

IN DEMAND

THE REAL TEACHER SHORTAGES AND HOW TO SOLVE THEM

BY SANDI JACOBS WITH LYNN OLSON

OCTOBER 2021

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About the Authors

Sandi Jacobs is a principal at EducationCounsel. Lynn Olson is a FutureEd senior fellow.

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FOREWORD

Are there widespread teacher shortages in U.S. public education? Recent headlines suggest there are. But a closer look at school staffing trends in recent years yields a different story, one with important consequences for education policymakers.

In this report EducationCounsel Principal Sandi Jacobs analyzes pre-pandemic teacher supply and demand trends, identifies new staffing questions raised by the Covid crisis, and offers policy recommendations to help states and school districts address schools' true human capital needs to ensure that all students—especially those too often marginalized and underserved—are taught by effective educators.

EducationCounsel Policy Associate Nathan Woods helped research the report, which is a joint project of EducationCounsel and FutureEd. Molly Breen, Jackie Arthur, and FutureEd Senior Fellow Lynn Olson provided valuable editorial support. And we are grateful to The Joyce Foundation and Overdeck Family Foundation for supporting the project.

Thomas Toch
Director, FutureEd

“Pandemic fuels staggering teacher shortages across the U.S.,” screams a headline from *Axios*.¹ “Teacher Shortage Compounds Covid-19 Crisis in Schools,” states *The Wall Street Journal*.² “Pandemic Teacher Shortages Imperil In-Person Schooling,” proclaims *The New York Times*.³ The coronavirus crisis has amplified claims of a “national teacher shortage” in public education. Nearly one in four teachers in a 2021 RAND Corporation survey reported they might leave the profession by the end of the 2020-21 school year, compared with one in six who said they were likely to leave prior to the pandemic.⁴

Yet the evidence on teacher supply and demand doesn’t support sweeping statements about teacher shortages. Efforts to produce more teachers overall could wind up increasing the supply of teachers in grades, subjects, and locations where there are already surpluses, rather than addressing schools’ actual instructional needs. As a result, these efforts may further widen inequities in the distribution of teacher talent.

Data show worrisome shortages in some subjects, in some grade levels, and in some school districts. There is also some evidence that large school districts are experiencing broader shortages as they face Covid for a third school year. But the picture varies significantly from location to location, and there is no evidence of large upticks in turnover and retirements to date. Instead of simplistic narratives and generic responses that may waste resources, states and districts need more sophisticated supply-and-demand data than most have today, so they can design targeted strategies to produce and retain the educators they truly need.

This report analyzes pre-pandemic teacher supply-and-demand trends, identifies new staffing questions raised by the Covid crisis, and offers policy recommendations to help states and districts address specific shortage areas to ensure that all students—especially those too often marginalized and underserved—are taught by effective, racially diverse educators.

The Teacher Workforce

With national news organizations heralding a universal teacher shortage, policymakers might understandably focus on strategies to increase the number of teachers overall. But closer analysis reveals that policymakers need a more nuanced response to the problem.

The number of public educators in the United States has increased steadily over the past two decades, according to the U.S. Department of Education’s National Center for Education Statistics. The U.S. employed 3.5 million public school teachers in the 2017-18 school year, up from 3 million at the turn of the century, making public school teachers the nation’s single largest workforce. Further, growth in the number of teachers during that period significantly outpaced growth in the number of public-school students. While the number of teachers increased 18 percent, the student population increased only 8

percent.⁵ Declining student-teacher ratios drove at least part of the growth in the teaching profession, as the ratio dropped from a high of 22.3 in 1970 to 16.0 in 2018, the latest year for which data are available.⁶ The result: more teachers to educate the nation's students.

Moreover, while many have pointed to a recent decline in education-school applicants as evidence of looming teacher shortages, these data are more complicated than they first appear.

An analysis by the Center for American Progress found a 35 percent drop in teacher-preparation enrollment, from 940,520 in 2010 to 604,264 in 2018.⁷ But the number of education students who earned degrees declined only 25 percent during that period. Because the teacher-production pipeline has always been leaky, with sharp drop-offs between matriculation and graduation, completion and licensure, and licensure and hiring, the recent focus on applications to teacher-training programs doesn't provide a true picture of teacher supply.⁸ What's more, there is no clear information tying the decline in ed-school applications to need. The reductions may be in grade levels and subject areas where there is a surfeit of teachers.

Dan Goldhaber, director of the Center for Education Data and Research at the University of Washington, cautions against relying on national data to draw conclusions about the robustness of the teacher pipeline. The two national data sources on teacher preparation, Title II and the Integrated Postsecondary Data System (IPEDS), provide incomplete and often contradictory information due to differences in how they define enrollees and completers and how they classify individuals in alternate-route programs.

Under Title II, states annually submit information on teacher-preparation programs to the federal government, while IPEDS focuses more broadly on the number of students pursuing higher education degrees by area of study, including education. A recent analysis by Goldhaber and his colleagues concluded that Title II likely undercounts the number of teacher candidates, while IPEDS probably overcounts them.⁹ As a result,

notes Goldhaber, individual states need to look at their data within their own local contexts to better understand the health of their teacher pipelines.

Despite surveys suggesting that more teachers are considering leaving the profession, to date those predictions have not panned out. While many school districts have reported shortages of bus drivers, cafeteria workers and other school staff this fall and some urban districts have started the school year with higher numbers of unfilled vacancies, there was not a dramatic increase in teacher turnover during the height of the pandemic, between the 2019-20 and 2020-21 school years. Nor has the pandemic produced a surge of retirements, a telling shortage indicator.

District leaders reported that 6 percent of their teachers and 6 percent of their principals retired or resigned at the end of the 2020-21 school year—rates they said were on par with their pre-pandemic attrition rates, according to a national survey by the RAND Corporation.¹⁰ Studies have shown that fewer teachers leave their jobs voluntarily during downturns in the economy, with fear of not finding a new job likely outweighing dissatisfaction with the current one.¹¹

Fears of mass teacher layoffs, as state and district budgets retrenched, also have not materialized. Many states spent emergency funds to soften or prevent cuts to local education budgets early in the pandemic, and subsequent higher-than-expected state revenues and nearly \$200 billion in federal recovery funds have averted significant staffing reductions since then.

The Bureau of Labor Statistics (BLS) data from July 2021 show the number of hires in state and local government education increased 33,000 between June and July.¹² While earlier BLS statistics showed significant cuts in the education workforce, these were overwhelmingly non-teaching staff who were less essential as school buildings shut down.¹³

Of course, stark differences in school-reopening strategies, vaccination rates and mandates, and Covid case numbers may create starkly different impacts on the

educator workforce across states and districts. Though it is too soon to discern the pandemic's full effects on the teacher workforce in the 2021-22 school year, worst-case layoff scenarios seem to have been averted.

Where the Shortages Really Are

While we can't know whether the pandemic or an economic upturn will make teachers more likely to leave their jobs in the months or years ahead, the overall point about the stability of the teacher workforce remains the same as before the pandemic: States and districts need a more nuanced grasp of teacher supply and demand that permits them to pursue policies targeted at true shortage areas. The more context and specificity policymakers can apply to teacher-shortage questions, the better they can identify short-term needs and long-term solutions. [See *Building a Better Picture of Teacher Supply and Demand*, below.]

Shortages do persist in specific subject areas. Location matters, as well: Some rural and urban districts and schools serving large numbers of high-needs students have a harder time attracting teacher talent. And there are too few teachers of color. In some states and districts, the failure to address teachers' working conditions and low pay also contributes to high turnover rates that fuel the demand for new hires. Understanding these realities is critical to selecting solutions that work.

Shortages in Specific Subjects

Persistent shortages in certain subject areas are a real problem for many districts and states. The U.S. Department of Education publishes an annual list of shortage areas in each state.¹⁴ The department tracks this information because candidates who teach in a shortage area can have some of their federal loans forgiven. Although states have some latitude in how

BUILDING A BETTER PICTURE OF TEACHER SUPPLY AND DEMAND

Accurate data and careful analysis of state and local teacher supply and demand are critical to picking the right strategies to address teacher shortages. Key questions that policymakers might ask to achieve those goals include:

- How many candidates enter teacher preparation programs, including traditional and alternate route programs? Who are these candidates?
- How many of these candidates complete and exit each type of program (traditional v. alternate route; graduate v. undergraduate; programs for different grades and subjects)? Do some program or candidate characteristics yield higher completion rates?
- How many graduates apply for and receive their probationary licenses? Do licensure rates differ based on type of program, candidate, or program characteristics?
- How many new teachers on probationary licenses do school districts hire in the state? Does this differ by type of program, candidate, or program characteristics?
- How many newly hired teachers advance from probationary to professional licenses, by program type, candidate, and program characteristics?
- How many and which teachers are still working in the state in 5 years? 10 years? 20 years? What about at the district level? Do retention rates differ by grade and subject, urban v. rural areas, or for high-needs schools and districts?

The Illinois State Board of Education publishes a triennial Educator Supply and Demand report that includes many of these recommended analyses.⁴⁶ An interactive website allows users to view retention data disaggregated by district, grades, and subjects taught, as well as by teacher characteristics.

they define shortage areas, federal regulations provide a somewhat uniform basis for comparisons across states.¹⁵

While some states identify shortages in nearly all subjects, states most often identify chronic shortages in mathematics, special education, foreign languages, and science. Moreover, most states have identified the same shortage areas for decades, suggesting either a lack of effective solutions or a lack of will to improve teacher supply in these areas.¹⁶

Because state licensure requirements for teachers vary by grade and subject, prospective educators must make the highly consequential decision about what to teach early in their preparation program. (Federal requirements enacted in 2001 under the No Child Left Behind Act made it more difficult for educators to teach outside their specific licensure area.)

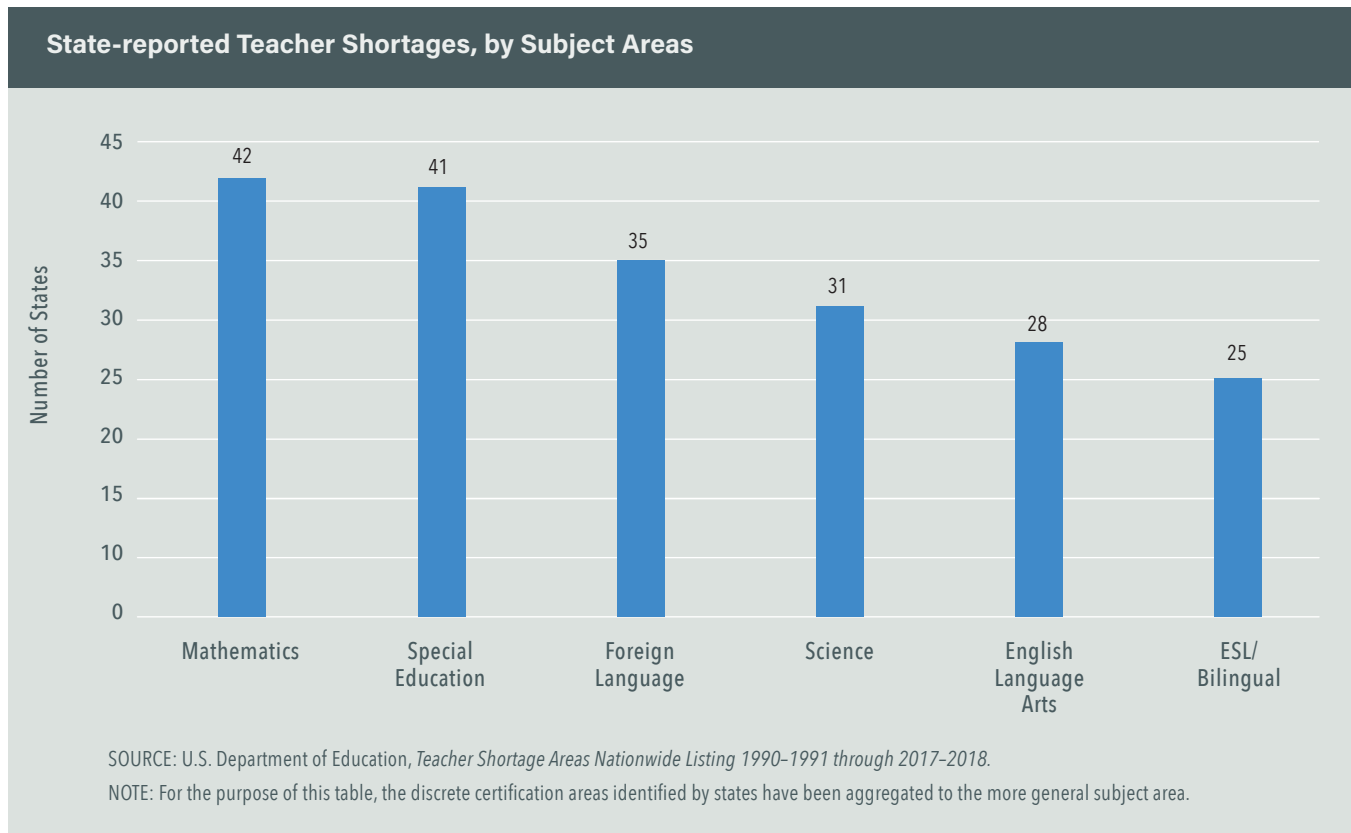
One of the most significant differences between elementary and secondary preparation programs is that the latter typically require a content-area major. This means that when prospective secondary teachers

enter the job market, they have a degree that is valued by many employers beyond the education sector. Science and math majors in particular have specialized knowledge and skills that may lead to more financially lucrative career paths outside of education. A 2019 analysis by the Brookings Institution found that science, technology, engineering, and math majors face a greater wage penalty for choosing to teach than any other undergraduate majors.¹⁷

Shortages Based on Location

Some locations—particularly rural districts, urban districts, and schools with large proportions of underserved students—also have problems attracting teacher talent.

States annually report shortages by geographic region and school district to the U.S. Department of Education, though these data are harder to interpret. Some states, particularly those with large, county-based districts, report that nearly all their districts experience chronic teacher shortages, while other states do not identify any.



Research has well documented the difficulties many urban and rural districts face in attracting and retaining the teachers they need. More than 30 percent of schools in the United States are rural, and nearly one-fifth of U.S. students attend these schools.¹⁸ Yet many of these schools have chronic teacher shortages primarily because of their remote location and considerably lower salary scales. Rural districts also tend to have fewer staff members overall, with teachers often asked to fill multiple roles and carry out additional responsibilities such as yard or lunch supervision.

Urban schools also often pay less than nearby suburban districts, have fewer resources overall and more difficult working conditions; and they struggle to overcome candidates' perceptions that they have more challenging student populations.

These urban and rural districts are often caught in a vicious cycle: However hard they work to recruit and hire the teachers they need, teachers often leave after a few years, lured away by less challenging settings with higher salaries.¹⁹

Too Few Teachers of Color

A lack of racial diversity among U.S. teachers is a national problem. All learners, and students of color in particular, benefit from having teachers from diverse backgrounds. Numerous studies have shown the academic benefit to students of color when they have teachers of the same race. For example, a 2017 study led by American University economist Seth Gershenson found that low-income Black students who have at least one Black teacher in elementary school are significantly more likely to graduate and consider attending college. Having at least one Black teacher in grades 3 to 5 reduced the likelihood that a Black student would drop out of school by 29 percent; the rate fell by 39 percent for Black boys from very low-income families.²⁰

An extensive literature review found five specific practices that help explain the favorable effects of teachers of color for all students—holding high expectations for students, using culturally relevant teaching that draws on students' lives, developing caring

and trusting relationships, confronting issues of racism in teaching, and serving as advocates and cultural brokers between students' homes and schools.²¹

Yet a stark disparity exists between the racial demographics of public-school students in the United States and the elementary and secondary education workforce. According to the most recent data from the U.S. Department of Education, 51 percent of U.S. students were Black, Hispanic, or other non-white ethnicities, while just 20 percent of public-school educators were people of color. This is not a regional phenomenon. Every state has a higher percentage of students of color than teachers of color. A recent analysis by the Education Trust found that in 12 states that make such student-level data available, more than one-third of students attend schools that do not have any teachers of color.²²

District and school recruitment and hiring practices worsen the diversity challenge. A 2017 George Mason University study of application data and hiring decisions in one of the largest school districts in the country found that Black applicants were significantly less likely to be offered a job than their white counterparts with similar qualifications. Further, white principals hired disproportionately fewer Black teachers than Black principals did. And when Black teachers were hired, they were disproportionately hired to work in schools with large populations of students of color or those living in poverty.²³

Teachers of color also have higher turnover rates than white teachers do, perhaps, in part, because they are more likely to be placed in higher-need schools where teaching is more demanding.²⁴

Targeted Solutions

Subject area, geographic, and diversity shortages require targeted solutions that differ from those designed to remedy a general teacher shortage, and they are especially vexing because they do not occur in isolation. Some districts experience all of them simultaneously, creating even greater challenges in addressing any of them. Urban and rural districts that have difficulty with

general staffing, for example, are especially challenged to find teachers in subjects prone to shortages, since more affluent districts are also competing to hire these in-demand educators. Policymakers need to consider these multiplier effects in designing effective solutions to ensure that discrete approaches they pursue do not unintentionally exacerbate inequities in students' access to effective teachers.

Subject Area Shortages

Solutions to subject area shortages need to address an oversupply of teachers in some subjects, commonly including elementary school and social studies teachers, and an undersupply in others. Most teacher candidates choose the ages and subjects they will teach based on personal preferences without regard to market conditions, which produces teacher supply that is out of sync with demand.

Strategies such as tuition assistance and loan-forgiveness programs, now offered by about a dozen states, may produce more teachers in already saturated fields if they are open to any comers. Instead, states should design these incentives to encourage individuals to consider high-need grades and subjects beyond their first choice. For example, programs could routinely notify applicants to their elementary programs that tuition support or loan forgiveness is available to those pursuing certification in elementary special education.

States also should consider the size of the incentives relative to the severity of the shortage. In a state with severe shortages of science teachers, for instance, prospective physics and chemistry teachers might be offered fully subsidized educations, while secondary special education teachers could receive full loan forgiveness and elementary special education teachers partial loan forgiveness.

States also could offer incentives or hold teacher-preparation programs accountable for recruiting more candidates to high-need grades and subjects. Florida, for example, includes critical teacher shortage areas as one of six performance metrics in its annual

ratings of teacher-preparation program performance. The state only calculates the bonus metric into a program's summative rating if the program increased the production of teachers in a state-identified critical shortage area from the previous year.²⁵

States and teacher preparation programs could also consider streamlining programs in shortage areas without sacrificing critical training. For example, many states require special education teachers to have dual certification in both general and special education—yet even without this requirement many special-education programs require five years to complete. This additional year before they can begin earning a salary could dissuade many teacher candidates, especially first-generation college students, who are often people of color. States could require program audits that review both on-time completion rates and coursework relevance to see where streamlining may be warranted.

Ensuring that candidates have exposure to teaching experiences in shortage fields can also help. New York requires all teacher candidates to complete a field experience that focuses on understanding the needs of students with disabilities. Beyond ensuring that all new teachers have experience supporting students with learning differences, candidates may discover an affinity for working with this student population and pursue a special education certification.²⁶

Such preservice strategies need to be paired with higher salaries and signing bonuses so that candidates see the additional earning potential in high-need fields. Because most districts continue to use uniform salary schedules based on degrees and years of experience, they are unable to pay more for harder-to-staff positions. In contrast, the Dallas Independent School District has replaced a traditional pay scale with one based on teacher performance that enables exemplary teachers to move through the pay levels more quickly. The system also provides incentive pay, including stipends and signing bonuses, for teaching in critical shortage positions.²⁷

Other districts have negotiated with their collective bargaining units to include supplemental pay for shortage areas within their salary schedules. Kanawha County Schools in West Virginia has a separate, higher salary schedule for special education teachers.²⁸ Yet 14 states have established uniform salary schedules that tie districts' hands on compensation.²⁹

The National Council on Teacher Quality has identified districts that pay more to teachers in shortage areas and in high-need schools, compensate career changers in shortage areas for their work experience prior to becoming teachers, and offer housing assistance or other forms of monetary support.³⁰

Geographic Shortages

Shortages related to location require their own solutions. For example, states can require, and teacher preparation programs can ensure, that candidates have a variety of field experiences and clinical placements that include urban, rural, or other hard-to-staff settings to encourage candidates to think about teaching in these locations. The Colorado Department of Higher Education offers a \$10,000 stipend for candidates to student teach in a rural setting for one year, with half the cost covered by the state and the other half by the institution of higher education.³¹ Innovations in virtual and remote learning necessitated by the pandemic could further enable candidates to have multiple preservice experiences that extend beyond a program's geographic vicinity.

Still, the surest way for a district to ensure it has enough teachers is to run its own preparation program. "Grow-your-own" programs are increasingly popular and can reduce competition with other districts for newly minted teachers. Such programs are often residencies, where teacher candidates typically serve as apprentices for a full school year before becoming teachers of record. Candidates train on-site in the district and often in the school where they will be working, developing relationships and experiencing all aspects of the school day and year. High-quality residencies have been shown to produce more science, technology, engineering and math teachers and teachers of color than other

preparation models, and graduates of residencies have higher retention rates.³²

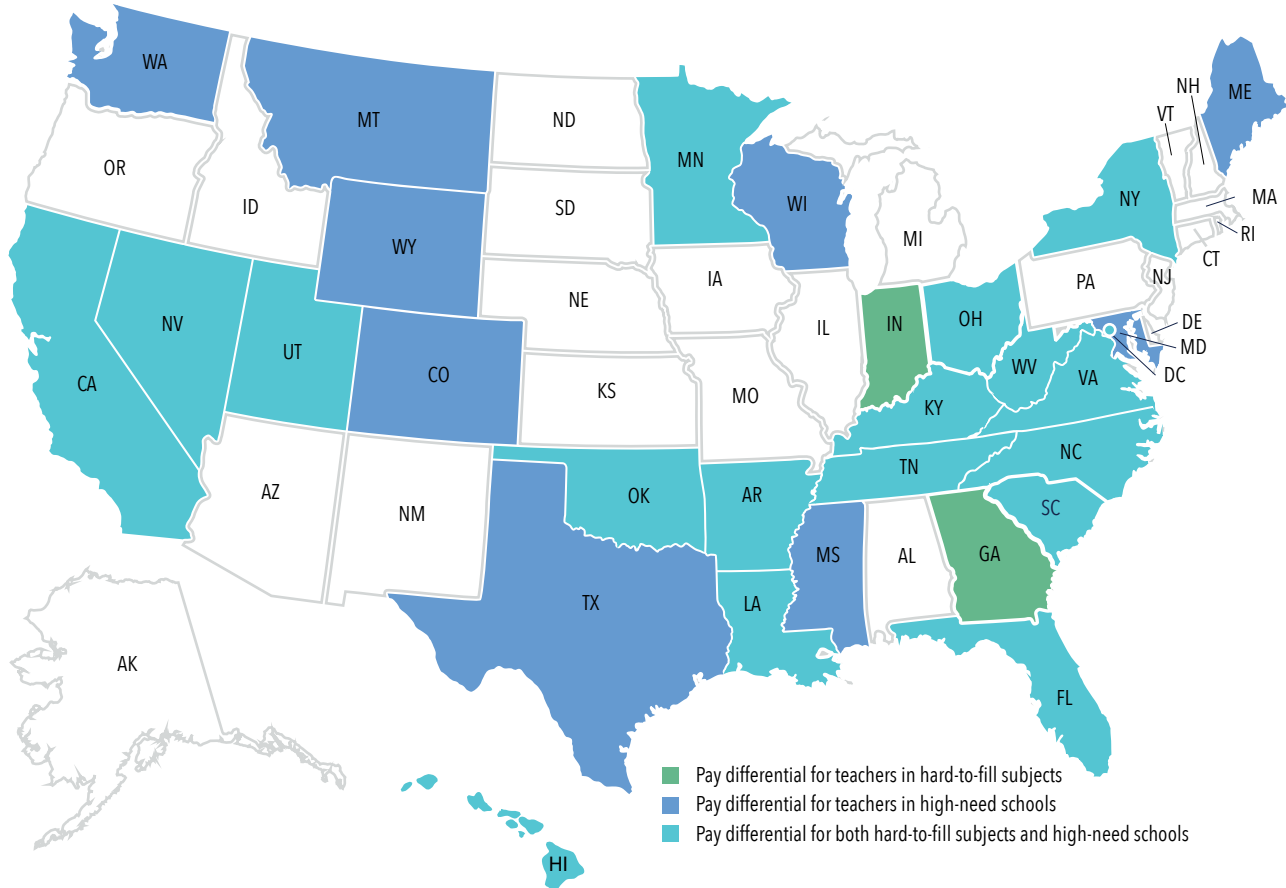
Districts also can use grow-our-own programs to identify candidates with an interest in teaching who are already part of the community. Many districts offer career-technical programs to middle and high school students that let them explore an education career and create a pathway to return to teach in the district. Programs also recruit paraprofessionals and others who already have ties to the community to complete the additional training necessary to become teachers.

Grow-your-own programs can be offered in partnership with a higher education institution or alternative teacher-preparation provider, or by the district itself in states that permit districts to prepare their own teachers. TNTP, a national organization that aids school districts in recruiting teacher talent, has helped create in-house certification programs in Boston, Tulsa, Charlotte, Dallas, and San Francisco. A 2020 study of some of these programs by the RAND Corporation found that their graduates contributed substantially to the districts' teacher supply, particularly in hard-to-staff subject areas, and were more racially diverse than those who came from other programs.³³

As is true with subject area shortages, compensation makes a difference. There are clearly places in the country where teachers are woefully underpaid. Data from the National Education Association shows state average teacher salaries ranged from a high of \$87,069 in New York to a low of \$46,843 in Mississippi. Within states, salaries can vary widely across districts.³⁴

States should explicitly allow and fund salary differentials that provide compensation on top of the base salary for teachers in *both* shortage subjects and hard-to-staff districts and schools. Providing both types of differentials is critical to ensuring that higher-need settings benefit. Otherwise, financial incentives can exacerbate instructional inequities between well-resourced and under-resourced districts. If new physics teachers, for example, can earn the same differential or bonus for teaching in an affluent suburb as in an under-resourced district, they're likely to choose the former. According to

States Paying More to Teachers in Shortage Areas



SOURCE: National Council on Teacher Quality, State Teacher Policy Yearbook (2021)

the National Council on Teacher Quality, 28 states offer additional pay for teaching a shortage subject, but only 17 offer differentials both for teaching a shortage subject and teaching in a high-need school.³⁵

Shortages of Teachers of Color

The racial diversity shortage is particularly challenging because it requires addressing problems with the teacher pipeline as well as longstanding inequities in educational opportunity for people of color.

On the preservice end, one solution is to invest more to strengthen and scale teacher-preparation programs at Minority-Serving Institutions (MSIs), including

Historically Black Colleges and Universities, Hispanic Serving Institutions, Tribal Colleges and Universities, and institutions that primarily serve Asian Americans, Native Americans, or Pacific Islanders, since these institutions train many teachers of color. The Biden Administration has proposed increased investments in this area. Although MSIs represent just 13 percent of educator-preparation providers in the United States, they produce more than 50 percent of the nation's teachers of color, including more than half of the bachelors' degrees in education earned by Latinos, Native Hawaiians, and Pacific Islanders and nearly 40 percent of the bachelors' degrees in education earned by African Americans.³⁶

Another strategy is for school districts and charter management organizations to create grow-your-own programs with the explicit aim of increasing diversity. The Washington, D.C., charter school network KIPP DC created its own preparation program, KIPP DC Capital Teaching Residency. Under the program, teachers commit to working at KIPP DC campuses for at least three years. They receive one-on-one coaching during their first year, with continued support as they transition to a lead teacher role in their third year. At the completion of the program, residents receive their teaching certificate. Nearly three-quarters of the current cohort identify as Black Indigenous People of Color (BIPOC) and two-thirds identify as Black. One quarter of current KIPP principals started their careers in the residency and 80 percent of those principals identify as BIPOC.³⁷

Strategies also need to address implicit and explicit biases that affect how many teachers of color are hired and where they are placed as well as their experiences on the job. The District of Columbia Public Schools, for example, ensures that all effective and highly effective teachers who interview prospective candidates receive anti-bias training in hiring.³⁸

Cross-Cutting Solutions

Some solutions, like high quality alternate routes to certification, can address multiple shortage issues. Nearly all states offer alternative pathways to becoming a teacher that generally allow educators to begin teaching while completing their preparation. Some states allow providers other than institutions of higher education to offer these programs, including school districts, non-profit organizations, and, in a handful of states, for-profit providers. High-quality alternate routes help address specific shortages in several ways: They typically provide more flexibility for non-traditional candidates through admissions criteria that recognize candidates may be far removed from their undergraduate experiences, streamlined programming, and the ability to earn a salary while completing training.

In addition, alternate-route teachers serve as teachers of record in classrooms while they are training, meaning shortages are immediately filled by these new teachers once they begin their training. Alternate routes are often used to recruit teachers of color and teachers for rural or urban schools. In general, they attract a significantly higher proportion of minority candidates and math and science teachers.³⁹

State funding for higher education also could reward providers that significantly increase enrollment and completion rates for candidates in shortage areas, candidates of color, and graduates who teach in high-need settings.

What state policymakers should not do is lower standards for program entry or licensure. Many states have taken steps to ease entry into teaching—including lowering SAT and ACT scores and GPAs required for admission to teacher-preparation programs and eliminating tests of basic reading, math and writing skills and lowering passing scores on tests of subject-area content and professional knowledge needed for teaching licenses—in the name of expanding the pool of eligible teachers and addressing shortages. The result is lower standards not only in shortage areas but across the teaching profession.

Little evidence exists that program entry and licensure requirements are obstacles for teachers in shortage subjects—such as special education or physics—so lowering them will not necessarily increase the pool of teachers needed most. Further, this approach risks sending new teachers with less content and professional knowledge to high-need schools that have more difficulty staffing their classrooms, further widening equity gaps. The goal should be to have a robust pipeline that ensures all students have access to well-prepared educators. Cutting corners to improve quantity at the expense of quality does not serve students or the profession well.

Still, some have claimed that the number of prospective teachers of color has been reduced by racial bias in the standardized tests in teacher-preparation programs

admission and teacher licensing and by inequities in other parts of the teacher-preparation pipeline. These concerns should be treated seriously. Students need teacher candidates who are both well-prepared and racially diverse.

Addressing Teacher Retention

Addressing teacher shortages depends not only on attracting new entrants to teaching but also increasing the number of entrants who stay. About 8 percent of teachers leave their jobs each year, and about one fifth of teachers leave in their first five years of teaching, with these numbers significantly higher in under-resourced schools and school districts.⁴⁰ Efforts that focus solely on the teacher pipeline and on recruitment can only accomplish so much.

Strategies to increase teacher retention—including the hiring of principals who are effective instructional leaders, regular job-embedded professional learning, and opportunities to earn more money and take on new responsibilities through teacher leadership roles and career ladders—could help stem teacher turnover.⁴¹ Through a program called RISE, the District of Columbia Public Schools is providing such supports to 42 high-needs schools in the district so they can better attract and retain effective teachers.⁴² Surveys have found that teachers want to continue expanding their skills and responsibilities throughout their careers and that poor professional development and limited opportunities for growth can lead to job dissatisfaction and attrition.⁴³

School climate surveys can provide helpful insights into how teachers feel about their working conditions. Districts and schools can disaggregate results to learn what's on the minds of teachers in shortage areas and prioritize their needs, supporting educators they can least afford to lose.

The Importance of Good Data

Better national, state, and local data about teacher supply and demand are key to knowing which strategies to deploy in addressing teaching shortages.

States and districts need fine-grained information about their current and projected needs in order to make better-informed policy decisions that go beyond addressing generic teacher shortages. And prospective educators need the information to help guide their choices. In most professions that require specialized preparation, information about the job market for different specialties is widely available. Future doctors know which areas are highly competitive and which are undersupplied and factor this information into their decision-making on what to study and where to practice. Such information is generally not available to prospective teachers. Similarly, more analysis of preparation-program enrollment and pipeline trends in specific shortage areas is needed to understand why prospective teachers exit at various points in the pipeline and what can be done to retain them.

Conducting data analysis and crafting targeted policy responses to teacher shortages are primarily the responsibility of states and school districts. But federal policy also plays an important role in addressing shortages and requires a similar alignment between needs and strategies. The Biden Administration seems aware of the need for targeted strategies. It has proposed funding for grow-your-own and residency-preparation programs, increased certifications in high-demand areas and leveraging teachers as leaders.⁴⁴

Each state must submit a plan to the U.S. Department of Education for using the American Rescue Plan's Elementary and Secondary School Emergency Relief Fund, the largest K-12 tranche of pandemic recovery funds. The Administration has asked states in these plans to describe the extent to which they are experiencing educator shortages and to outline their strategies for supporting the educator workforce—though the Administration's framing seems to presume that shortages worsened during the pandemic. Unfortunately, most states have provided a laundry list of related initiatives rather than a detailed agenda for addressing specific challenges.⁴⁵

Going forward, the U.S. Department of Education can be an honest broker on the teacher-shortage issue:

sharing data about the true impact of the pandemic on the teacher workforce, separating fact from perception, and promoting use of the strategies with greatest impact. The pending reauthorization of the Higher Education Act is a prudent place to start, including the revamping of the data collected from preparation programs required under Title II to provide a more accurate and nuanced view of enrollment and completion. While states and school districts will remain the key players in addressing teacher shortages, the Biden Administration and Congress should ensure that all policies and programs that address shortages are grounded in data and targeted to real areas of need.

Declarations of widespread, generic teacher shortages may garner headlines, but existing data do not support those claims. There are real shortages that need to be addressed—in specific subjects, locations, and among teachers of color. But generic approaches, based on faulty presumptions, could actually intensify shortages in under-resourced schools and school districts, exacerbating inequities in the distribution of teaching talent. Instead, policymakers need a different, more sophisticated approach to ensuring that all students have access to the high-quality, racially diverse educators they deserve.

Targeted Strategies to Address Teacher Shortages

Preparation-focused Strategies

- **Candidate Incentives** – Offer tuition assistance and loan forgiveness to teacher candidates in shortage areas, with the size of incentives based on the severity of shortages. Communicate shortage areas to prospective candidates.
- **Program Incentives/Accountability for Raising Production in High-Need Areas** – Reward teacher-preparation programs with increased funding and/or higher ratings under state accountability systems if they produce more teachers in shortage areas. Alternatively, programs could be sanctioned with decreased funding and lower ratings for contributing to over-supplies.
- **Supply and Demand Data** – Collect, analyze and publish data that provides prospective teachers with information about job opportunities.
- **Program Design** – Require preparation programs to offer multiple field experiences, including in urban and rural settings, emphasize inclusive pedagogy, and streamline coursework without sacrificing critical training, especially for teachers of shortage subjects.
- **Supporting/Scaling MSI Programs** – Provide recognition and resources to help Minority-serving Institutions sustain and grow their teacher-preparation programs.
- **Grow-Your-Own Programs/Residencies** – Permit and encourage train-in-place preparation programs offered by districts and other providers that offer apprenticeships and can include career exploration beginning in secondary school and certification pathways for paraprofessionals and others already employed in school districts.
- **High-Quality Alternate Routes** – Provide streamlined, flexible pathways to certification that are particularly useful for non-traditional candidates.

School-based Strategies

- **Compensation** – Provide higher pay for teachers teaching high-need subjects and in high-need settings. Also use innovative salary schedules and allow for signing bonuses for teachers in harder-to-fill areas.
- **School Leadership** – Introduce principal pipelines that produce school leaders skilled in recruiting and retaining teachers.
- **Professional Learning/Leadership** – Provide teachers with opportunities to grow professionally during their careers.
- **Working Conditions** – Use climate surveys to identify teacher needs and address concerns that lead to preventable turnover.

ENDNOTES

- ¹ Erica Pandey, "Pandemic fuels staggering teacher shortages across the U.S," April 4, 2021, *Axios*.
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