and experiences of focus group participants only.) In some cases, we edited responses for clarity or grammar.

Education’s Strategy for Addressing Teacher Shortages Is Missing Key Elements, and Related Resources that Support Teacher Recruitment and Retention Are Difficult to Find

Education’s Nascent Strategy to Elevate the Teaching Profession Is Missing Key Elements

Although schools and districts are responsible for hiring and retaining teachers, Education officials shared that successfully addressing teacher recruitment and retention challenges requires a strong partnership between the federal government, states, and districts. Education most recently began sharing resources in early 2021 that could help states and school districts address shortages. In December 2021, Education submitted the Secretary’s new supplemental priorities for discretionary grant programs, one of which (priority #3) is supporting a diverse educator workforce and professional growth to strengthen student learning.⁴¹ In June 2022, Education announced a “vision” entitled “Supporting and Elevating the Teaching Profession,” featured on a new webpage, *Elevating Teaching*. Also, in July 2022, Education released a new 5-year strategic plan that includes goals and objectives related to teacher shortages.

The vision focuses on three areas: recruiting, professional development, and retention.⁴² To fulfill its vision, Education has five guiding strategies:

⁴¹U.S. Department of Education, U.S. Department of Education Strategic Plan Fiscal Years 2022–2026: Washington, D.C., 2022 and Final Priorities and Definitions-Secretary’s Supplemental Priorities and Definitions for Discretionary Grants Programs, 86 Fed. Reg. 70,612 (Dec. 10, 2021).

⁴²See press release titled “Secretary Cardona Lays Out Vision to Support and Elevate the Teaching Profession”, accessed on July 21, 2022, <https://www.ed.gov/news/press-releases/secretary-cardona-lays-out-vision-support-and-elevate-teaching-profession>; and *Elevating Teaching* | U.S. Department of Education.

1. **Investing in a strong and diverse teacher pipeline**, including by increasing access to affordable, comprehensive, evidence-based preparation programs.
2. **Supporting teachers in earning initial or additional certification in high-demand areas** such as special education and bilingual education.
3. **Helping teachers pay off their student loans**, including through loan forgiveness and service scholarship programs.
4. **Providing teachers and students with the resources they need to succeed**, including mentoring for early career teachers, high-quality curricular materials, and access to guidance counselors and other specialists for students.
5. **Creating opportunities for teacher advancement and leadership**, including participating in distributive leadership and serving as instructional coaches and mentors.

Education has undertaken various activities in support of its vision. For example, according to our analysis of Education documents, the department has

- met with nearly 8,000 parents, teachers, and students to collaborate, share frustrations, and find solutions;
- publicly issued calls to action to states, districts, and institutions of higher education regarding actions they can take to address the teacher shortage, and given speeches focused on recruitment and retention that addressed the need to treat teachers with respect and dignity, pay them a living wage, and create a supportive working environment;
- used its social media accounts to lift up teachers and the teaching profession and set a positive, collaborative tone to support teachers;
- focused on securing additional funding for key programs that support teachers;
- defined priorities to be considered in awarding certain competitive grants that focus on teacher recruitment and retention and in giving preference to applicants who develop grant proposals aligned with these priorities;
- collaborated with other federal agencies, including the Departments of the Treasury and Labor, to highlight flexibilities across federal programs as ways to address shortages;

- issued a Dear Colleague letter with the Department of Labor focused on how apprenticeships, collaboration between education and workforce systems, and competitive pay may help address shortages;
- issued guidance on using certain federal COVID-19 emergency relief funds and other federal resources to stabilize the profession; and
- provided technical assistance, information, and resources on addressing teacher shortages and recruitment and retention issues.

By articulating the Secretary's vision for elevating teaching and describing five guiding strategies to implement that vision, Education has taken steps to foster an environment where teachers are valued and recognized for their role in educating America's youth. We asked officials if they have ways to measure the success of the department's vision and associated guiding strategies. They explained that although recruitment and retention efforts always have been a priority of the Secretary, these particular efforts have only been underway since early 2022. Officials said that they so far have focused their attention on the initiatives associated with these newer efforts.

At the time of our review, Education's vision for supporting and elevating the teaching profession did not yet contain all the elements of a comprehensive strategy. Our work has shown that a comprehensive strategy is the foundation for defining what an agency seeks to accomplish, identifying the strategies it will use to achieve desired results, and determining how it will succeed in reaching results-oriented goals and achieving objectives.⁴³ Education already has defined some of the necessary elements for successful strategies, such as a mission statement and activities that support the strategy. For example, Education's mission statement for its vision recognizes that teacher shortages have affected almost every state, and are particularly acute in underserved school districts. The department also said that it plans to use its bully pulpit and take other actions to help teachers.

However, Education does not yet have other key elements of a comprehensive strategy in place. We reviewed all of the documents Education provided that are related to its approach to addressing teacher shortages. Even when taken together, they do not include specific time frames, milestones, or performance measures for the goals related to

⁴³See GAO, *Managing for Results: Critical Issues for Improving Federal Agencies' Strategic Plans*, [GAO/GGD-97-180](#) (Washington, D.C.: Sept. 16, 1997) and GAO, *Defense Logistics: A Completed Comprehensive Strategy is Needed to Guide DOD's In-Transit Visibility Efforts*, [GAO-13-201](#) (Washington, D.C.: Feb. 28, 2013).

elevating the teaching profession. By including in its strategy time frames, milestones, and specific performance measures for these goals, such as a metric on how frequently states and districts use Education's resources, Education would be better positioned to know whether its efforts to help schools, states, and districts address teacher shortages are working.

Education Shares Resources, but They Do Not Fully Address All of the Key Challenges Contributing to Teacher Shortages and Are Difficult to Find

Education described additional tools at its disposal within its existing authorities to help address teacher shortages, such as certain grant competitions and resources and guidance. Officials described using a range of efforts across these tools in support of the department's commitment to elevate and support the teaching profession. However, Education's resources do not address all of the key challenges identified as contributing to teacher shortages, such as the negative perception of the teaching profession and lack of support for teachers from parents and community members. Furthermore, Education has not put its resources on teacher shortages into a central location, making them difficult to locate.

Competitive grants. Education has several competitive grant programs that can be used to support a diverse teacher workforce, and, as of January 2022, Education began giving preference to applicants who develop grant proposals focused on teacher recruitment and retention.⁴⁴ Funded projects might focus on developing the teacher pipeline, increasing teacher recruitment, and recruiting and retaining effective teachers. These projects could, for example, implement loan forgiveness or service scholarship programs, provide mentoring and coaching to new teachers, support inclusive and bias-free human resource practices, or provide opportunities for teachers to be involved in designing and implementing local and districtwide initiatives that advance systemic changes (see table 1 for examples of grant programs).

⁴⁴A competitive grant awards funds based on a competitive process, in which the Department of Education reviews applications as part of a formal process that includes legislative and regulatory requirements and published selection criteria established for a program.

Table 1: Examples of Department of Education Competitive Grant Programs That Help Entities Recruit and Retain Teachers

Program	Fiscal year 2022 appropriation (In USD)	Grant program description
Office of Elementary and Secondary Education		
Teacher and School Leader Incentive Program	173,000,000	Funds projects to assist eligible entities to develop, implement, improve, or expand performance-based compensation systems or human capital management systems for teachers who raise student achievement and close the achievement gap between high-and low-performing students, among other goals.
Supporting Effective Educator Development Grant Program	85,000,000	Funds projects that increase the number of highly effective educators by supporting the implementation of evidence-based practices that prepare, develop, or enhance the skills of teachers, principals, or other school leaders, among other goals.
Teacher Quality Partnership Program	59,092,000	Funds projects that recruit highly qualified individuals, including minorities and individuals from other occupations, into the teaching force and improve student achievement, among other goals.
Office of Special Education and Rehabilitative Services		
State Personnel Development Grants Program	38,630,000	Funds grants to help state educational agencies reform and improve their systems for personnel preparation and professional development for individuals providing certain services to children with disabilities, primarily through professional development activities, including recruiting and retaining qualified special education teachers.
Personnel Development to Improve Services and Results for Children with Disabilities	95,000,000	Funds projects that provide research-based training and professional development to prepare special education personnel and others to work with children with disabilities and ensure they are fully qualified and have the skills and knowledge to work with children with disabilities.

Source: GAO summary of select Department of Education grant programs. | GAO-23-105180

Resources and guidance. Education shares promising practices and evidence-based research, including some related to teacher recruitment and retention, through websites such as the Safer Schools and Campuses Best Practices Clearinghouse⁴⁵ and Regional Educational

⁴⁵The Safer Schools and Campuses Best Practices Clearinghouse is designed to support students, teachers, and others as schools and additional places of learning continue to reopen and operate safely following closures due to the COVID-19 pandemic. The clearinghouse helps share best practices and lessons submitted by teachers, schools, districts, and states, among other entities. This clearinghouse has a section focused on teacher, early childhood provider, faculty, and staff well-being, professional development, and supports, which may help schools and districts retain teachers.

Laboratories Program.⁴⁶ For example, the clearinghouse contains a toolkit for school and district administrators on enhancing relationships and teacher morale throughout the school year.⁴⁷ It focuses on ways for administrators to support teachers and improve their well-being, but does not address how to mitigate the lack of support from parents and the community, a key factor our analyses has identified as contributing to low morale. In our search of the Regional Educational Laboratories site, we found several relevant studies and resources. For example, one study examined reasons why certified teachers in one state are not currently teaching.⁴⁸ In addition, one regional laboratory published a professional development learning module intended to help middle and high school teachers strengthen their instructional activities, and includes a section on teacher well-being.⁴⁹ It recommends teachers practice self-reflection and take “five ‘mini-vacations’ a day.” These recommendations, while a well-intended interim step, may be impractical, given the studies we reviewed and common experiences shared in our teacher focus groups about teachers working an extra 10 to 20 hours per week outside of their contracts and not having time in their workdays even to eat lunch or take bathroom breaks.⁵⁰ Further, neither resource focuses on the underlying issues that contribute to teachers leaving the profession, such as poor workplace culture or lack of support, which were cited in the literature and focus groups.

⁴⁶Ten Regional Educational Laboratories partner with teachers and policymakers throughout the United States to collaborate with districts, state educational agencies, and other stakeholders to generate and apply evidence, with a goal of improving students’ learning outcomes. Products produced by these 10 laboratories focus on a variety of policy areas, including teacher recruitment and retention.

⁴⁷Building Assets, Reducing Risks (BARR) Center, *Enhancing Relationships and Morale: A Back-to-School Toolkit for Administrators* (St. Louis Park, MN).

⁴⁸Lindsay, J., Gnedko-Berry, N., & Wan, C. (2021). *Michigan Teachers Who are Not Teaching: Who are They, and What Would Motivate Them to Teach?* (REL 2021–076). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Midwest. Accessed from <http://ies.ed.gov/ncee/edlabs>.

⁴⁹“Lessons from the COVID-19 pandemic: Evidence-based resources for professional development facilitators, Social and emotional learning, grades 6-12, Facilitator guide.” Institute of Education Sciences, REL Northwest at Education Northwest (Nov. 2021), accessed on July 5, 2022, <https://ies.ed.gov/ncee/edlabs/regions/northwest/news/lessons-from-covid.asp>.

⁵⁰See, for example, Carver-Thomas, D., & Darling-Hammond, L. (2019).

The Office of Management and Budget's *Managing Information as a Strategic Resource* notes that federal agencies should share relevant and useful information consistent with their missions with the public.⁵¹ By providing resources that address the key reasons why teachers leave the profession, Education would be better positioned to help states and districts retain teachers—its stated goal.

We also reviewed the What Works Clearinghouse, which rates the effectiveness of evidence-based interventions. We found two interventions focused on two retention issues—lack of school district support and low compensation for teachers. These interventions were found to have no discernible effects on teacher retention or student achievement.⁵² Similarly, we found various examples of guidance documents that address some challenges known to contribute to shortages. For example, we found a fact sheet describing ways to use certain COVID-19 emergency relief funds to help address teacher shortages mentions using funds to provide loan forgiveness or service scholarships to teachers, which mostly focuses on addressing financial challenges contributing to shortages.⁵³ The fact sheet also discusses the need to use evidence-based short- and long-term strategies to ease the shortage. One of the short-term strategies discussed is to improve working conditions, and Education offers examples of how certain COVID funds can be used in this way. However, Education officials told us that, given the focus on COVID-19 funding, school districts may find the fact sheets “less relevant” when this funding runs out.

In addition, we reviewed a webinar in which a state, school district, and institution of higher education explained how they used COVID-19 emergency relief funds to support their efforts to address school labor shortages. The state presentation discussed its efforts to address

⁵¹Office of Management and Budget, *Managing Information as a Strategic Resource*, OMB Circular A-130 (July 2016). This circular describes requirements for how federal agencies may share information, including that agencies should make information accessible and usable.

⁵²The Clearinghouse reviews of the two interventions found no discernible effects, which means none of the studies showed a statistically significant or substantively important effect, either positive or negative. See Department of Education, Institute of Education Sciences, *WWC Intervention Report: New Teacher Center Induction Model*, (July 2015); and Department of Education, Institute of Education Sciences, *WWC Intervention Report: TAPTM: The System for Teacher and Student Advancement*, (July 2015). Accessed from <https://ies.ed.gov/ncee/wwc/>.

⁵³Department of Education, *Using American Rescue Funds and Other Federal Resources to Address Teacher Shortages*, (Washington, D.C.: Jan. 28, 2022).

recruitment challenges by using some of its funding to create a teacher apprenticeship program. This type of program could help address another well-documented recruitment challenge—the high cost of teacher preparation programs, but is not intended to address nonfinancial challenges.

We found no resources on how states and school districts can address other key challenges, such as the negative perception for the teaching profession. Education officials told us their efforts to share resources aimed at addressing shortages began in early 2021, and they plan to add more resources in the future. Until Education collects and provides resources that address the full range of key challenges cited as contributing to teacher shortages, its efforts to help states and districts address their recruiting and retention issues will contain gaps.

Additionally, Education lacks a central repository (or links to repositories) for its resources on teacher recruitment and retention, making these resources difficult to find. Education’s research on the topic is spread across at least three separate websites, while other resources are located in clearinghouses, within technical assistance centers, and on other Education websites. To find information on Effective Educator Development grant programs, for instance, starting from Education’s homepage, one would have to move through five separate webpages to find the program office before connecting to various grant programs aimed at assisting with teacher recruitment and retention. In another example, some of the resources Education highlighted as being particularly helpful in addressing shortages are located in an April 2021 document titled “COVID-19 Handbook, Volume 2, Roadmap to Reopening Safely and Meeting All Students’ Needs”—a title which is not intuitively related to teacher shortages or teacher recruitment and retention.

Education officials have acknowledged that its resources are not easy to find, and said it is in the early stage of launching its *Elevating Teaching* webpage, which will continue to be updated with more resources and links to relevant websites. OMB guidance also notes that federal agencies should share information in an easily accessible manner so that as many

people as possible can use it.⁵⁴ While these efforts are nascent, if state and local officials have difficulty finding Education’s resources, there is less chance officials will use them.

Conclusions

Education has long recognized the importance of a highly qualified, diverse teacher workforce in providing every student with access to a quality education. However, our findings raise serious concerns about the shortage of teachers in our nation’s elementary and secondary schools and the threat this poses to the Department’s mission, “to promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access.” The COVID-19 pandemic laid bare teachers’ discontent with aspects of their jobs, including a lack of support for their safety and value as professionals and an increasingly disrespectful and demanding workplace culture—and exacerbated teacher shortages nationwide.

Though many factors contribute to teacher shortages, our work and the work of other researchers makes clear that among these challenges is significantly increasing lack of respect for teachers and the negative perception of the teaching profession, especially by parents and community members. In developing a vision and accompanying strategies to elevate the teaching profession, Education has recognized a need to reverse this trend and help ensure every student has access to a high-quality education, as some of the nation’s most vulnerable children bear the brunt of teacher shortages.

Education’s summer 2022 vision for addressing teacher shortages is promising, but Education has not yet clearly communicated time frames and performance measures to gauge its results. Absent taking these steps, the effect of its efforts will be unknown and Education will miss an important opportunity to help ensure that all children have access to high-quality teachers who can prepare them for the challenges of tomorrow.

⁵⁴OMB Circular A-130. In addition to making information accessible and useful, this circular also describes requirements for how federal agencies may share said information. Requirements include publishing information online in a manner that promotes reuse for the widest possible range of purposes and disseminating that information through federal, state, local, or other channels.

Education's competitive grants and resources including promising practices, research, technical assistance efforts, and guidance may help address several key teacher recruitment and retention challenges, but do not address the full range of key challenges contributing to teacher shortages. In particular, they do not address the negative perception of the teaching profession and a lack of support from parents and the community. Moreover, the resources it does have are often difficult to find, because they—or links to them—are not located in a central repository. Absent easily accessible resources that address the full range of major challenges contributing to shortages, Education's efforts to assist states and school districts address their recruiting and retention issues will contain gaps.

Recommendations for Executive Action

We are making the following two recommendations to Education:

- The Secretary of Education should build on the department's efforts to raise public awareness about the value of teachers by developing and including in its Elevating Teachers strategy time frames, milestones, and performance measures to gauge results. (Recommendation 1)
- The Secretary of Education should direct Federal Student Aid and the Offices of Elementary and Secondary Education and Special Education and Rehabilitative Services to collect resources that address the key challenges contributing to teacher shortages, and share those resources with states and school districts in an easily accessible manner to help them address specific recruitment and retention challenges. (Recommendation 2)

Agency Comments

We provided a draft of this report to Education for its review and comments. In its comments, reproduced in appendix III, Education neither agreed nor disagreed with our recommendations. Education also provided technical comments and additional documentation about its efforts, which we reflected in the report, as appropriate.

We are sending copies of this report to the appropriate congressional committees and the Secretary of Education. In addition, this report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff members have any questions concerning this report, please contact me at (202) 512-7215 or nowickij@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report.

A handwritten signature in black ink that reads "Jacqueline M. Nowicki". The signature is written in a cursive, flowing style.

Jacqueline M. Nowicki, Director
Education, Workforce, and Income Security Issues

Appendix I: Objectives, Scope and Methodology

Our objectives were to examine (1) the prevalence of teacher shortages nationwide and characteristics of the teacher workforce; (2) the key recruitment and retention challenges that contribute to teacher shortages; and (3) the extent to which Education's efforts related to recruiting and retaining teachers address key challenges. To obtain background information on K-12 teacher shortages, we reviewed academic research and interviewed experts in education workforce issues. To gather background on federal agency programs and policies related to recruiting and retaining teachers, we interviewed federal officials at the Department of Education and reviewed relevant federal laws, regulations, and federal grant programs that could address teacher shortages, as applicable. We also interviewed representatives from national teacher unions as well as national associations of education providers, special education providers, accreditation providers, and other relevant professional organizations. We scoped our report to focus on public school K-12 teachers.¹

We conducted this performance audit from May 2021 to October 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Data Analysis

To examine the prevalence of teacher shortages and characteristics of the teacher workforce nationwide, we analyzed data on teacher vacancies, unemployment rates, and data on the pipeline of individuals entering the profession. We analyzed nationally representative data, as

¹For the purposes of our report, we defined teacher as any staff who teach a regularly scheduled class to students in grades K-12 or comparable ungraded levels at a traditional public school or charter school. We defined teacher shortage as occurring when the number of teachers demanded exceeds the number of qualified teachers willing to offer their services at a particular wage and specific working conditions at a national, state, or local level.

available, for a 10-year time period (2011-2021), and reported on the latest available data in each dataset. We primarily assessed the prevalence of shortages using data on teacher vacancies from Education's National Teacher and Principal Survey (NTPS), formerly the School and Staffing Survey (SASS) for years 2011-12, 2015-16, and 2017-18. The NTPS is a nationwide sample survey that collects information directly from teachers and principals. In the 2011-12 SASS and the 2015-16 NTPS, principals were asked about how difficult vacancies were to fill in specific subjects, which we used to identify teaching vacancies (these questions were omitted in the 2017-18 survey). Because principals are not asked for the total number of vacancies, we could identify the areas with highest rates of at least one vacancy, but we were not able to analyze total vacancies. Data for the NTPS and SASS both were collected through complex surveys, and estimates derived from them are subject to sampling and response errors.

In addition, we analyzed unemployment rates for teachers relative to other occupations using data from the Bureau of Labor Statistics' Current Population Survey (CPS). We defined a teacher as anyone who reported their current occupation (or most recent occupation if they were not currently employed) to be any of the following: preschool and kindergarten teachers (census code 2300), elementary and middle school teachers (2310), secondary school teachers (2320), and special education teachers (2330). We estimated annual employment rates by taking the number of unemployed teachers as a percentage of the teaching labor force. We estimated unemployment rate for all other occupations similarly. Data in the CPS are collected through a household survey and is subject to sampling and response errors. We followed CPS guidance to approximate standard errors. The CPS defines occupation based on respondent's last job, and thus this estimate includes all respondents whose previous job was as a teacher regardless of whether it was in a K-12 public or private school or whether they are currently seeking a job in a K-12 public school.

We also analyzed data from Education's Integrated Postsecondary Education Data System (IPEDS) on the number of students who complete a postsecondary education program in an education field from years 2010 through 2020. The IPEDS gathers information annually from all U.S. colleges, universities, technical, and vocational schools that participate in federal student aid programs. For our analysis, we included all Education programs except programs that focused specifically on education research rather than teacher preparation. Neither IPEDS nor other national databases track data on enrollment in alternative

certification programs; as such, we were unable to examine trends in the number of teachers obtaining alternative certifications.

We used the NTPS and IPEDS data along with additional data from Education's Common Core of Data (CCD) and Baccalaureate and Beyond Longitudinal Study (B&B) to examine areas with teacher shortages. The CCD is an annual survey administered by NCES to collect a range of data from state educational agencies on all public schools in the nation, including student demographics, geographic region, urbanicity, and enrollment trends. We linked the data reported by principals on unfilled teaching vacancies from the NTPS with school-level data from the CCD in the corresponding school years to analyze whether vacancies were more prevalent among schools with certain student demographics, such as percent minority or percent eligible for free or reduced-price lunch. We also conducted analysis of NTPS data to identify characteristics of the current teacher workforce, such as the number of teachers and how teacher demographics compared to the students they teach.

The B&B study is a nationally representative longitudinal study of students who completed the requirements for a bachelor's degree in a given year, with special emphasis on elementary and secondary teachers. We used the 2007-08 cohort, which is the most recent cohort for which the complete set of follow-up interviews are available. The B&B follows graduating seniors 1, 4, and 10 years after completing their bachelor's, thus we were able to identify participants who entered and left teaching, as well as their self-reported reasons for doing so. We used B&B data to further examine the characteristics of current and former teachers.

We also examined how median teacher pay compared to other professions across states using the Census Bureau's American Community Survey (ACS). The ACS is a nationwide survey that collects and produces information on social, economic, and demographic characteristics about the United States population each year. We estimated the median annual earnings for teachers and for all other occupations in each state using the 2015-2019 ACS 5-year estimates. Because the sample spans 5 years, we adjust all income and salary values into constant 2019 dollars. We estimated the median annual wage and salary income for teachers compared to all other occupations for those who meet the following criteria: positive earnings (that is, we exclude individuals with no reported earnings from income or wages), at least a 4-year college degree (to compare to occupations with similar

education requirements), and who worked full time during the reference year (which we defined as working at least 50 weeks, and an average of at least 35 hours a week).

Estimates derived from ACS have sampling error associated with them. We calculated confidence intervals around all estimates derived from ACS data, and to determine whether observed differences were statistically significant. Estimates derived from statistical surveys have sampling error associated with them. Because the agencies that produce them followed a probability procedure based on random selections, the sample used for each one is only one of a large number of samples that might have been drawn. Since each sample could have provided different estimates, we express our confidence in the precision of the estimates as a 95 percent confidence interval (for example, plus or minus 8 percentage points). This is the interval that would contain the actual population value for 95 percent of the samples that NCES or the Bureau of the Census could have drawn. Confidence intervals are provided with each estimate in the report.

We conducted a data reliability assessment of the data elements used in our analysis. We reviewed technical documentation. We determined these federal data were sufficiently reliable for the purposes of our reporting objectives.

Literature Review

To identify information on key teacher shortages issues and challenges associated with teacher recruitment and retention, we conducted a literature review of 100 research and policy papers using two data collection methods. First, we conducted a formal search of the literature on teacher shortages published from January 2012 to July 2021 to identify papers on the prevalence of teacher shortages, challenges with teacher recruitment and retention, and programs and policies intended to address these challenges. To identify relevant papers, we searched a variety of databases with the assistance of a research librarian, limiting our formal review to papers that were included in peer-reviewed publications. We then reviewed the results and excluded papers that were (1) published before 2017; (2) had a sample size less than 100, except for studies focused on race, which tended to have smaller sample sizes; (3) had a homogeneous or non-representative sample or focus; (4) focused on geographic regions outside of the U.S.; and (5) were unrelated to teacher shortages.

We then identified additional papers through recommendations provided by stakeholders and subject matter experts we interviewed. The types of papers identified by experts varied widely and included published papers by academic researchers, policy institutes, and other organizations and associations. Additional searches were performed in November 2021 and May 2022 to keep abreast of recent publications. After reviewing each paper for sound methodologies and relevant content, we ultimately included 21 studies on the prevalence of teacher shortages and the characteristics of the teacher workforce nationwide, and 23 studies on the challenges to recruiting and retaining teachers in our review.

Focus Group Analyses

To obtain a variety of perspectives on K-12 teacher shortages, we conducted 19 focus group sessions. Specifically, we held at least two focus groups with each of the following groups: current teachers, current special education teachers, former teachers, former special education teachers, school district hiring officials, state educational agency officials, traditional teacher preparation providers, and alternative certification providers. These sessions involved structured small-group discussions designed to gather in-depth information about specific issues that cannot easily be obtained from other methods, such as a survey or individual interviews. Our overall objective in using a focus group approach was to obtain views, insights, and feelings of current and former teachers about key recruitment and retention challenges and teacher shortages. We did not seek to validate the information provided during the focus groups independently, nor do we express an opinion or evaluation on any of the views or suggestions made by focus group participants. Rather, the focus group information presented in this report only reflects the perspectives of the focus group participants. Although the focus groups were not generalizable, the literature we reviewed identified many of the same themes we heard discussed in our focus groups. Throughout the report, we cite evidence from both sources as applicable.

We used GAO's social media accounts to recruit participants for the current and former teacher focus groups, and screened them according to selection criteria we established by verifying grade level(s) and subject(s) taught, location (e.g., city and state), school community (e.g., urban, rural, or suburban), pathway to teaching (e.g., traditional teacher preparation or alternative certification), years of teaching experience, and years since they left the classroom, if applicable. Participants self-reported these data on emailed questionnaires. To recruit participants for all other focus

groups, we had relevant professional organizations reach out to their members and contacts for volunteers. We screened them according to selection criteria we established by verifying location (e.g., city and state), community served (e.g., urban, rural, or suburban), and program size, if applicable. We developed the discussion guide and participant questionnaire, and GAO analysts moderated the focus groups.

Prior to conducting any groups, we conducted two focus groups to pretest our discussion guide and participant questionnaire. For the two pretest focus groups, as we did for the rest of the focus groups, we established the participant selection criteria, independently developed the discussion guide and participant questionnaire, moderated these groups ourselves, and confirmed the participant selection criteria was met with data from written questionnaires. While we conducted these two sessions as pretests, we did not need to significantly change our discussion guide or questionnaire afterward. Therefore, we included the results of the pretests in our focus group analysis. All focus groups were conducted virtually over Zoom and were recorded.

To encourage open and honest sharing among participants, we took steps to create an environment in which the discussions within each group were among participants that had certain homogeneous characteristics. For example, the current special education teacher focus groups only contained participants currently working as special education teachers, as self-reported in the participants' screening questionnaires. For recruiting purposes, we set a minimum group size of three and a maximum of 12 to create a group dynamic with sufficient interaction among participants while enabling all participants to share. All of our focus groups met the size requirements. Focus groups lasted approximately 2 hours each.

Discussions were structured and guided by GAO moderators, who used a standardized list of questions specific to each focus group type to encourage participants to share their thoughts and experiences. We asked participants about their experiences with teacher shortages, as well as challenges related to teacher recruitment and retention. In addition, we asked about the programs and policies intended to recruit and retain public school teachers, paraprofessionals, and teacher aides, and any associated challenges at the federal, state, and local level with the recruitment and retention of public school teachers. We created audio recordings and video recordings of the focus group sessions through Zoom. We reviewed this material in the course of developing this report. We also created a written transcript of each group.

We performed a systematic content analysis on the transcripts from the 19 focus group sessions. The analysis was conducted in two steps. In the first step, two analysts independently reviewed each transcript and identified an initial list of themes, and compared these themes to those identified from the literature review. The two analysts then met to reconcile their lists of initial themes and jointly developed a codebook with categories for coding the transcripts. The two analysts then pretested their initial codebook by independently coding the same subset of transcripts. After each pretest, the analysts met to identify discrepancies in their coding and made refinements to the codebook. The codebook was iteratively tested and refined to ensure consistent judgment of categories. When the coders achieved a reliable intercoder agreement rate for each of the categories, the codebook was finalized. In the second step, two GAO analysts independently coded the content of the transcripts from all 19 focus groups according to the categories from the codebook. Because these coding categories would be further reviewed in making our determinations about completeness and detail, we resolved any intercoder disagreements using a third GAO analyst to independently resolve any discrepancies between the two independent coders.

We analyzed the prevalence of statements in each focus group that pertained to a particular topic and the number of focus groups in which a particular topic was discussed. We examined these variables across all 19 groups and compared data between focus group types. This systematic content analysis formed the primary basis for our findings on the perspectives of teachers and others involved in the teacher pipeline regarding teacher shortages. When reporting the results from our content analysis, we use “a couple” to mean two groups, “a few” to mean three to five groups, “several” to mean six to nine groups, “most” to mean 10 to 15 groups, and “almost all” to mean 16, 17, or 18 of the 19 total focus groups.

Methodologically, focus groups are not designed to demonstrate the extent of a problem, generalize results to a larger population, or provide statistically representative samples or reliable quantitative estimates. Instead, they are intended to generate in-depth information about the reasons for the focus group participants’ thoughts, experiences, and preferences on specific topics. The extent to which the information produced by our focus group sessions is representative of other teachers, former teachers, school district hiring officials, state educational agency officials, traditional teacher preparation providers, or alternative certification providers with similar characteristics is limited. The experiences and preferences expressed may not reflect the experiences

and preferences of others. In addition, because the composition of the groups was designed deliberately as mentioned previously, the groups were not constructed using a random sampling method.

Review of Federal Laws, Written Guidance, Annual Reports and Documents, and Agency Websites

To examine the extent to which Education's efforts related to recruiting and retaining teachers address key challenges, we reviewed relevant federal laws and regulations; strategic plans; guidance, such as the *COVID-19 Handbook, Volume 2: Roadmap to Reopening Safely and Meeting All Students' Needs*; and reports to Congress, such as the report on state and school district uses of ESEA Title II-A funds in 2019-2020. We also interviewed agency officials about the department's efforts and reviewed documentation and agency websites, including the

- Notices Inviting Applications for Education's three competitive grant programs aimed at helping entities with recruitment and retention activities, among others; and
- Safer Schools and Campuses Best Practices and What Works Clearinghouses maintained by the department for information and resources about ways in which states and districts can help address key recruitment and retention challenges, including the high cost of teacher preparation; perceived lack of support for the teaching profession and from the state, school district, and community; and school workplace culture.

Specifically, to review the extent to which information, resources, and evidence-based approaches found on the clearinghouses and other websites address key recruitment and retention challenges, we searched each website using key words and phrases reflecting the challenges we described, and recorded what we found. We evaluated the information and resources found in these clearinghouses about key recruitment and retention challenges to determine whether gaps existed. We also evaluated these clearinghouses and websites and the information they provided on information sharing criteria from the Office of Management and Budget.² Additionally, we reviewed Education's strategy for supporting and elevating the teaching profession. We evaluated this

²Office of Management and Budget, *Managing Information as a Strategic Resource*, OMB Circular A-130 (July 2016).

strategy with criteria that describes the key elements needed for a comprehensive strategy to determine whether elements were missing.³

Interviews with Federal Agency Officials, Researchers/Subject Matter Experts, and Stakeholder Organizations

We interviewed officials from three Education Offices— Federal Student Aid and the Offices of Elementary and Secondary Education and Postsecondary Education. We asked them about specific programs; how Education supports teacher recruitment and retention efforts by states, school districts, and others; and how Education measures grantee success; among other topics.

To inform all of our objectives, we interviewed subject matter experts that study teacher recruitment and retention. We also met with representatives at organizations that focus on the teaching profession, such as the Council for the Accreditation of Educator Preparation, the National Council on Teacher Quality, Chiefs for Change, the American Association of School Administrators, the American Association of School Personnel Administrators, and the National Association of Elementary School Principals. Lastly, we met with representatives from the National Education Association and the American Federation of Teachers to discuss teacher shortages, recruitment and retention challenges, and state and school district programs that may address those challenges.

³See, GAO, *Managing for Results: Critical Issues for Improving Federal Agencies' Strategic Plans*, [GAO/GGD-97-180](#) (Washington, D.C.: Sept. 16, 1997).

Appendix II: Summary and Table of Studies Included in Literature Review

Our literature review included 23 studies on the challenges to recruiting and retaining teachers. See appendix I for more information on our inclusion criteria.

The studies we reviewed for challenges to recruiting and retaining teachers aligned with the findings from our focus groups, specifically the challenges with recruiting and retaining teachers, such as the negative perception of the teaching profession and school workplace culture. In addition, information gathered from these studies allowed us to further analyze data for certain subgroup characteristics and specific areas with a higher prevalence of teacher shortages. See table 2 below for the full list of the 23 studies we reviewed for challenges to recruiting and retaining teachers.

Table 2: Studies Included in GAO’s Review of Challenges to Recruiting and Retaining Teachers

Study	Teacher recruitment challenges identified ^a	Teacher retention challenges identified ^b
Billingsley, Bonnie, and Elizabeth Bettini. “Special Education Teacher Attrition and Retention: A Review of the Literature.” <i>Review of Educational Research</i> , Vol. 89, no. 5 (October 2019): 697-744.	<input type="checkbox"/> Negative perception of teaching <input type="checkbox"/> High cost of becoming a teacher <input type="checkbox"/> Differing licensure requirements	<input type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input checked="" type="checkbox"/> Compensation
Carver-Thomas, Desiree, and Linda Darling-Hammond. “The Trouble with Teacher Turnover: How Teacher Attrition Affects Students and Schools.” <i>Education Policy Analysis Archives</i> , Vol. 27, no. 36 (April 2019).	<input checked="" type="checkbox"/> Negative perception of teaching <input type="checkbox"/> High cost of becoming a teacher <input type="checkbox"/> Differing licensure requirements	<input checked="" type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input checked="" type="checkbox"/> Compensation
Carver-Thomas, Desiree. <i>Diversifying the Field: Barriers to Recruiting and Retaining Teachers of Color and How to Overcome Them</i> (San Antonio, TX: Learning Policy Institute for the Intercultural Development Research Association, November 2017).	<input type="checkbox"/> Negative perception of teaching <input checked="" type="checkbox"/> High cost of becoming a teacher <input checked="" type="checkbox"/> Differing licensure requirements	<input checked="" type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input type="checkbox"/> Compensation

**Appendix II: Summary and Table of Studies
Included in Literature Review**

Study	Teacher recruitment challenges identified ^a	Teacher retention challenges identified ^b
Carver-Thomas, Desiree. <i>Diversifying the Teaching Profession: How to Recruit and Retain Teachers of Color</i> (Palo Alto, CA: Learning Policy Institute, April 2018).	<input checked="" type="checkbox"/> Negative perception of teaching <input checked="" type="checkbox"/> High cost of becoming a teacher <input checked="" type="checkbox"/> Differing licensure requirements	<input checked="" type="checkbox"/> Lack of support for teachers <input type="checkbox"/> School workplace culture <input type="checkbox"/> Compensation
Diekman, Amanda B., and Tessa M. Benson-Greenwald. "Fixing STEM Workforce and Teacher Shortages: How Goal Congruity Can Inform Individuals and Institutions." <i>Policy Insights from the Behavioral and Brain Sciences</i> Vol. 5, no. 1 (2018): 11-18.	<input checked="" type="checkbox"/> Negative perception of teaching <input type="checkbox"/> High cost of becoming a teacher <input type="checkbox"/> Differing licensure requirements	<input type="checkbox"/> Lack of support for teachers <input type="checkbox"/> School workplace culture <input checked="" type="checkbox"/> Compensation
Diliberti, Melissa Kay, Heather L. Schwartz, and David Grant. <i>Stress Topped the Reasons Why Public School Teachers Quit, Even Before COVID-19</i> (Santa Monica, CA: RAND Corporation, 2021).	<input type="checkbox"/> Negative perception of teaching <input type="checkbox"/> High cost of becoming a teacher <input type="checkbox"/> Differing licensure requirements	<input type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input checked="" type="checkbox"/> Compensation
Dwinal, Mallory. <i>Solving the Nation's Teacher Shortage: How Online Learning Can Fix the Broken Teacher Labor Market</i> (Lexington, MA: Clayton Christensen Institute for Disruptive Innovation, March 2015).	<input type="checkbox"/> Negative perception of teaching <input checked="" type="checkbox"/> High cost of becoming a teacher <input type="checkbox"/> Differing licensure requirements	<input type="checkbox"/> Lack of support for teachers <input type="checkbox"/> School workplace culture <input type="checkbox"/> Compensation
Espinoza, Daniel, Ryan Saunders, Tara Kini, and Linda Darling-Hammond. <i>Taking the Long View: State Efforts to Solve Teacher Shortages by Strengthening the Profession</i> (Palo Alto, CA: Learning Policy Institute, August 2018).	<input checked="" type="checkbox"/> Negative perception of teaching <input checked="" type="checkbox"/> High cost of becoming a teacher <input checked="" type="checkbox"/> Differing licensure requirements	<input checked="" type="checkbox"/> Lack of support for teachers <input type="checkbox"/> School workplace culture <input checked="" type="checkbox"/> Compensation
Floden, Robert, Amy Stephens, and Layne Scherer. <i>Changing Expectations for the K-12 Teacher Workforce: Policies, Preservice Education, Professional Development, and the Workplace</i> (Washington, DC: The National Academies of Sciences, Engineering, and Medicine, 2020).	<input type="checkbox"/> Negative perception of teaching <input checked="" type="checkbox"/> High cost of becoming a teacher <input type="checkbox"/> Differing licensure requirements	<input checked="" type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input checked="" type="checkbox"/> Compensation
García, Emma, and Elaine Weiss. <i>The Role of Early Career Supports, Continuous Professional Development, and Learning Communities in the Teacher Shortage</i> (Washington, DC: Economic Policy Institute, July 2019).	<input type="checkbox"/> Negative perception of teaching <input type="checkbox"/> High cost of becoming a teacher <input type="checkbox"/> Differing licensure requirements	<input checked="" type="checkbox"/> Lack of support for teachers <input type="checkbox"/> School workplace culture <input type="checkbox"/> Compensation

**Appendix II: Summary and Table of Studies
Included in Literature Review**

Study	Teacher recruitment challenges identified ^a	Teacher retention challenges identified ^b
García, Emma, and Elaine Weiss. <i>The Teacher Shortage is Real, Large and Growing, and Worse Than We Thought</i> (Washington, DC: Economic Policy Institute, March 2019).	<input checked="" type="checkbox"/> Negative perception of teaching <input type="checkbox"/> High cost of becoming a teacher <input type="checkbox"/> Differing licensure requirements	<input type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input type="checkbox"/> Compensation
García, Emma, and Elaine Weiss. <i>A Policy Agenda to Address the Teacher Shortage in U.S. Public Schools</i> (Washington, DC: Economic Policy Institute, October 2020).	<input checked="" type="checkbox"/> Negative perception of teaching <input type="checkbox"/> High cost of becoming a teacher <input type="checkbox"/> Differing licensure requirements	<input checked="" type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input checked="" type="checkbox"/> Compensation
Ingersoll, R., and David A. Perda. "Is the Supply of Mathematics and Science Teachers Sufficient?" <i>American Educational Research Journal</i> Vol. 43, no. 3 (2010): 563-594.	<input checked="" type="checkbox"/> Negative perception of teaching <input type="checkbox"/> High cost of becoming a teacher <input type="checkbox"/> Differing licensure requirements	<input type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input type="checkbox"/> Compensation
Irizarry, Jason, and Morgaen L. Donaldson. "Teach for América: The Latinization of U.S. Schools and the Critical Shortage of Latina/o Teachers." <i>American Educational Research Association</i> Vol. 49, no. 1 (February 2012): 155-194.	<input checked="" type="checkbox"/> Negative perception of teaching <input type="checkbox"/> High cost of becoming a teacher <input checked="" type="checkbox"/> Differing licensure requirements	<input checked="" type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input type="checkbox"/> Compensation
Kissau, Scott, Kristin J. Davin, and Chuang Wang. "Aspiring World Language Teachers: Their Influences, Perceptions, and Commitment to Teaching." <i>Teaching and Teacher Education</i> Vol. 78, (2019): 174-182.	<input checked="" type="checkbox"/> Negative perception of teaching <input type="checkbox"/> High cost of becoming a teacher <input checked="" type="checkbox"/> Differing licensure requirements	<input checked="" type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input type="checkbox"/> Compensation
Lachlan, Lisa, Lois Kimmel, Etai Mizrav, and Lynn Holdheide. <i>Advancing Quality Teaching for All Schools: Examining the Impact of COVID-19 on the Teaching Workforce</i> (Washington, DC: Center on Great Teachers and Leaders at the American Institutes for Research, August 2020).	<input checked="" type="checkbox"/> Negative perception of teaching <input type="checkbox"/> High cost of becoming a teacher <input type="checkbox"/> Differing licensure requirements	<input type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input type="checkbox"/> Compensation
Lambert, Richard, Lauren Boyle, Paul Fitchett, and Christopher McCarthy. "Risk for Occupational Stress Among U.S. Kindergarten Teachers." <i>Journal of Applied Developmental Psychology</i> Vol. 61, (2019): 13-20.	<input type="checkbox"/> Negative perception of teaching <input type="checkbox"/> High cost of becoming a teacher <input type="checkbox"/> Differing licensure requirements	<input type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input type="checkbox"/> Compensation

**Appendix II: Summary and Table of Studies
Included in Literature Review**

Study	Teacher recruitment challenges identified ^a	Teacher retention challenges identified ^b
Partelow, Lisette, and Christina Baumgardner. <i>Educator Pipeline at Risk: Teacher Labor Markets After the Great Recession</i> (Washington, DC: Center for American Progress, September 2016).	<input type="checkbox"/> Negative perception of teaching <input type="checkbox"/> High cost of becoming a teacher <input type="checkbox"/> Differing licensure requirements	<input type="checkbox"/> Lack of support for teachers <input type="checkbox"/> School workplace culture <input checked="" type="checkbox"/> Compensation
Pennington McVey, Kaitlin, and Justin Trinidad. <i>Nuance in the Noise: The Complex Reality of Teacher Shortages</i> (Sudbury, MA: Bellwether Education Partners, January 2019).	<input type="checkbox"/> Negative perception of teaching <input checked="" type="checkbox"/> High cost of becoming a teacher <input checked="" type="checkbox"/> Differing licensure requirements	<input type="checkbox"/> Lack of support for teachers <input type="checkbox"/> School workplace culture <input type="checkbox"/> Compensation
Podolsky, Anne, Tara Kini, Joseph Bishop, and Linda Darling-Hammond. <i>Solving the Teacher Shortage: How to Attract and Retain Excellent Educators</i> (Palo Alto, CA: Learning Policy Institute, September 2016).	<input type="checkbox"/> Negative perception of teaching <input checked="" type="checkbox"/> High cost of becoming a teacher <input checked="" type="checkbox"/> Differing licensure requirements	<input checked="" type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input checked="" type="checkbox"/> Compensation
See, Beng Huat, Rebecca Morris, Stephen Gorard, and Nada El Soufi. "What Works in Attracting and Retaining Teachers in Challenging Schools and Areas?" <i>Oxford Review of Education</i> , vol. 46, no. 6 (2020): 678-697.	<input type="checkbox"/> Negative perception of teaching <input checked="" type="checkbox"/> High cost of becoming a teacher <input type="checkbox"/> Differing licensure requirements	<input type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input checked="" type="checkbox"/> Compensation
Sutcher, Leib, Linda Darling-Hammond, and Desiree Carver-Thomas. "Understanding Teacher Shortages: An Analysis of Teacher Supply and Demand in the United States." <i>Education Policy Analysis Archives</i> Vol. 27, no. 35 (April 2019): 1-40.	<input type="checkbox"/> Negative perception of teaching <input checked="" type="checkbox"/> High cost of becoming a teacher <input type="checkbox"/> Differing licensure requirements	<input checked="" type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input checked="" type="checkbox"/> Compensation
Sutcher, Leib, Linda Darling-Hammond, and Desiree Carver-Thomas. <i>A Coming Crisis in Teaching? Teacher Supply, Demand, and Shortages in the U.S.</i> (Palo Alto, CA: Learning Policy Institute, September 2016).	<input type="checkbox"/> Negative perception of teaching <input type="checkbox"/> High cost of becoming a teacher <input checked="" type="checkbox"/> Differing licensure requirements	<input checked="" type="checkbox"/> Lack of support for teachers <input checked="" type="checkbox"/> School workplace culture <input checked="" type="checkbox"/> Compensation

Source: GAO analysis of studies. | GAO-23-105180

^aUnder teacher recruitment challenges, we defined negative perception of teaching to include a lack of respect for teachers and the teaching professional overall, low salaries and lack of benefits as deterrents to the profession, and discouragement by family and friends to enter the profession. We defined the high cost of becoming a teacher to include tuition for teacher preparation programs, teacher certification exam fees, and teacher licensure fees, among other expenses. We defined differing licensure requirements to include all barriers to the profession related to periodic state licensure requirements, such as specific coursework and testing, and including issues related to teacher licensure reciprocity across state lines.

^bUnder teacher retention challenges, we defined the lack of support for teachers to include the lack of support for active teachers from the state and school district officials, school leadership, parents, and

**Appendix II: Summary and Table of Studies
Included in Literature Review**

outside community members. We defined school workplace culture to include additional and shifting job responsibilities and demands, student behavior concerns, and the resulting mental health concerns for teachers. We defined teacher compensation to include low salaries for teachers and other job benefit disparities.

Appendix III: Comments from the Department of Education



UNITED STATES DEPARTMENT OF EDUCATION
OFFICE OF ELEMENTARY AND SECONDARY EDUCATION

October 14, 2022

Jacqueline M. Nowicki
Director, Education, Workforce,
and Income Security Issues
Government Accountability Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Ms. Nowicki:

I am writing on behalf of the U.S. Department of Education (Department) in response to the statements and recommendations made in the Government Accountability Office (GAO) draft report, *K-12 EDUCATION: Education Should Do More to Help Address Teacher Shortages* (GAO 23-105180). We appreciate the opportunity to respond.

The draft report examines the current teacher shortages, where shortages might be most prevalent, possible causes for them, and the responses by the Department to this situation, and some reactions to them. The report does not examine responses by Congress to this situation. The draft report includes two recommendations to the Secretary of Education. This letter and the attachments, including technical comments, provide our responses to the draft report.

The Department agrees that teacher shortages are a significant issue of concern and appreciates GAO's attention to it and for sharing the information that they have collected at this key time. This is a challenge to which the Department has given significant attention. From the very first days of this Administration, we have taken substantial steps to address teacher shortages through guidance, technical assistance, discretionary grant competitions, budget requests, presentations, and additional information on the Department's web site, including a section called "Elevating the Teaching Profession." We are pleased that many of them are mentioned in the draft report.

We are providing information on a number of additional steps taken (including resources created by the Regional Education Laboratories and additional resources from the What Works Clearinghouse) and will continue to give this area priority attention. Additionally, we are providing information on clarifying the nexus between the Secretary's vision for elevating the teaching profession and our strategic plan, that includes objectives to do the same, and will continue to be mindful of providing more information on that going forward. We expect that the information provided by GAO will be very helpful in these processes as well.

**Appendix III: Comments from the Department
of Education**

Ms. Jacqueline Nowicki – U.S. Department of Education Draft Response (GAO 23-105180)
Page Two

Thank you for the opportunity to respond to the information and the recommendations outlined
in this GAO draft report. We appreciate GAO's work on this important issue.

Sincerely,

**MARK
WASHINGTON**

Digitally signed by MARK
WASHINGTON
Date: 2022.10.14 12:29:10
-04'00'

Mark Washington
Deputy Assistant Secretary
Office of Elementary and Secondary Education

Agency Comment Letter

Text of Appendix III: Comments from the Department of Education

October 14, 2022

Jacqueline M. Nowicki
Director, Education, Workforce,
and Income Security Issues
Government Accountability Office
441 G Street, N.W.
Washington, D.C. 20548

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Thank you for the opportunity to respond to the information and the recommendations outlined in this GAO draft report. We appreciate GAO's work on this important issue.

Sincerely,

Mark Washington
Deputy Assistant Secretary
Office of Elementary and Secondary Education

Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact:

Jacqueline M. Nowicki, Director, (617) 788-0580 or nowickij@gao.gov.

Staff Acknowledgements:

Major contributors to this report were Bill Keller (Assistant Director), Melissa Jaynes (Analyst in Charge), Abigail Loxton, Robin Marion, and Cynthia Nelson. Other contributors were Carl Barden, James Bennett, Elizabeth Calderon, Lilia Chaidez, Holly Dye, Brian Egger, Jill Lacey, John Mingus, Cathy Roark, David Silvas, and Almeta Spencer.

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Washington, DC 20548

