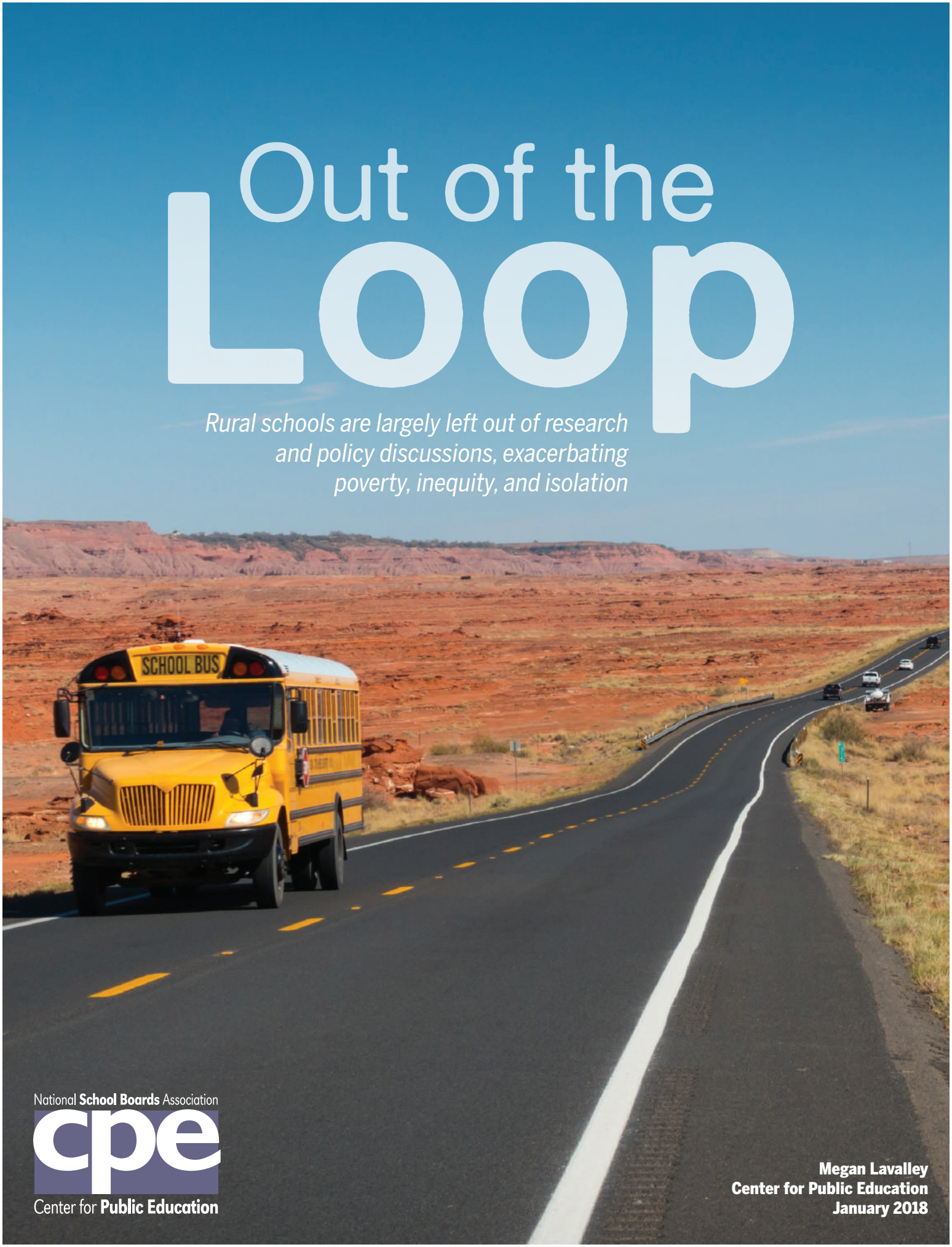
Out of the Loop

Rural schools are largely left out of research and policy discussions, exacerbating poverty, inequity, and isolation



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Why rural?

American discourse is often accused of neglecting the interests and values of rural citizens, and this is particularly true when it comes to education. Rural students and the schools they attend receive little attention in either policy or academia. This is despite the fact that more than 46 million Americans live in nonmetropolitan areas—a population roughly equivalent to the entire country of Spain (Pendall, Goodman, Zhu, & Gold 2016).

No one seeks to minimize the problems of rural schools. But, at least from a national perspective, the unique needs of rural education are often obscured by their urban and suburban counterparts. One possible reason is that the majority of American students are educated in urban and suburban schools, which may lead policymakers to focus their attention and efforts on improving education where it will have the largest impact. However, such a metropolitan-centric attitude neglects a significant portion of the student population. Approximately one-half of school districts, one-third of schools, and one-fifth of students in the United States are located in rural areas (White House Rural Council 2011; NCES, 2016).

Another possible factor: rural students are not equally distributed across the country, and thus may not be at the front of the minds of policymakers and educators in all parts of the United States. The proportion of rural schools across the country varies widely—80% of schools in South Dakota are in rural areas, for example, compared to only 6.5% of schools in Massachusetts (Johnson, Mitchel, & Rotherham 2014). Even so, taken in aggregate, rural students nationally make up a considerable portion of the student population.

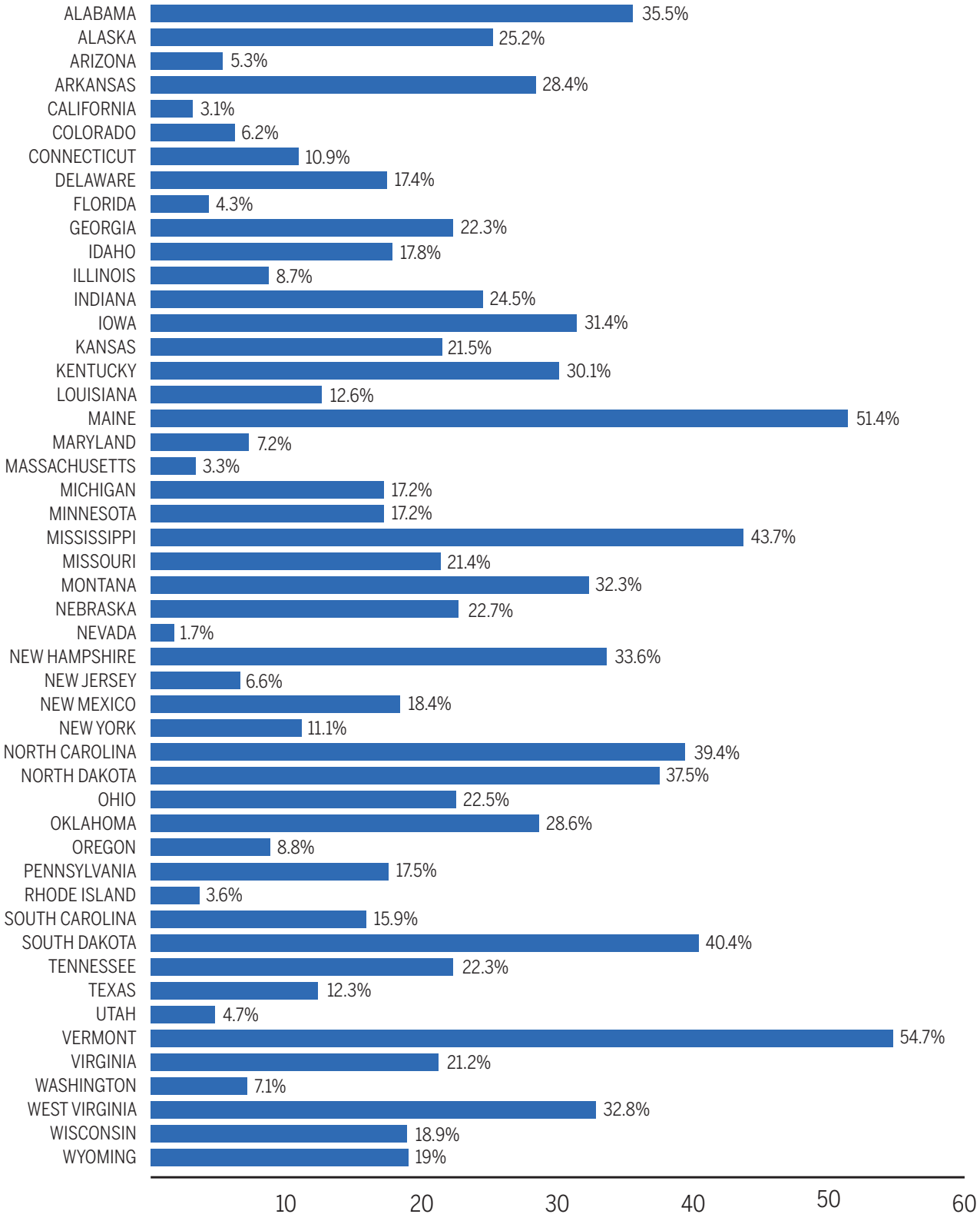
At the national level, approximately 19% of all students are enrolled in rural schools, but in thirteen states, this proportion rises to more than one in three students (NCES, 2016; Johnson, Showalter, Klein, & Lester 2014). The needs and successes of these students should be no less relevant to our national conversation than those of the potentially more visible students in metropolitan areas.

Clearly, the nation cannot afford to overlook the needs and circumstances of its rural schools. The days of the idyllic one-room schoolhouse are long gone. Or are they? Little is understood about rural schools and the unique challenges they face outside of the communities in which they operate. As an added

(continued on page 4)

Percent rural students, by state, 2013-2014

Number of students attending public schools located in rural areas as a portion of all public school students



Note: No data for Hawaii or Washington, DC. Source: Showalter, Klein, Johnson, & Hartman 2017. Data reflect NCES Common Core of Data, Public School Universe Survey 2013-2014.

What is 'rural?'

Though there are a number of definitions of "rural," this report uses the National Center for Education Statistics' urban-centric locale codes released in 2006. These definitions categorize the nation's schools based upon a combination of population size and distance from the nearest metropolitan center.

Locale	Definition
City	
Large	Territory inside an urbanized area and inside a principal city with population of 250,000 or more
Midsize	Territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000
Small	Territory inside an urbanized area and inside a principal city with population less than 100,000
Suburb	
Large	Territory outside a principal city and inside an urbanized area with population of 250,000 or more
Midsize	Territory outside a principal city and inside an urbanized area with population less than 250,000 and greater than or equal to 100,000
Small	Territory outside a principal city and inside an urbanized area with population less than 100,000
Town	
Fringe	Territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area
Distant	Territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area
Remote	Territory inside an urban cluster that is more than 35 miles from an urbanized area
Rural	
Fringe	Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster
Distant	Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster
Remote	Census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster

Source: Office of Management and Budget (2000). Standards for Defining Metropolitan and Micropolitan Statistical Areas; Notice. Federal Register (65) No. 249.

Source: National Center for Education Statistics 2007

The "rural" category spans a variety of communities. The critical factor in categorizing and understanding rural communities is that they are fundamentally nonmetropolitan in nature.

For further information, see https://nces.ed.gov/pubs2007/ruraled/exhibit_a.asp

complication, broad regional variations make it difficult to categorize all rural schools into a singular story, which spells trouble when cohesive messaging means attention.

This report attempts to shed badly needed light on these challenges, and point to policies and practices that can effectively address the distinctive needs of rural schools. We begin by describing the diversity and poverty of rural students. We then discuss the academic hurdles they face, among them the difficulty in finding qualified teachers, and look at how policies, like school choice, designed for densely populated areas may not work in non-metropolitan settings. As always, we end with questions for rural school leaders to consider in their efforts to make sure their youth can compete with the best of their urban and suburban peers. By raising awareness of the problems faced by rural schools, our hope is to focus the attention of policymakers and communities on the solutions.

Rural America in context

Deep and persistent poverty

Poverty is often associated with urban areas, but poverty in rural America actually exists at higher rates, is felt at deeper levels, and is more persistent than in metropolitan areas. Approximately 64% of rural counties have high rates of child poverty, as compared to 47% of urban counties (Schaefer, Mattingly, & Johnson 2016). In a rural community with low educational attainment, poverty rates may be up to eight percentage points higher than in a similar community with higher levels of education (Department of Agriculture 2017). More children in rural communities come from conditions of poverty than in the past. Today, more than half of the rural student population comes from a low-income family in 23 states—up from 16 states just two years ago (Showalter, Klein, Johnson, & Hartman 2017).

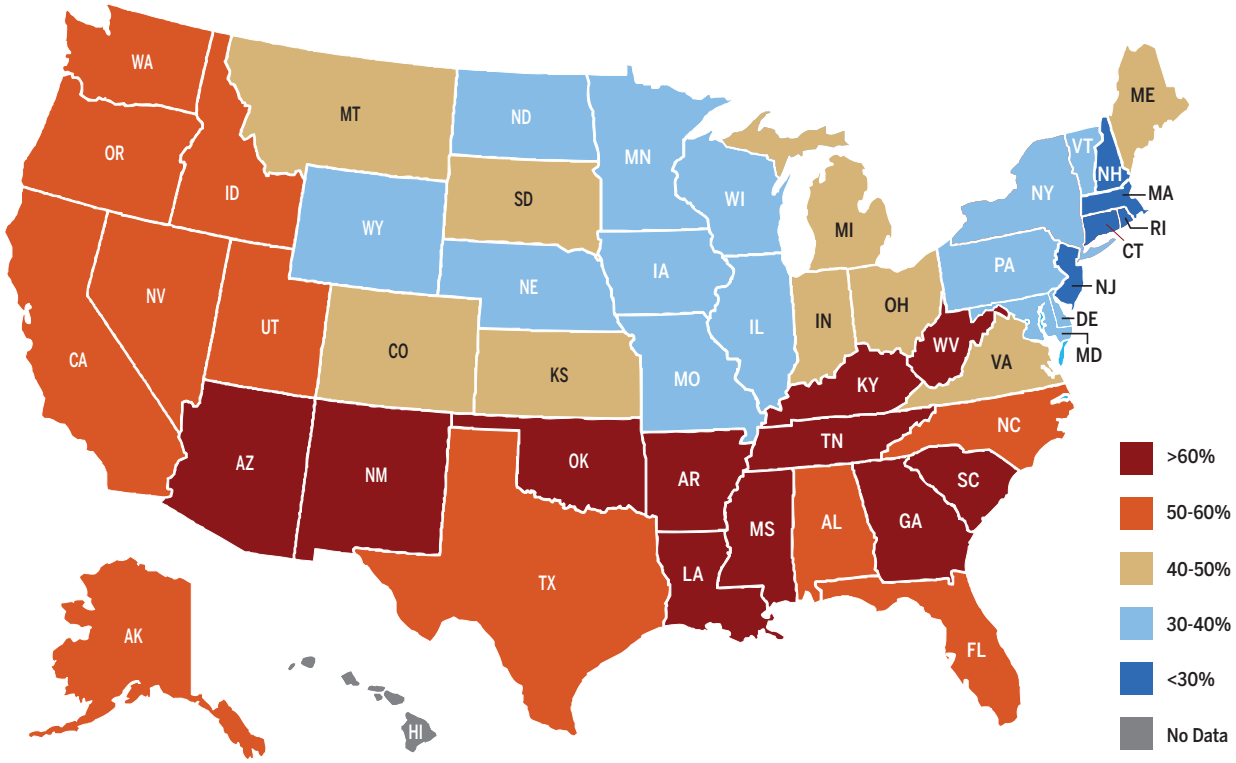
Not only is child poverty experienced at higher rates in rural areas, it is also experienced as deep poverty more frequently than in urban areas. Deep poverty, a situation in which a child's family income falls below half of the poverty line, indicates that a family is experiencing severe financial difficulty. In rural areas, approximately 13% of children under six experience deep poverty, whereas young urban children have a deep poverty rate of about 10% (Farrigan 2017).

Poverty in rural areas is also more persistent than in urban areas, and can be more likely to last for generations. For counties in persistent poverty, rates have remained above 20% for the past 30 years. Children growing up in these communities face challenges to their economic mobility and long-term development (Farrigan 2017). Overall, 85.3% of counties in persistent poverty are rural, which equates to about 15% of all rural counties nationally (Farrigan 2017).

Clusters of concentrated rural poverty exist throughout the United States, notably in Appalachia, the Southwest, Great Plains, Mississippi Delta, and Southeast. Nonetheless, persistent poverty is an overwhelmingly Southern problem: almost 84% of counties in persistent poverty are located in the South. The Southern poverty rate measures approximately six percentage points higher in rural communities than in urban areas (Farrigan 2017).

Percent of rural students eligible for free- and reduced-price lunch, by state, 2013-2014

Number of students attending public schools in rural districts who are eligible for free- and reduced-price lunch as a portion of all students attending public schools in rural districts



Note: No data for Hawaii or Washington, D.C.

Source: Showalter, Klein, Johnson & Hartman 2017. Data reflect NCES Common Core of Data, Public School Universe Survey 2013-2014.

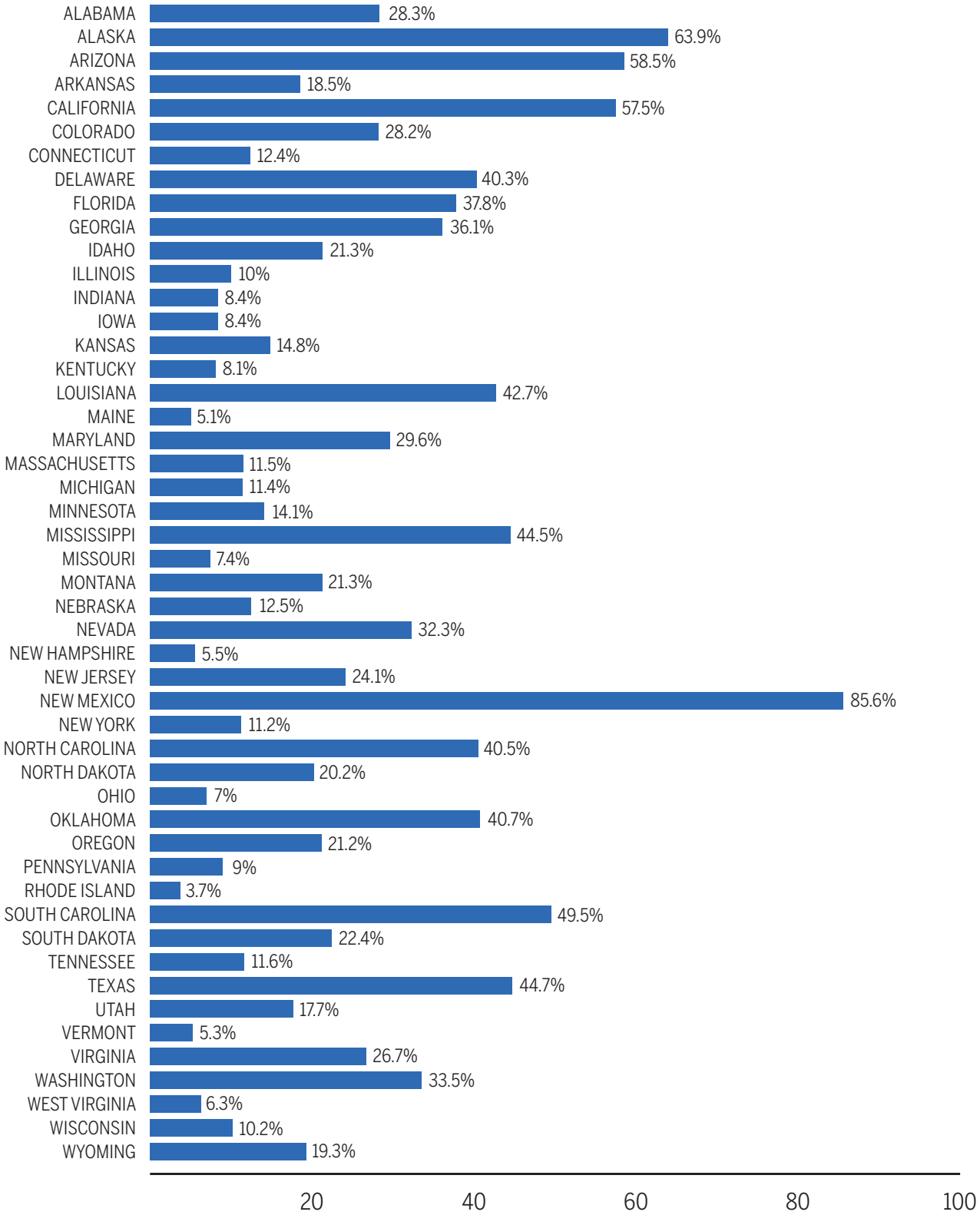
Concentrated areas of minority students

The population of rural America has historically been, and largely remains, overwhelmingly white. Just over one in four rural students is nonwhite, though this portion varies significantly by region and by state (Showalter, Klein, Johnson, & Hartman 2017). This national picture is not wholly representative of the rural population in every community, however. Across the United States, there exist pockets of highly concentrated rural minority populations. These concentrations differ regionally, reflecting the varied historical landscape and heritage of the country.

One trend of particular interest in rural communities is the increasing number of Latino students. Between 2000 and 2009, rural schools saw a 150% increase in enrollment of Latino students (Johnson, Mitchel, & Rotherham 2014). More than half of the total population increase in rural areas over the same decade was due to growth in the Latino population, and as a result, today approximately one in five rural residents identifies as Latino. (Johnson, Mitchel, & Rotherham 2014).

Percent rural minority students, by state, 2013-2014

Number of minority students enrolled in rural districts as a portion of all students enrolled in rural districts



Note: No data for Hawaii or Washington, DC. Source: Showalter, Klein, Johnson, & Hartman 2017. Data reflect NCES Common Core of Data, Public School Universe Survey 2013-2014.

More than other groups, Latino students often require education in English as a second language, which, as with teachers more generally, is a position often more difficult to staff in rural schools (Player 2015). Latino students make up a large portion of rural America's English Language Learner population—a group that averages at just 3.5% of rural students nationally, but grows to nearly one quarter of rural students in New Mexico (Showalter, Klein, Johnson, & Hartman 2017). In the coming years, this population is expected to continue to grow, further shaping the composition and needs of rural American schools.

As rural areas become increasingly diverse, it becomes more important to examine how this trend may change student needs. This is especially true when we understand the ways in which poverty is unequally distributed across racial and ethnic groups in rural America. High levels of deep, persistent poverty are the backdrop to all issues that face rural schools, and play a role in our understanding of the challenges to come.

Racial inequality and rural poverty

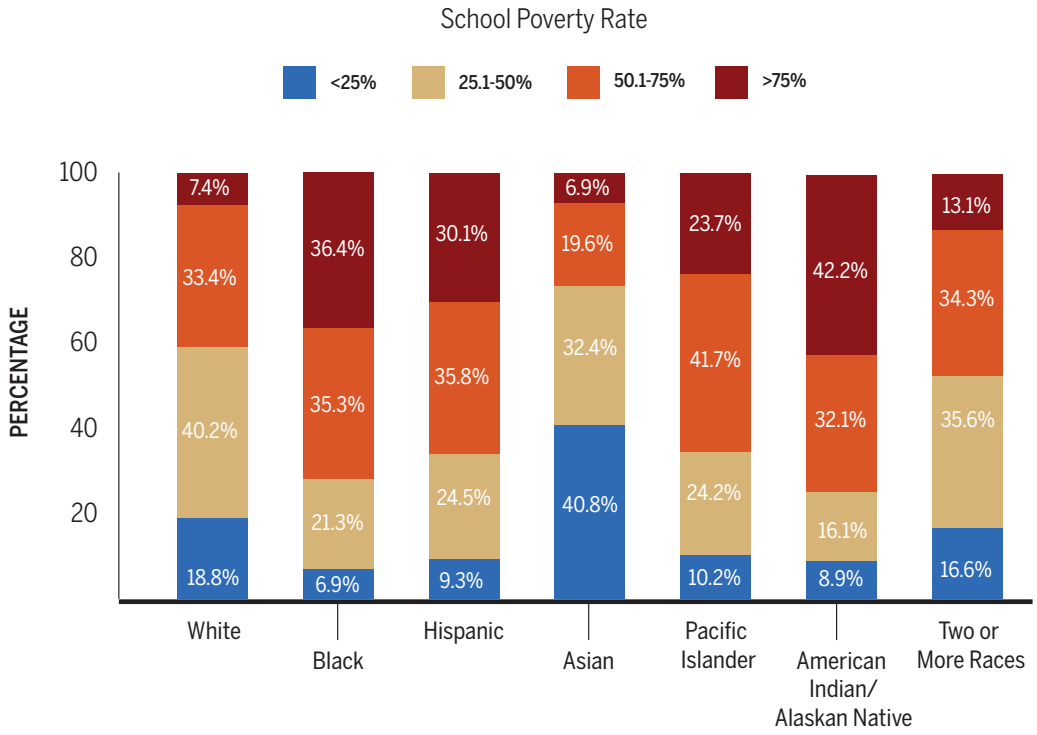
Regardless of region, poverty distributes unevenly along racial lines, creating inequalities that disproportionately affect minority children. Across the nation, rates of rural poverty are consistently lower for non-Hispanic white children than for minority children. This is particularly true in areas with a substantial minority population (Schaefer, Mattingly, & Johnson 2016). In rural areas, black, Hispanic, Pacific Islander, and American Indian/Alaska Native children are more likely to attend a school experiencing high levels of poverty than are white or Asian children.

An average of nearly 14% of all rural students attend a high-poverty school, defined here as a school where more than 75% of the students are eligible for free- or reduced-price lunch (National Center for Education Statistics 2016a). When this is broken down by race, however, inequalities become apparent. While about 40% of rural Asian students attend schools with the lowest levels of poverty, more than 42% of rural American Indian/Alaska Native students attend schools with the highest levels of poverty (National Center for Education Statistics 2016a). Approximately 30% of rural Hispanic students and 36% of rural black students attend a school in which more than three in four students is eligible for free- and reduced-price lunch, while just over 7% of white students do (National Center for Education Statistics 2016a).

It should be noted that, although rural minority students are more likely to attend a high-poverty school, the raw number of rural white students in conditions of poverty is significant. Approximately 486,000 rural white students attend a high-poverty school, compared with about 315,000 rural black and 353,000 rural Hispanic students (National Center for Education Statistics 2016a). If we consider all rural schools where more than half of students are eligible for free- and reduced-price lunch, nearly 2.7 million white students face conditions of school poverty, as compared to about 620,000 black and 770,000 Hispanic students (National Center for Education Statistics 2016a). Though the distribution of rural school poverty does show patterns of racial inequity, it is important to recognize that high levels of school poverty remain a very real challenge for rural youth of all races.

Distribution of rural public school students, by race and school poverty level, 2014-2015

How to read this graph: 7.47% of rural white students attend schools with a greater than 75% poverty rate.



School poverty levels are defined by the percentage of all students eligible for free- or reduced-price lunch

Source: NCES 2016a. Data reflect NCES Common Core of Data, Public School Universe Survey 2014-2015.

Academic hurdles for rural students

Lower literacy

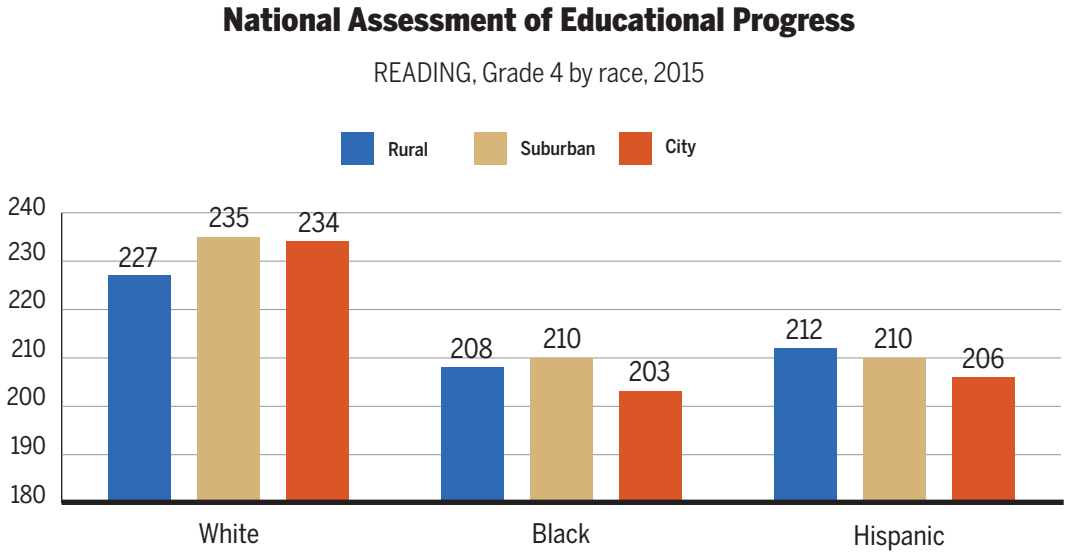
Academic performance in rural schools has improved in recent years, with rural students now beginning to outscore their urban peers. Yet achievement gaps based on race are as present in rural schools as they are in other locales (Showalter, Klein, Johnson, & Hartman 2017). Although narrower, a stark gap also exists between rural and suburban students (NAEP, 2015).

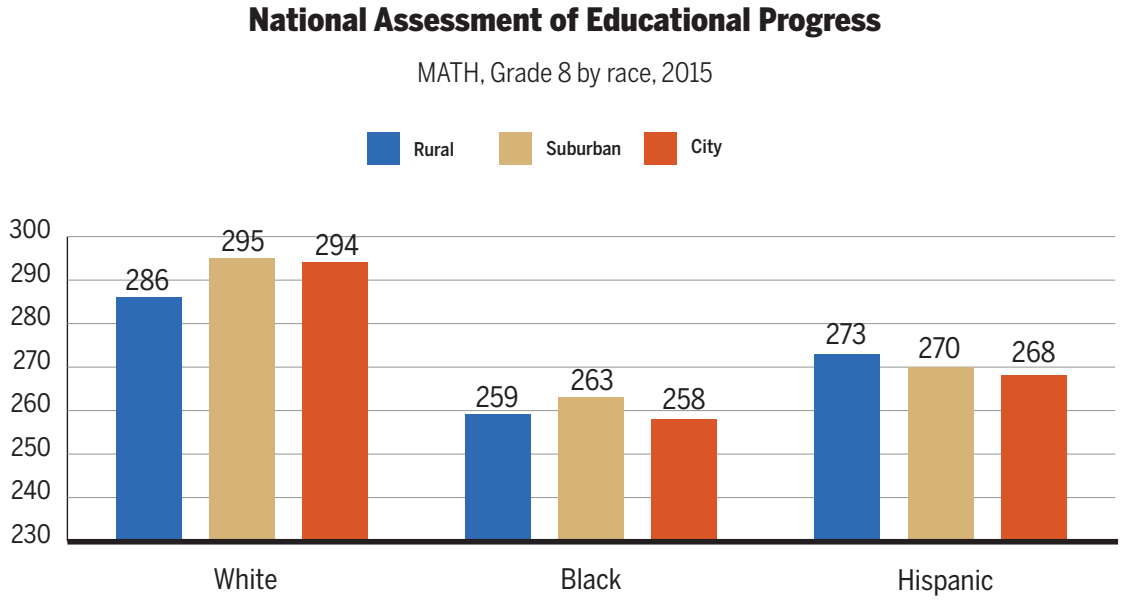
Limited access to advanced courses shapes the curricular path of many rural students at the secondary level, and low rates of college attendance inhibit adult levels of educational attainment. Some of these phenomena may be influenced by the high levels of poverty present in rural areas, while others may be driven by specific barriers inherent to a rural school, such as a small and dispersed student population.

Reading scores may reflect rural poverty due to the influence of home and family life on literacy. Rural students begin school with lower reading achievement than their suburban peers, and about the same as urban kindergartners (Clarke, 2014). This gap continues through elementary and middle school in both mathematics and reading, and is widest between rural and suburban white students. Interestingly,

rural Hispanic students outperform their Hispanic peers in urban and suburban schools. As in these other locales, however, the most significant achievement gaps in rural schools are by race with white rural students outscoring their black and Hispanic classmates (NAEP, 2015).

The effects of deep, persistent rural poverty must be considered as a possible factor in perpetuating these gaps. In fact, when socioeconomic status is held constant, the rural-suburban achievement gap is no longer distinguishable in reading scores, suggesting that high levels of poverty in rural areas have a considerable impact on students' literacy (Graham & Teague 2011).





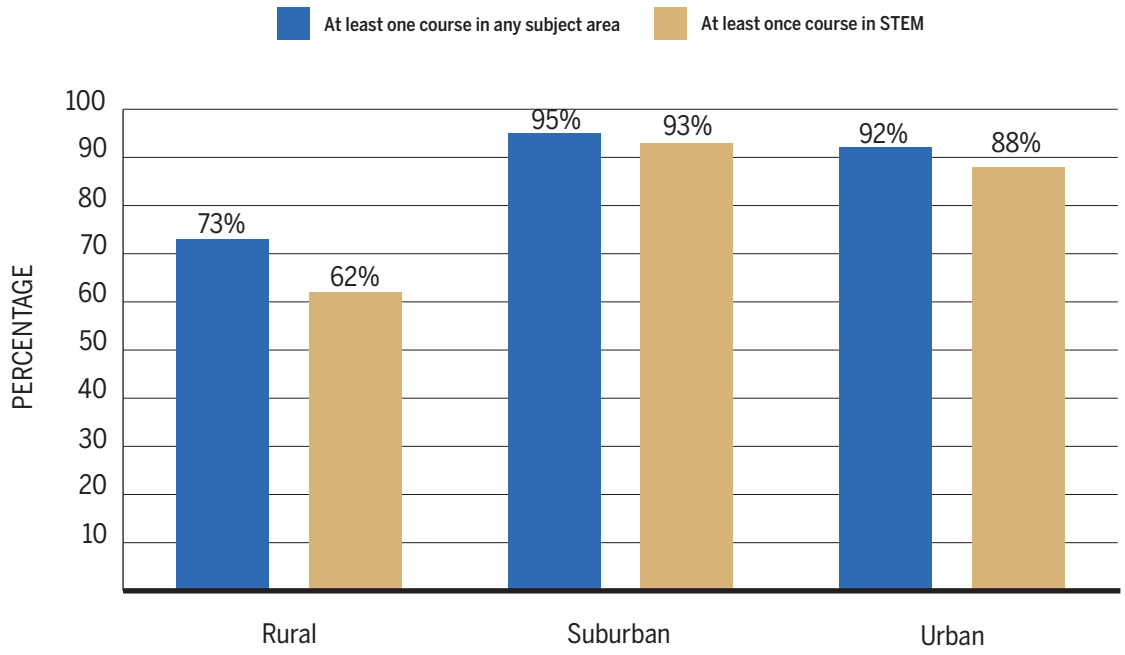
Source: National Center for Education Statistics, National Assessment for Educational Progress, 2015

Limited access to advanced coursework

For many rural students, taking lower-level courses is not a matter of choice, but a matter of access. The average rural school offers half as many advanced mathematics courses as those in urban areas, and nearly half of rural students attend a school that offers only one to three advanced mathematics courses (Graham & Teague 2011).

This problem is not limited to mathematics. For students taking advanced courses across the curriculum, the Advanced Placement program is an option that offers rigorous coursework leading to college credit. The availability of AP courses is an indicator of a school's commitment and ability to offer advanced coursework. In rural areas, 73% of schools offer at least one AP course, compared to 95% and 92% in suburban and urban districts respectively (Mann, Sponsler, Welch, & Wyatt 2017). Rural students have significantly less access to STEM-focused AP courses—just 62% of rural schools offer at least one AP STEM (Science Technology Engineering Mathematics) course, compared with 93% of suburban schools (Mann, Sponsler, Welch, & Wyatt 2017). These gaps may indicate that rural students have limited access to academically rigorous programs.

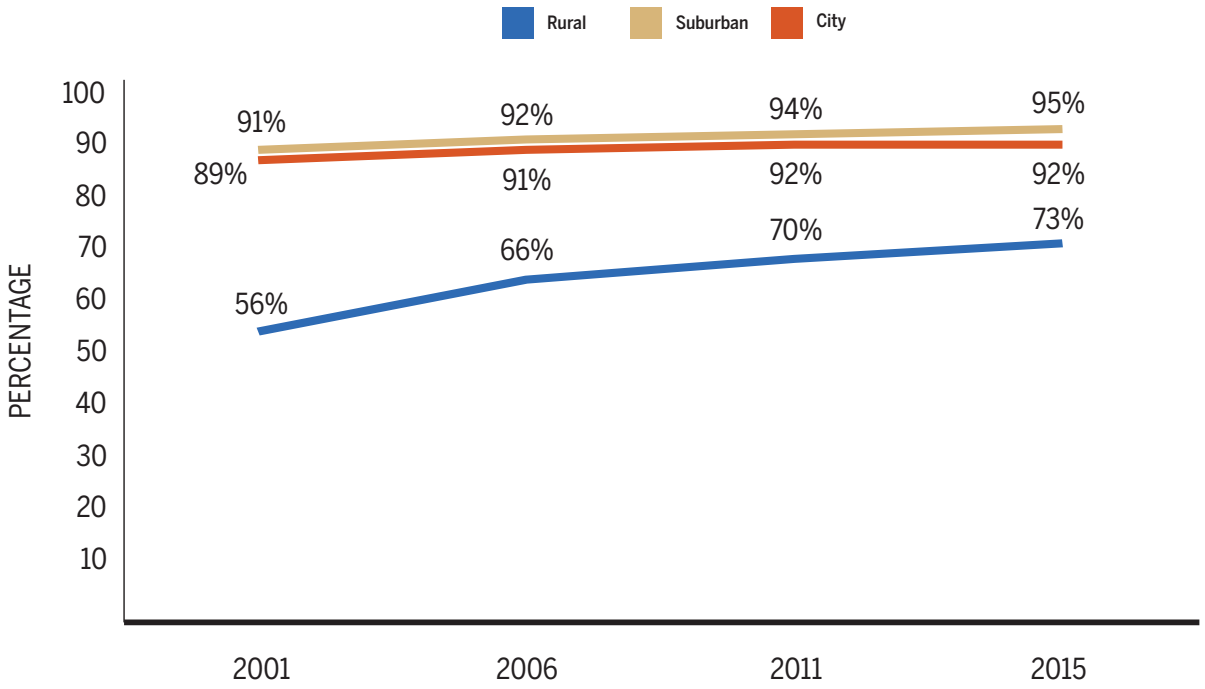
High schools offering at least one AP course, by subject and locale, 2015



Source: Mann, Sponsler, Welch, & Wyatt 2017. Data reflect analysis by Education Commission of the States of NCES Common Core of Data and AP exam data.

AP course access over time, all subjects, by locale, 2001-2015

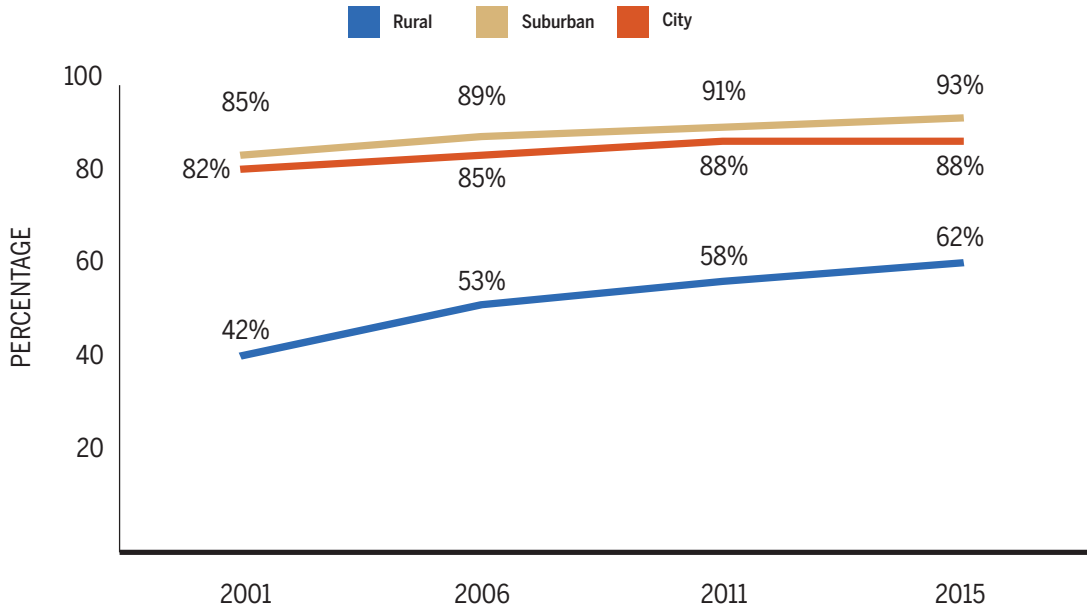
Percent of high schools offering at least one AP course in any subject



Source: Mann, Sponsler, Welch, & Wyatt 2017. Data reflect analysis by Education Commission of the States of NCES Common Core of Data and AP exam data.

AP course access over time, STEM subjects only, by locale, 2001-2015

Percent of high schools offering at least one AP course in a STEM subject



Source: Mann, Sponsler, Welch, & Wyatt 2017. Data reflect analysis by Education Commission of the States of NCES Common Core of Data and AP exam data.

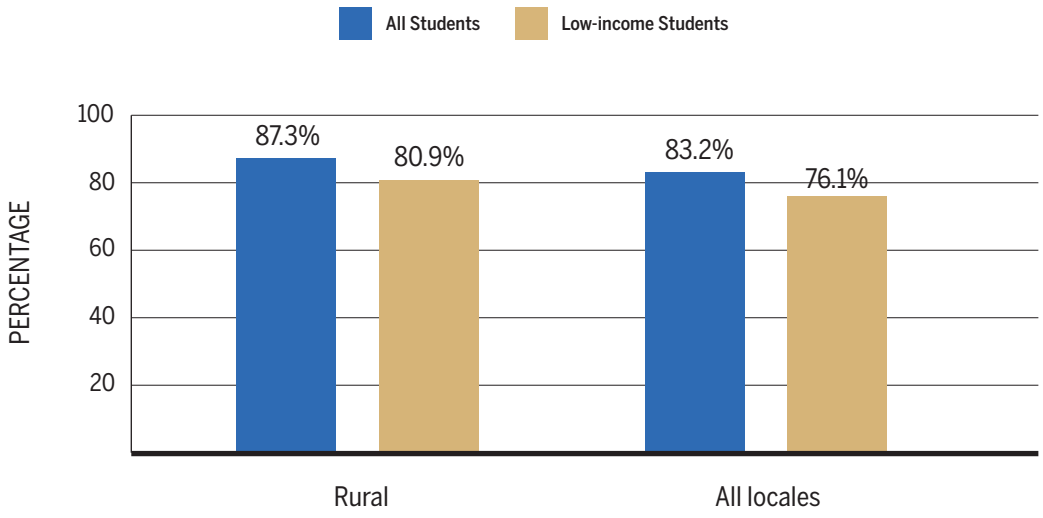
Advanced coursework develops skills, increases achievement, and may even encourage further study in an area. Simply taking an AP class in high school increases the likelihood that a student will go on to coursework in that subject area at the college level (Gagnon & Mattingly 2016). Despite these benefits, in nonmetropolitan areas, advanced courses remain less common, even though AP course access overall has increased significantly since 2001 (Mann, Sponsler, Welch, & Wyatt 2017). This is likely because providing higher-level coursework poses a challenge for rural schools. The small student population common in these areas often means a small teaching staff, which may logistically limit course offerings (Hassel & Dean 2015). In addition, providing any advanced coursework may mean additional training for teachers and potentially hiring additional staff, which, as we will show, is itself difficult for rural districts.

More high school diplomas; lower college attendance

Rural students are more likely to graduate from high school compared to their urban peers, but are less likely to enter and graduate from college (Jordan, Kostandini,& Mykerezi 2012; Department of Agriculture 2017; Hill 2014).

Rural high school graduation rates exceed the national average, and rural low-income students are even more likely than their metropolitan peers to earn a diploma. However, a significant gap exists in graduation rates of rural minority students compared to rural students of all races by nearly 10 percentage points. As in other locales, rural low-income students likewise graduate at lower rates than their more advantaged classmates (Showalter, Klein, Johnson, & Hartman 2017). This disparity persists as students move forward in their education: rural minority adults are half as likely to hold a bachelor's degree as a rural white adult (Department of Agriculture 2017).

Four-year high school graduation rates by locale and socioeconomic status, 2014-2015



Source: Showalter, Klein, Johnson, & Hartman 2017; NCES 2016b. Data reflect NCES Common Core 2014-2015 and analysis by Showalter et al. of US Department of Education's EDFacts Initiative, using 2014-2015 ACGR.

What's working?

Place-based education in Appalachia

Crellin Elementary—Oakland, MD

For rural schools, popular reform methods may actually impose a barrier to success (see Prioritizing rural schools, page 21). Reforms that do not consider the limitations and assets of the rural environment may prove problematic. This is where many rural educators see a role for place-based education, a way of teaching that embraces the resources of the rural context.

Place-based education integrates standard curriculum requirements with local resources, history and nature. In contrast to resources strictly designed to prepare students for standardized testing, the place-based classroom allows community partners, surrounding natural environment, and local history to shape the curriculum (Sugg 2016).

The method has been found to increase test scores across subject areas as well as improve critical thinking skills and attitudes toward learning (Emekauwa & Williams 2004; Ernst & Monroe, 2004). Additionally, working with partners from the local community gives students access to diverse knowledge and skills that may not be available in the traditional classroom (Powers 2004). By creating a framework for education that embraces the local community, place-based education can be an effective method to re-invigorate rural teaching and learning.

Crellin Elementary in Oakland, Maryland, has integrated the surrounding rural community into every classroom, and student achievement shows the result. In addition to awards for environmental and character education, Crellin has been recognized as a top school in the state based on its 100% pass rate on the Maryland School Assessment (Bowie 2010; Sugg 2016). High achievement like this was unexpected for a Title I school with just over 130 students. The surrounding community, a coal-mining town, has struggled with the kind of deep poverty familiar to many of its Appalachian neighbors. Yet Crellin's principal, Dana McCauley, has created an environment that pulls the entire community into the learning process through rich community partnerships, "taking down the walls" of the classroom, and spurring critical thinking (Sobel 2012).

Crellin's place-based learning approach is far from the traditional classroom experience. Local community members share science and wildlife skills learned in their jobs, bring local history into the classroom, and enhance student understanding through projects integrating technology, literacy, and science (Garrett County Public Schools 2017). Students participate in ongoing place-based projects across the curriculum that puts rural life at the center.

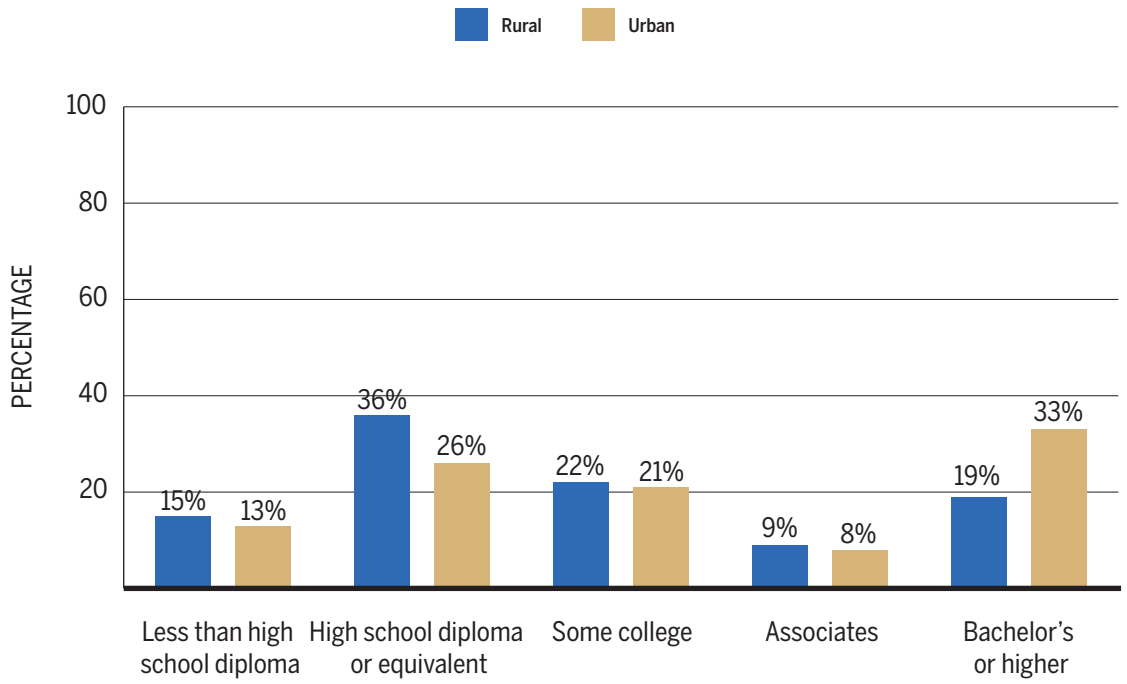
Instruction takes place in Crellin's outdoor classrooms. Its Environmental Education Laboratory includes a wetland, meadow, hemlock forest, and ponds. Students also learn about agriculture at Sunshine Farm, which boasts one calf, two goats, two sheep, and sixteen hens (Garrett County Public Schools 2017).

The success of place-based learning at Crellin Elementary results from educators' embrace of the natural and community resources inherent to rural life. As reported here, many rural schools struggle with low academic achievement and access to academic resources. Place-based education can provide an approach that embraces rurality, allowing students to enrich their learning in an environment that reflects their rural context.

For more information about place-based education, including research-based evaluation and resources for implementation, visit: http://www.promiseofplace.org.

Rural students overall are significantly less likely to hold a college degree than students in metropolitan areas. While about 62% of urban adults have attended at least some college, approximately 51% of rural students do not pursue any postsecondary education (Department of Agriculture 2017). Large numbers of rural students—particularly minority students—are opting out of college, and many of them who do attend do not complete a four-year degree.

Educational attainment for adults ages 25+, 2015



Source: Department of Agriculture 2017. Data reflect 2015 American Community Survey.

Financial concerns and the physical distance of colleges are frequently cited by rural students as hurdles in pursuing postsecondary education (Molefe, Proger, & Burke 2017; Schafft 2016). Another, often overlooked possibility: the academic barriers rural students face at the K-12 level—including lower mathematics and reading scores and limited access to advanced coursework—hinder their ability to attend and succeed in postsecondary education. Combined with the factors of persistent poverty and large physical distances, these specific rural problems limit the academic achievement and educational attainment of rural students compared to their metropolitan peers.

Growing and developing the rural educator

Today's rural student, tomorrow's rural teacher

Before we delve into our discussion of the challenges facing rural teachers, it is helpful to pause and assess the ground we've already covered so that we can better understand where we're going. We know that, broadly speaking, students educated in rural schools experience lower literacy rates, less access to advanced coursework at the secondary level, and lower attendance and persistence through college. Often, we focus our attention on the impact that such disadvantages could potentially have on one student or groups of students. But here, let's step back. What does this all mean at a community level, across generations?

Rural children—those affected by these educational barriers growing up—mature into adults, often rural adults who remain in their home community. Teachers, in particular, maintain very close community ties, with 80% of teachers staying within just thirteen miles of their hometown when seeking employment—a much smaller figure than other professionals (Miller 2012; Reininger 2012). Because of this preference for staying local, rural schools operate under a de facto "grow your own" system in seeking and developing new teacher talent. Crucially, this system relies on recruiting strong, highly qualified teachers from within the community, not simply any certified candidate for the position. Teacher candidates who completed their own K-12 education in a rural district likely encountered these academic barriers themselves, but they make up the largest share of the candidate pool for rural schools seeking teachers today.

As we will see, the academic challenges faced by rural students continue to be reflected in the population of rural teachers. These teachers, then, develop the next generation of teacher candidates, potentially perpetuating the gap between rural and metropolitan students. With this understanding in mind, we move forward to examine the specific challenges faced by teachers in rural communities.

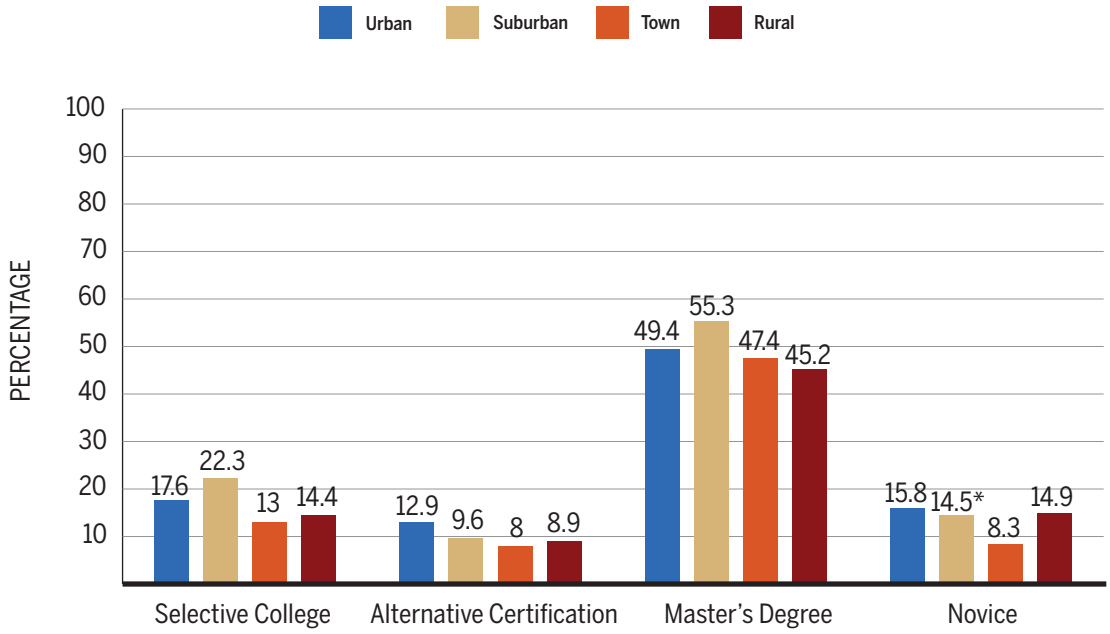
Barriers facing the rural teacher

While a variety of tools attempt to measure teacher quality, the most complete picture comes from examining a number of indicators together. Collectively, a teacher's selectivity of college attended, performance on standardized tests, level of degree and experience, and credentialing status can lend insight to teacher quality. Across the United States, rural teachers graduate from less selective colleges than those in all other locales (Player 2015). In addition, the better qualified teachers tend not to return to their rural schools. Research from Kentucky, for example, shows that both metropolitan teachers and rural teachers with superior academic qualifications were less likely to be employed in rural Appalachian schools (Fowles, Butler, Cowen, Streams, & Toma 2014).

It should be noted that, on average, teachers in rural areas have more years of experience and are less likely to have obtained their credentials through alternative certification methods than teachers in urban areas. Despite these advantages when compared against the urban setting, rural schools employ slightly more novice teachers than do suburban and town schools (Player 2015).

Additionally, teachers from rural areas are less likely to have a master's degree than teachers from a metropolitan area. There is a 10-percentage point gap in master's degree attainment between suburban and rural teachers, and the likelihood of teacher postgraduate education decreases as a community's isolation increases (Player 2015). On the whole, several indicators suggest that rural teachers may come to the classroom with a less selective educational background than their urban and suburban peers, which may negatively impact the learning of the students that they teach.

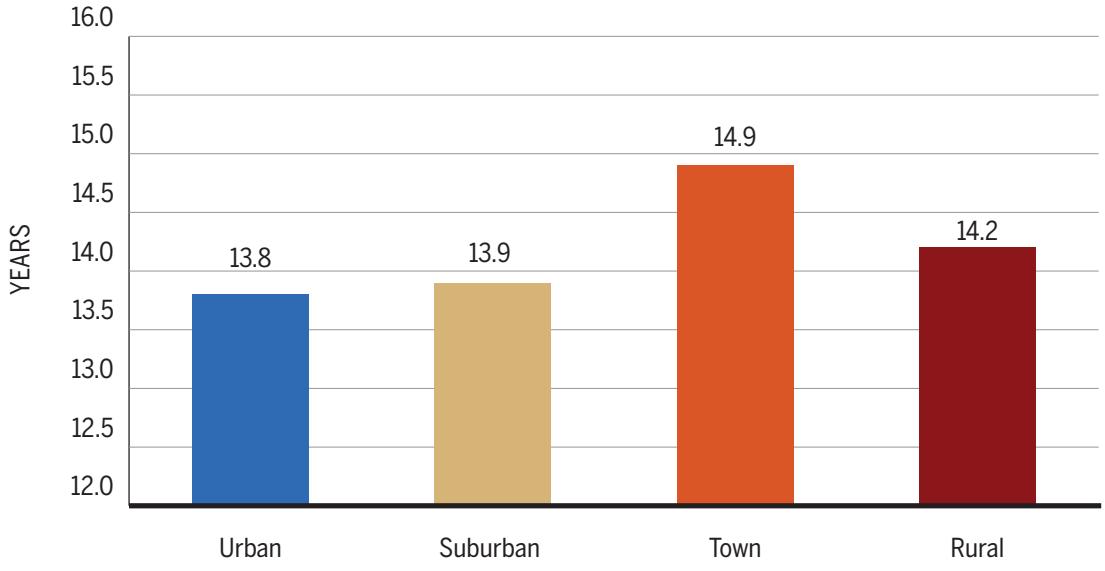
Teacher characteristics, by urbanicity, 1999-2011



*Not statistically different from rural at pL.05.

Source: Player 2015. Data reflect Schools and Staffing Survey—Public Teacher Survey: 1999, 2003, 2007, 2011.

Years of experience, by urbanicity, 1999-2011



Source: Player 2015. Data reflect Schools and Staffing Survey—Public Teacher Survey: 1999, 2003, 2007, 2011.

Hard-to-fill positions

Rural districts have an increased likelihood of employing a critically high percentage of new teachers, especially in districts with large populations of minority students and students in poverty. Employing a "critically high" percentage of new teachers, defined as more than 17% of the teaching staff in the first or second year of teaching, suggests that a school may struggle with high turnover (Gagnon & Mattingly 2012). High turnover rates force districts to commit a higher portion of their time and budget to hiring and training new teachers.

An analysis of teacher turnover in Colorado highlights the challenges many rural districts face. In 2014-15, the state's overall turnover rate topped 17%. But rural districts experienced the highest rates. A factor, of course, is that a single teacher's absence will have a proportionately higher impact in a sparsely populated district. Even so, rural Karval County still impressed by leading the state with a stunning 80% rate of teacher departures in one year (Zubrzycki, 2015).

Research from Kentucky suggests that high turnover in rural districts may be driven more by teachers who leave the profession rather than transfer between districts. One study's authors found that Appalachian teachers become increasingly more likely to leave the teaching profession entirely after their first year in a classroom, whereas teachers in non-Appalachian Kentucky classrooms become progressively less likely to do so (Cowen, Butler, Fowles, Streams, & Toma 2011). As teachers transfer districts or leave the profession, they leave behind vacancies that may be difficult for their former schools to fill.

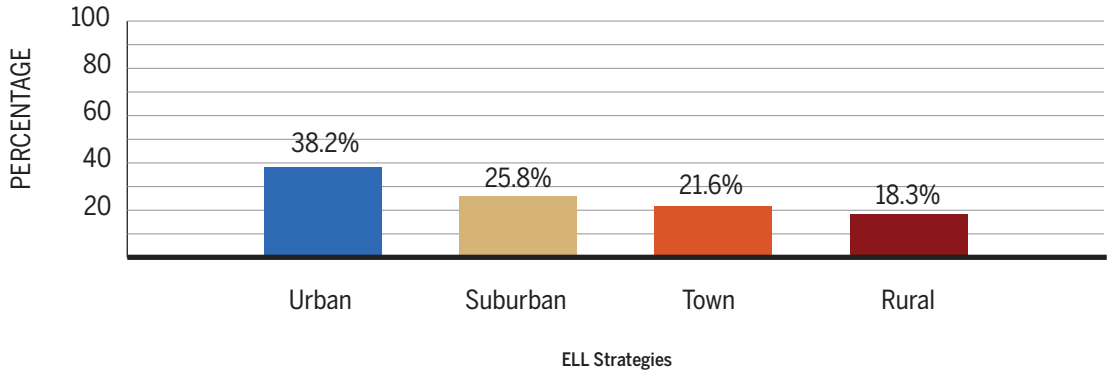
Rural schools are more likely to report difficulty in filling vacancies, particularly in STEM positions, and have a harder time recruiting faculty for their growing ELL population than non-rural schools (NCES, 2012; Player 2015). These hard-to-fill positions may affect decisions about current staff as well as potential new hires. In a survey of rural superintendents in Idaho, 58% of respondents said that they would be hesitant to fire a poorly performing teacher due to the difficulty in finding an appropriate replacement for the position (Johnson, Mitchel, & Rotherham 2014).

Limited access to professional development

High-quality professional development is a favored strategy to train new teachers and create opportunities for continuing education for experienced teachers, especially in areas like STEM and English Language Learner (ELL) support. In fact, math- and science-focused professional development has been shown to increase the academic achievement of students both in the year that they are assigned to the target teacher as well as throughout the following school year (Barrett, Cowen, Toma, & Troske 2015).

However, in rural areas, accessing high-quality, relevant professional development can pose a challenge. Physical distance from universities and other outside providers makes access to professional development a significant barrier, and often the programming developed by metropolitan residents may not be relevant to the needs of rural schools (Johnson & Howley 2015). Rural teachers participate in professional development at lower rates than teachers in all other locales across a variety of strategy areas. Particularly significant is the nearly 20 percentage point gap in participation in professional development related to ELL instruction strategies between urban and rural areas (Player 2015). As the ELL population in rural areas continues to grow, this gap will be felt more acutely by rural teachers.

Teachers reporting participation in professional development focused in ELL strategies, by school locale, 2011



Source: Player 2015. Data reflect Schools and Staffing Survey—Public Teacher Survey, 2011.

School leaders in rural areas also struggle with poor access to high-quality professional development. Little training is available to rural principals relevant to their specific environment, especially in critical topics such as community partnerships, finances, and ELL education (Preston, Jakubiec, & Kooymans 2013). Moreover, rural principals take on a wide variety of duties out of necessity that may differ from those of urban principals and may require differentiated support. Due to low staffing, rural principals often assume a number of simultaneous roles and capacities, including classroom instruction, management of athletic and other activities, facilities management, and administrative tasks that would usually be delegated to a vice principal or support staff in a school with a larger student population (Parson, Hunter, & Kallio 2016). In some areas, they may even be assigned as a principal across multiple small schools in one district (Preston, Jakubiec, & Kooymans 2013).

For rural schools already facing challenges in recruiting and retaining teachers, professional development for principals can be a valuable tool. The small staff sizes common to rural schools can mean that a principal's leadership style and relationships with teachers hold greater impact on the retention of highly qualified teachers than it would in urban schools (Preston, Jakubiec, & Kooymans 2013).

Professional development, when it can be accessed, may be one tool to help rural principals cultivate an effective school environment. Research from Michigan, for example, has found that high-quality professional development for rural principals has a positive impact on staff turnover, among both participating principals and the teachers (Jacob, Goddard, Kim, Miller, & Goddard 2015).

Yet due to their limited access to relevant professional development, rural principals and teachers may not receive the ongoing training they need to be as effective as possible in their roles. Many rural teachers come to the classroom with lower levels of academic preparation than their peers in urban and suburban areas, and rural schools are likely to have a staff with many novice teachers. These factors may impact student learning and perpetuate the metropolitan-rural achievement gap for students.

What's working?

New teacher mentorship in Alaska

Alaska Statewide Mentor Project

In Alaska, teacher retention has historically been a challenge. Rural districts average turnover rates of 20%, with about one dozen of Alaska's 54 districts averaging rates in excess of 30% (DeFeo, Tran, Hirshberg, Cope, & Cravez 2017). Turnover tends to be higher in rural districts due to the isolation and adjustment required to live in these environments. Most new teachers in Alaska are unfamiliar with rural Alaskan community life and may struggle to adapt.

Because Alaskan universities cannot produce sufficient teachers to meet the high need for teachers, most teachers come to Alaska from out of state. The problem is starkest in rural areas, where nearly three in four new teacher hires is new to Alaska (Hanlon 2016; Hill & Hirshberg 2013). This poses challenges for a new rural teacher. Teachers leaving Alaskan schools report that a variety of conditions drove their choice, but notably, factors such as isolation, high cost of living, and cultural differences were especially problematic for those teaching in rural areas (DeFeo, Tran, Hirshberg, Cope, & Cravez 2017).

Regardless of cause, high turnover has been shown to have a significant negative impact on rural Alaskan students (Adams & Woods 2015). Alaska Native students are concentrated in the state's rural villages and produce some of the lowest academic achievement scores in the United States. In 2012, the National Indian Education Study found that a significant gap in NAEP scores in both reading and mathematics for American Indian and Alaska Native students (Adams & Woods 2015). This gap puts American Indian and Alaska Native students behind their peers in reading by about 19 points in the fourth grade and 13 points in the eighth grade. Math scores are similar: American Indian and Alaska Native students score about 16 points below their peers in third grade and 19 points below in eighth grade (Adams & Woods 2015).

Recognizing the harmful effect of high turnover on student learning, the University of Alaska and the Alaska Department of Education and Early Development created a joint project in 2004 called the Alaska Statewide Mentor Project (ASMP). In its first school year, ASMP provided mentorship to more than 300 first- and second-year teachers. Today, the group's 39 mentors and staff modify traditional new teacher mentorship models to meet the specific needs and constraints of teachers in Alaskan communities (Alaska Statewide Mentor Project 2017). Retention has increased across the state, and mentors have helped new teachers navigate the unfamiliar circumstances of rural Alaskan communities in addition to the challenges of the classroom.

Because the majority of Alaska's school districts are in extremely isolated, rural locales, the traditional new teacher mentorship model had to be modified to fit the needs of the Alaskan teacher. In a state where villages are separated by vast distances and inclement weather poses a significant challenge for much of the year, short, frequent mentor visits would not be feasible. Instead, ASMP mentors rely on technology to connect with new teachers between monthly meetings.

Meetings for rural ASMP mentees may be longer and more intensive than those in a more urban environment, and tend to cover issues of village life as much as pedagogy (Alaska Statewide Mentor Project 2017; Hanlon 2016). For rural communities, mentorship does not stop at the classroom door: a community-level approach like the ASMP is the key to success for new rural teachers (Adams & Woods 2015).

In the years before the Alaska Statewide Mentor Project launched, retention for first- and second-year teachers in Alaska averaged at 68%. Today, new teachers who receive ASMP mentoring have an average retention rate of about 79% (Alaska Statewide Mentor Project 2017). In addition to retaining early career teachers, teachers and administrators alike feel that the program supports students: 72% of mentees and 88% of administrators agree or strongly agree that the ASMP mentor had an impact on student learning (Dietz, Herrick, Clark, Findlay, & Atwater 2016).

The Alaska Statewide Mentorship Project promotes teacher retention by enhancing efficacy. A new teacher from out of state entering a rural Alaskan village is faced with many challenges, but high-quality mentorship allows the teacher to adjust to the new environment and become an effective teacher and integrated part of the classroom and community.

Operating a rural district

Consolidation versus small, local schools

Just as in metropolitan areas, rural districts take multiple approaches to organizing and operating schools. Many rural districts and residents debate the merit of consolidating disperse rural schools as a method to share often scarce resources throughout the district. By consolidating schools, districts merge students into a single regional school with an expansive attendance zone, often closing numerous small, hyper-local schools. The choice to consolidate districts is highly regionalized: districts in the Southeast and Mid-Atlantic are more likely to be consolidated, whereas schools in New England and the Great Plains tend to be much smaller and more localized (Johnson, Showalter, Klein, & Lester 2014).

In states with a high level of consolidation, there have often been accompanying policies incentivizing the change with state funding. Other states have directly or indirectly discouraged the continuation of small schools via policies related to staffing and building construction, such as dictating minimum enrollment figures (Howley, Johnson, & Petrie 2011). Due to these changes, states with a high degree of consolidation have a low portion of small rural districts, which have enrollment lower than the national rural median of 484.5 students (Showalter, Klein, Johnson, & Hartman 2017). Conversely, in states that have maintained local schools and forgone consolidation, small districts dominate. Nearly all (96.1%) districts in Montana are smaller than the national average, while West Virginia, with its long history of policies encouraging consolidation, does not have any rural districts that are that small (Johnson, Showalter, Klein, & Lester 2014).

Balancing the books

Consolidation is often promoted as an effort to share costs and resources across a region with a very disperse student population. In these areas, it may be impractical and expensive to maintain redundant services, teachers and facilities. Consolidating, in theory, saves money for districts by minimizing duplication of high-cost items like administration and food service in each small community. For rural areas facing budgetary constraints, this may be an appealing method to relieve some financial burden without sacrifices to instruction.

For these reasons, consolidation was a favored organizational strategy in the mid-20th century. However, more recent research does not quite support its use. With the possible exception of the very smallest schools, modern consolidation efforts actually save little money for districts. An analysis shows that expenses are likely to remain stable or, in some cases, even rise after consolidation due to increased expenses in the areas of transportation and mid-level administration (Howley, Johnson, & Petrie 2011).

Transportation is a large line item for consolidated rural schools, which often require students to be bused across long distances from a large attendance area, often spanning an entire county. Though consolidated schools may pool resources at a county or regional level, they are faced with hefty transportation budgets due to the cost of busing students to the regional school. More than half of West Virginia's schools are considered rural, for example, but are consolidated along county lines which often span hundreds of square miles. Consequently, West Virginia's schools must rely heavily on busing students long distances and thus contend with the lowest ratio of instructional to transportation dollars in the United States (Johnson, Showalter, Klein, & Lester 2014).

This unbalanced ratio is common to consolidated rural schools, and may be detrimental to students academically. Because an increased portion of a consolidated school's budget is dedicated to

transportation, less money can be directed toward instruction. Additionally, larger school size may disadvantage students academically, decrease extracurricular participation, and lower graduation rates (Howley, Johnson, & Petrie 2011). This all may mean that an attempt to balance the budget could have significant negative consequences for student learning.

Inequity and extended school days

Consolidation may also pose an issue of equity for rural students. For rural districts, most notably those with a high population of poor or minority students, small size has been associated with improved academic outcomes when compared with larger, consolidated districts (Howley & Howley 2001). In contrast, larger school and district size has been correlated with increasing achievement gaps for poor and minority students (Howley, Johnson, & Petrie 2011). Given that rural districts are also likely to have a high population of students in deep, persistent poverty, particularly minority students, consolidation may have negative consequences for a significant population of vulnerable students.

Large school size is not the only aspect of consolidation that may compromise a rural student's educational experience. Rural students, especially those who attend a consolidated school, experience a much longer school day due to lengthy bus rides. This may negatively impact students both inside and outside of the classroom. One quarter of rural students have daily bus rides over one hour in length, and about 85% have rides of at least 30 minutes (Howley & Howley 2001). This time is added on to the regular school day, creating an extended schedule that may have a negative impact on sleep, extracurricular activities, and family and community life. The long bus ride created by a consolidation changes the school experience for both student and family. Parents of children attending a consolidated school report that long driving distances make them less able to participate in their child's education (Howley, Johnson, & Petrie 2011). Students may find themselves fatigued in class or unable to participate in after-school activities due to the long bus ride on either end of their school day.

Despite districts' desire to be practical through consolidation, their rural students may experience negative academic outcomes as a result. Additionally, circumstances in and out of the classroom for students in a consolidated school may produce negative consequences in family and community life (Howley, Johnson, & Petrie 2011). Consolidation, recognized by current research to produce minimal or negative cost savings, may come with significant considerations for student academic achievement and social well-being, as well.

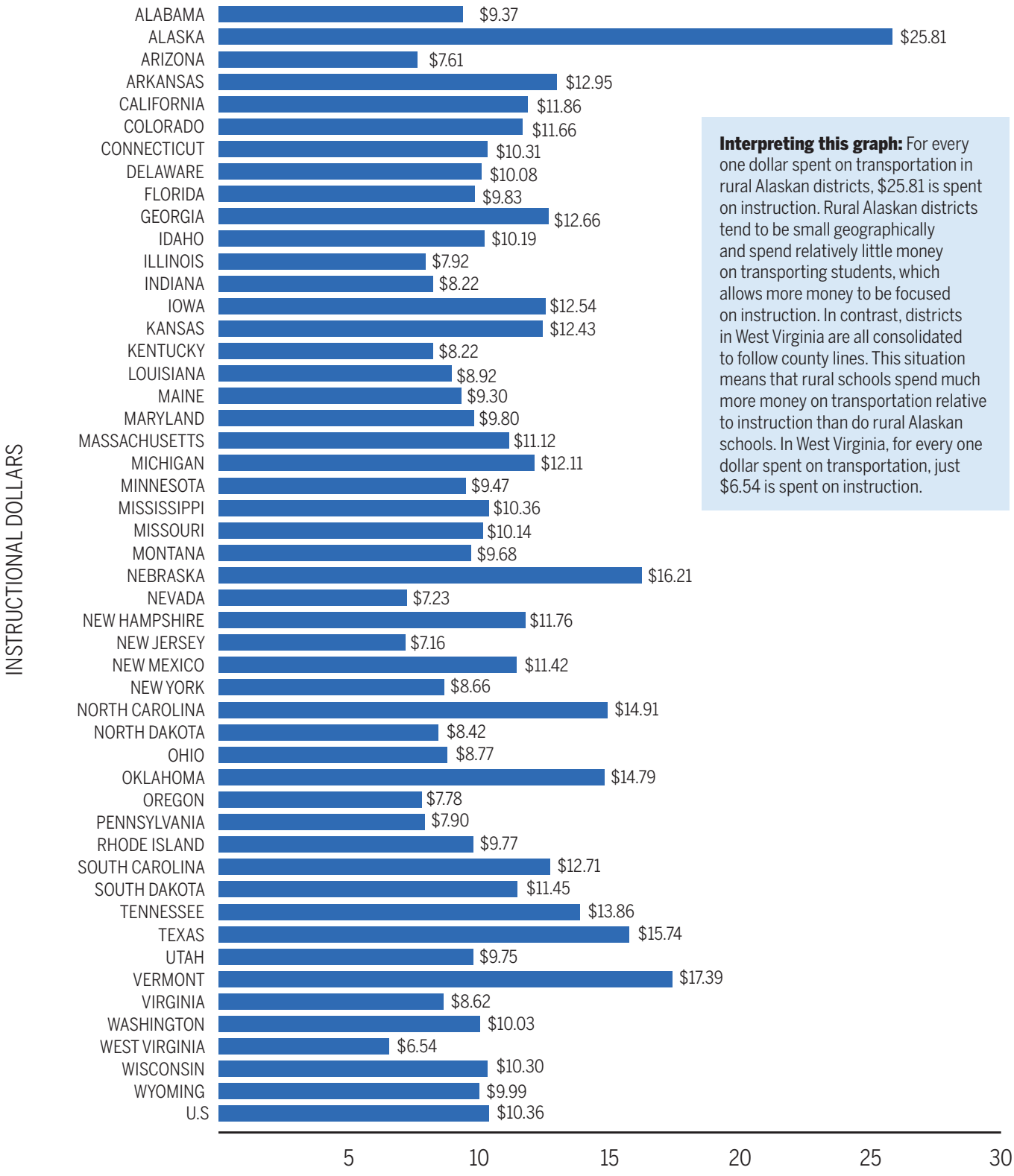
Prioritizing rural schools

Metropolitan perspective

As we have shown, rural schools have their own unique challenges. Rural students face high levels of poverty and are often taught by less academically prepared teachers. Districts must balance the benefits of sharing resources through consolidation with the potentially harmful effects on students. Given the notable challenges facing rural students, staff, and schools, one would expect that these issues would be a central focus of policy and academia. However, funding and reform efforts largely maintain the perspective of the metropolitan areas in which they are developed.

In popular perception, education reform is largely directed toward the needs of underserved populations. Yet the specific needs of rural communities are often overlooked in policy discussions.

Ratio of instructional to transportation expenditures in rural districts, by state, 2011-2012



Interpreting this graph: For every one dollar spent on transportation in rural Alaskan districts, $25.81 is spent on instruction. Rural Alaskan districts tend to be small geographically and spend relatively little money on transporting students, which allows more money to be focused on instruction. In contrast, districts in West Virginia are all consolidated to follow county lines. This situation means that rural schools spend much more money on transportation relative to instruction than do rural Alaskan schools. In West Virginia, for every one dollar spent on transportation, just $6.54 is spent on instruction.

Note: No data for Hawaii or Washington, DC. Source: Showalter, Klein, Johnson, & Hartman 2017. Data reflect NCES Common Core of Data, Public School Universe Survey 2011-2012.

Although the omission may be unintentional, it has not gone unnoticed: in a recent survey, 57% of policy insiders felt that rural education was not important to the U.S. Department of Education (Johnson, Mitchel, & Rotherham 2014). Academia, as well, minimizes the importance of rural education: titles of articles in major education journals feature the term "urban" approximately 16 times more frequently than the term "rural" (Schafft 2016). Not only is rural education studied less frequently, but when it is addressed, the topic is often examined through the perspective and values of metropolitan academics and policymakers. This urban-centric approach leaves the assets and concerns of rural communities unaddressed, and as a consequence, leads to funding and reform mechanisms that do not accommodate the rural context (Johnson & Howley 2015).

The unfortunate result is that the needs of approximately one in five American students are too often overlooked due to the location in which they live. Students in deep and persistent poverty, teachers with minimal access to professional development, and districts with large transportation budgets must all contend with unique challenges due to their rural nature. The population of rural America is in itself significant enough to warrant deeper study and attention in policy, but as examined here, rural students face serious barriers to obtaining a quality education and opportunities in college and career. Below we address federal and state policies that fail to consider the specific needs of rural students and educators, notably metropolitan-focused reform strategies and funding.

Inapplicable reforms

The 2001 No Child Left Behind Act approved the use of federal funds for four reform strategies to improve chronically low-performing schools: turnaround, restart, closure, and transformation. The first three of these required large-scale firings and staff turnover, or alternately, transporting students to better schools. While the new Every Student Succeeds Act is no longer as prescriptive, variations of these turnaround strategies remain popular among policymakers, including school choice and the hiring and firing of staff (Center for American Progress, 2016). Yet they reflect a narrow conception of the issues different schools face across the nation, and are at best, difficult, or at worst, impossible for rural communities to implement (Johnson & Howley 2015).

In a rural area, the school is often a major employer, so much so that requiring the replacement of an entire staff in a low-performing school is highly impractical. Not only would a school undergoing such a change suffer due to the creation of hard-to-fill vacancies across high-needs subject areas, but also the wider community would suffer economic distress from a destabilized job market (Johnson & Howley 2015).

Widespread closure of failing rural schools creates problems similar to those of consolidation: long distances make it impractical and expensive to transfer students to a more successful school. Transferred students experience, at a minimum, a long bus ride, which impacts sleep quality and home life, as well as achievement.

Today, a new wave of reform is injecting itself into rural education. Proponents of charter schools tout their potential to return control to rural communities affected by consolidation (Ryan & Hill 2017). However, advocacy of rural charter schools, an expansion of the urban charter reform effort, often seeks to lift theory directly from the urban classroom and apply it directly to the rural setting with no accommodation for the rural environment. This push does not yet appear to reflect a genuine interest, as charters, having little financial incentive to locate in a low-population area, have not yet established a significant presence in rural communities: just 11% of charters are located in rural areas, as compared to a 56% concentration in urban areas (McFarland et al. 2017).

Students and teachers in rural areas are part of a disperse population, where establishing a functioning parallel educational system would be impractical (Johnson & Howley 2015). Achieving a robust, high-quality system that exists outside the mainstream public schools would be challenging due to the simple limitation of small population sizes.

Another prominent reform in rural areas is the virtual school. Though recent literature has begun to expose the questionable educational value of virtual schooling, the approach maintains a core group of followers, chief among them U.S. Education Secretary Betsy DeVos (Herold & Prothero 2017). Supporters of a virtual solution for rural students suggest that providing online courses could relieve some of the pressure from traditional rural public schools by creating access to advanced coursework and credit recovery opportunities (Hassel & Dean, 2015). However, virtual schools rely on a critical technology that is in short supply for rural schools and students: high-speed internet. More than 68% of the 23.4 million Americans across the country who lack access to a reliable broadband connection live in rural areas (Microsoft 2017). Even basic levels of broadband service have not yet reached full penetration in rural areas, and in the most remote areas, getting any connectivity at all can be problematic.

Connecting to the internet at sufficient speed to engage with online learning modules poses a challenge for students within school buildings as well as at home. Two in three schools nationally, rural and urban alike, struggle with internet speeds below 25 Mbps (Megabits per second), while the official recommendation suggests a minimum of 100 Mpbs for every 1,000 users in the school (Hassel & Dean 2015). Rural schools in particular, often constrained by rough terrain and long distances, struggle to meet these connectivity recommendations (Microsoft 2017). Until connectivity issues are resolved, virtual schools will not be a practical solution for many rural students.

The recent push to consider virtual and charter schools for rural communities reveals a minimal appreciation of rural issues. Not only does this metropolitan perspective produce ineffective and inapplicable reform trends, but it also drives funding mechanisms that inappropriately disadvantage rural students and schools, perpetuating the deep, multigenerational poverty and low educational attainment of rural communities.

Less funding

Among the most significant barriers rural schools face is inadequate funding. On average, rural districts receive just 17% of state education funding (Showalter, Klein, Johnson, & Hartman, 2017). Considering that one in two districts is rural and serve one in five students—and that many face challenges of high poverty rates, a growing ELL population, and hard-to-fill-staff positions—this distribution is severely lacking.

Competitive grant opportunities, which could supplement state and local dollars, are impractical for many rural schools (Brenner 2016). The grant application process requires a substantial amount of work from specially trained staff. Due to the small administrative staff common in rural districts, however, there is often no one experienced or available to complete a lengthy grant application (Johnson, Mitchel, & Rotherham 2014).

Choice and rural districts

When the topic is school improvement, chances are "choice" will be high on the wish list of many policymakers and advocates, most notably, the current administration. Yet the jury is still out as to the merits of choice policies, including charter schools and vouchers, may or may not have for student learning (Center for Public Education, 2017). However, one thing about school choice is clear: on a purely practical level, it's a metropolitan-centric strategy.

There's a simple reason for this: Geography. Rural districts are sparsely populated, but can cover hundreds of square miles. In addition, rural schools tend to be small, and have difficulty attracting qualified teachers and principals. In most cases, the market for school choice in rural areas is just not large enough to be worthwhile. It's not surprising, for example, that only 11% of charter schools are rural compared to 56% that are located in city districts (McFarland et al, 2017).

Research from Stanford University further shows that charter schools don't fare as well outside the urban areas where they tend to be concentrated. According to their analysis, overall charter school performance is only slightly better than traditional public schools. Just 25% of charter schools outperform their traditional counterpart in reading and slightly more (29%) do so in math. Most make no significant difference at all and some do worse (CREDO, 2013). However, when looking only at urban charters, 38% outperform traditional public schools in reading and 43% do in math (CREDO, 2015).

The dual challenge of long distances and small populations has led many choice advocates to look to virtual charter schools as a way to provide options in rural areas. And the idea has a lot of appeal. Indeed, a recent study by CPE showed that two-thirds of all rural schools already provide distance learning opportunities for their students—more than city, suburban or town public schools (CPE, 2017).

However, the space between the promise and reality of online learning still looms large in many rural areas. An ongoing obstacle is connectivity. More than two-thirds of Americans who lack access to internet live in rural communities. Many schools stumble along with slow connections, while those in remote areas have no connectivity at all (Microsoft, 2017). Participation in virtual charters is just not possible for these students.

Even more significant is that, to date, virtual charter schools are failing to produce results. The Stanford team compared the academic growth of online charter students to their peers in brick-and-mortar public schools. In both math and reading, online charter students lost ground. In math alone, the loss was the equivalent of a whopping 180 fewer days of learning (CREDO, 2015).

A major problem is that a large proportion of school districts lack sufficient staff and infrastructure to adequately support online learning. According to a CPE report on virtual schooling, about half of school districts reported they did not have the capacity to monitor log-on activity or time spent online, while 30% were not able to even record attendance (CPE, 2012). As we've shown, staffing is an even greater problem for isolated rural districts.

Whether school choice is an effective reform strategy is still debatable. What's not is that a choice policy, by definition, implies the availability of choices. In rural districts, already challenged to hire staff and move students over long distances to "neighborhood" schools, choice is not likely to be either practical or effective for the foreseeable future.

Even funding based upon formulas may create inequalities for rural schools. Rural districts, which tend to have small student populations, have been found to be disadvantaged by the Title I funding formula, which emphasizes the number of students in poverty over the portion of a school's students that are in poverty (Camera & Cook 2016). Even among student populations with a higher poverty rate, a small district receives less money (Yettick, Baker, Wickersham, & Hupfeld 2014).

Rural schools not only receive smaller awards than their metropolitan equivalents, but they also receive funding less frequently. Before the 2015 Every Student Succeeds Act (ESSA), a majority (58%) of School Improvement Grants were given to urban schools, while just 18% were given to rural schools (Johnson & Howley 2015). These awardees in sum represent approximately 2% of all urban schools and just 0.5% of all rural schools, suggesting a great disparity in SIG award distribution. The pattern of past awardees reflects a perspective and funding prioritization clearly weighted toward metropolitan issues (Johnson & Howley 2015).

The funding landscape under ESSA does not look much better for rural schools, as they receive a minimal focus. Rurality is suggested as a quality to consider in grant distribution, but not accompanied by minimum measurements or requirements to ensure equity (Showalter, Klein, Johnson, & Hartman 2017). Crucially, ESSA makes changes to eligibility in the Rural Education Achievement Program (REAP) that may have a significant effect on rural schools' ability to seek federal funding. By aligning definitions of rurality with the 2006 NCES locale codes (see What is 'rural?', page 3) and the 2010 census, ESSA made numerous schools ineligible for funding (Showalter, Klein, Johnson, & Hartman 2017). An entire district will become ineligible for funding from both the Small Rural School Achievement (SRSA) or Rural and Low-Income Schools (RLIS) programs if a single school within the district is not rural, even if an overwhelming majority of schools in the district are rural. With ESSA's updated definitions, more schools are considered to be in towns, meaning that a single school that had previously been considered rural may now disqualify its entire district. The result of this change: approximately 6% of schools that were eligible for SRSA before ESSA are no longer eligible today (Showalter, Klein, Johnson, & Hartman 2017).

Conclusion

The image many have of rural America—pristine, idyllic, and untouched by modern problems—is obviously outdated, as we have learned throughout this paper. Recent events have shone a spotlight on the experiences and troubles of rural America, refocusing our attention on the realities and significant challenges that face these communities. And yet the issues confronting rural schools have rarely made it to the table in discussions about education.

The modern rural school contends with problems largely unrecognized from the typical outsider's metropolitan perspective. Conditions of deep, persistent poverty present in many communities compound existing problems for students, staff, and schools. Rural students struggle with low achievement and fewer opportunities to take advanced courses, while their teachers arrive to the classroom less academically prepared than their metropolitan counterparts. Both teachers and principals in rural areas have limited access to quality professional development, further hampering the potential for rural schools to grow and develop effective educators. Districts,

facing budget cuts and pressured to share limited resources, have turned to consolidating schools, creating burdens on students and family life.

At every level, education systems in rural communities confront a set of obstacles that stem from circumstances of the surrounding environment. These challenges are specifically rural in nature, and require solutions designed for the rural classroom.

At this time, the national conversation around education often neglects the perspectives, needs, and circumstances of rural America, despite high needs and widespread challenges. Yet the importance of rural education is not to be minimized: as reported here, one in five students, one in three schools, and one in two districts are located in a rural community. These issues are now more relevant than ever.Our continued failure to include the voices of this critical portion of the country undercuts our commitment to provide every student with the high-quality public education they deserve.

What can school district leaders do?

It may seem like there is little that can be done about the unique challenges that rural America faces, but school board members and superintendents who are committed to advancing their communities can begin by asking themselves the following questions:

Do you frequently deal with staff vacancies? Which content areas or roles seem to be the most impacted? Do you have contingency plans on how to fill these positions quickly, and with high-quality candidates? Do you have a process to determine why staff leave? What programs and strategies do you have in place to retain high-quality staff?

What training opportunities are available to principals to develop leadership capabilities? Does this training address challenges particular to your local environment and encompass any dual roles the principal may play?

Have you fostered relationships with local business owners, skilled professionals, retirees, and other residents who could use their time and talents to extend the meaning of a learning community?

Are there local, regional, or state consortiums you can join or launch to address specific issues that afflict your community (food scarcity, poor healthcare access, lack of transportation)? Have you developed a relationship with your local and state policymakers to advocate for your community's needs?

Can you pool resources with neighboring districts to get more "bang for your buck" when planning professional development programs or applying for grants?

Do you know which universities your teaching staff tends to graduate from? Have you built a relationship with a university highly represented among your staff, or with another local university?

If you have already established a partnership with a university, how could you further that relationship? Are there opportunities for joint research initiatives that may help you identify needs specific to your students and staff?

This report was written by Megan Lavalley, a research analyst for the Center for Public Education.

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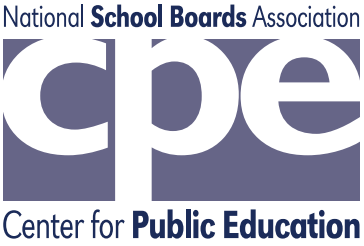

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