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PRE-K THROUGH 12 EDUCATION AND COVID-19: LANDSCAPE ANALYSIS OF IMPACT INDICATORS

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1. INTRODUCTION

North Carolina began bracing for the arrival of the 2019 novel coronavirus (COVID-19) in February of this year. The first known positive test in the state was March 3, and by March 14, NC Governor Roy Cooper announced an executive order closing all K-12 public schools to lessen the spread of COVID-19. Six weeks later he cancelled all in-person instruction statewide for the remainder of the 2019-2020 school year.

The arrival of COVID-19 accelerates a number of pre-existing and long-term trends in Pre-K through 12 education in North Carolina, including state disinvestment in education, the growing gap between private and public schools, and the rise of online learning. COVID-19 is having a monumental impact on Pre-K through 12 education in North Carolina that will be felt for decades.

From July through September 2020, our interdisciplinary, cross-sector team conducted a landscape analysis of national and state sources in order to identify the extent to which data are being collected around various impact indicators that are needed to answer the guiding research question:

In what ways and to what extent has the COVID-19 pandemic impacted racial and socioeconomic inequities in educational opportunity and access in North Carolina?

Our task was to identify what data already exists, what is being collected, and what data should be collected in the future in order to address educational inequality in North Carolina. Our analysis focused on the following topic areas that are relevant to COVID-19 and equity in educational opportunity, access, and outcomes:

- Technology and Remote Learning
- Teachers
- Resources and Opportunity
- Academic Outcomes

Overall, this landscape analysis revealed that there is limited available data to assess the impact of COVID-19 on education in North Carolina across all topic areas, in large part due to limited resources and time to collect information. As anticipated, state and other research institutions have been unable to conduct large-scale data collection efforts during the months of school and state shutdown. What data we do have at this time is either based on projections taken from existing research before the pandemic or national studies that indicate trends likely taking place in North Carolina. Over the next year, some data will be made publicly available that can help to begin answering the guiding research question above, but extensive new data collection and analysis efforts will be necessary if we hope to truly understand how Black and Latinx students, as well as economically disadvantaged students throughout the state have fared during the pandemic and will fare in the years ahead.

2. TECHNOLOGY & REMOTE LEARNING

COVID-19 and the closure of school buildings across the country created an unprecedented crisis for our Pre-K through 12 education system. The shift to remote learning required educators, parents, and students to adapt overnight to new ways of teaching and learning. This crisis also heightened existing inequities and created a new set of challenges to providing equitable access and opportunities for all students. This section examines technology and remote learning as impact indicators in educational equality in North Carolina, including issues of access to internet and devices, remote learning, and student privacy and security.

ACCESS TO INTERNET & DEVICES
In North Carolina and across the country, access to broadband internet, defined as a download rate of 25 megabits per second or greater, is an increasing concern for education equity advocates, and when COVID-19 led to the shutdown of school buildings across the country, the need to improve access became an emergency (Wagner 2020). Lack of broadband access, sometimes referred to as the "homework gap," has become a primary driver of the "school gap." Students without or with limited home internet access or devices experience difficulties in accessing online learning resources, research tools, and completing or turning in their homework on time than their peers with connection. Importantly, given that many assignments are now completed or turned in online, having home internet connection may be a required class material (PSFNC 2020b).
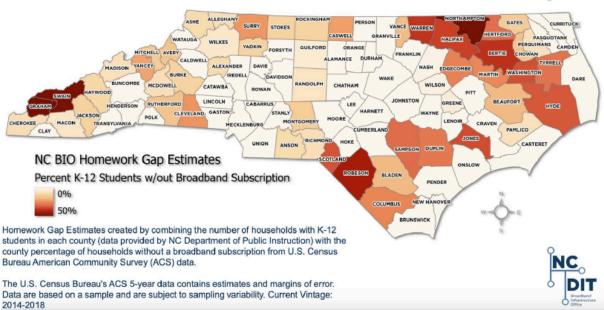
Students may lack home broadband access for a number of reasons, including not having connection options or parents not subscribing due to the cost or access. Even if students have internet access at home, they must also have adequate devices (and enough of them for all youth and remote workers in the home) in order to effectively use the internet for their school work (PSFNC 2020b). In light of the switch to remote learning, the racial, economic, and geographic disparities in educational opportunity have only become more pronounced because economically disadvantaged, rural and students of color traditionally have less access to broadband and adequate devices. The intersection of online learning and at-home instruction reinforced how school inequalities are intimately tied to household economic inequities and historically underserved communities of color.

In the U.S., approximately 31 percent of Black and Latinx households and 34 percent of American Indian households lack high-speed home internet, compared to 21 percent of white households (ALL4ED 2020). A 2015 Pew Research Center report indicated that 17 percent of all teenagers – and 25 percent of Black teenagers – have difficulty completing homework assignments because they lack reliable access to a computer or internet connection (Terada 2020). According to a survey from the Kaiser Family Foundation, parents of color in the U.S. are three times more likely than white parents to report worrying that their child will not have access to the technology needed for online learning (49 percent vs. 17 percent), and about five times as likely to worry their child will not have enough to eat at home (44 percent vs. 9 percent) (Hamel et al 2020).

Similarly, parents with household incomes under $90,000 are more than four times as likely as higher income parents to worry that their child will not have access to the technology needed for online learning (43 percent vs. 10 percent) (Hamel et al 2020). For many students, particularly in remote, rural areas, their school building may be the only place where they have access to high-speed internet.

According to the Broadband Infrastructure Office, part of the North Carolina Department of Information Technology, recent estimates indicate that approximately 200,000 households with students in North Carolina lack access to the internet. The state's broadband deployment rate is about 95 percent – which is high compared to that of surrounding states. However, many rural areas still lack access (Wagner 2020).

An even more significant challenge in North Carolina is broadband *adoption* – which refers to households that subscribe to an internet service plan. The state's broadband adoption rate is only 59.4 percent. Cost, both for a subscription to an internet service plan and for a device, is a major barrier for many low-income households to obtain the services they need. Almost half all children in the state are classified as either poor or low-income, thus the cost of internet service may be out of reach for many of their families (Wagner 2020). Another barrier to broadband adoption is lack of buy-in from consumers. For families that do not rely on the internet for work or other needs, purchasing a subscription for internet service may not be considered necessary. Relevancy often overlaps with cost barriers, especially if families need to prioritize other purchases – like food and health care – over internet service. Broadband access and adoption data for North Carolina are not broken down by race (Wagner 2020).

State and district leaders in North Carolina have made efforts to quickly address gaps in access to internet service and devices. For instance, the Governor's office used donations from AT&T, Google and Duke Energy Foundation to fund the repurposing of 280 school buses to serve as mobile hotspots in 29 counties across the state (Porter 2020). Many districts across the state have distributed hotspots and devices to students who lack internet access in their homes – but the challenges related to access to technology remain a major barrier to student learning.

In July 2020, the Broadband Infrastructure Office launched a new North Carolina Broadband Survey to gather data on broadband access at particular locations. The intention of the survey is to provide clear

data to guide future investments in the Growing Rural Economies with Access to Technology (GREAT) grant program as well other funding streams and to inform policy recommendations (NCDIT 2020). The Department of Public Instruction also created a Home Access Survey for districts to use to evaluate technology access and needs among their school communities. Many schools and districts collected their own data – whether formally or informally – immediately after school buildings closed in March. However, these data have not been systematically compiled and are not publicly available.

What we need to know: The data collection efforts underway by North Carolina's Broadband Infrastructure Office and the Department of Public Instruction are promising in terms of the potential for dramatically expanding our understanding of the current gaps in access to broadband internet and devices and how best to address them. However, those who lack access are also the hardest to reach, and thus, families in need are likely to be significantly under-counted and underserved (Poon 2020). The survey created by the Broadband Infrastructure Office includes one question on demographics related to the respondent's highest level of education. However, we do not have detailed data on access and adoption at the household level broken down by race, income, or immigration status for North Carolina. Regional data on access could, however, be cross-referenced with residential and student demographic information to generate estimates of disproportionate access across sub-groups.

REMOTE LEARNING

School closures due to the pandemic have forced families and communities across the state to quickly adapt to remote learning. In North Carolina, home school enrollments have risen 83 percent over the previous decade, and parents crashed the state online portal for registering new home schools on its first day open, July 1, 2020 (Gordon 2020a). With widespread closures at the start of the 2020-2021 school year, one response on the part of parents with means has been the formation of "pandemic pods" – small groups of students receiving in-person instruction or facilitation from a private tutor (Natanson 2020).

Not every child has access to remote learning services and supports. Data from Curriculum Associates, creators of the i-Ready digital-instruction software, indicated in June that only 60 percent of low-income students regularly logged into online instruction in spring 2020, while 90 percent of high-income students logged in. At schools that serve predominantly Black and Latinx students, just 60 to 70 percent of students were logging in regularly (Dorn et al. 2020).

As of April 2020, almost 60 percent of NC school district plans did not include requirements for any "synchronous" instruction for students — and only 15 percent planned to require it for all K-12 students (Hassel and Hassel 2020). In districts with the highest percentages of students of color, only 7 percent planned in April to require synchronous learning for all grades (Hassel and Hassel 2020). Over one-third of North Carolina's public school students started the new school year remotely because the majority of school districts decided that it was not yet safe to resume in-person classes (Hui and Grubb 2020).

Pods will not solve the remote learning crisis created by COVID-19, and they are likely to exacerbate social inequities in education. Children and families with disproportionate access to resources will have the means to facilitate private learning pods, likely diminishing their learning loss and therefore widening achievement gaps when schools reopen. As Green 2020 notes, "In a country where 75 percent of white people report that the network of people with whom they discuss important matters is "entirely white, with no minority presence," it is not a leap to predict that learning pods will mirror the deeply racially segregated lives of most Americans."

Additionally, pods may exacerbate teacher turnover, because wealthy families are willing to pay higher salaries for private education services than public schools. According to a recent inquiry by *The Washington Post,* no reliable data exists about how many teachers have left the virtual classroom to teach in pods, or are considering leaving in the future. Some schools have issued warnings that instructors who are leading pods while teaching will be terminated (Natanson 2020).

What we need to know: If pandemic pods and inequitable access to remote learning supports do, in fact, exacerbate racial and social inequity in education, we need reliable data showing when, where, and how they do so. This includes research into: how many teachers are leaving the public school classroom to take privately-paid positions as pod facilitators; where learning loss gaps and social/emotional development gaps will disadvantage students who lack access to the academic and social/emotional benefits of pod learning; the effectiveness of online education for students within and outside of pandemic pods; and how the durability of private pods will impact public school education in the years after the pandemic.

STUDENT PRIVACY & SECURITY
In September 2020, the North Carolina General Assembly passed House Bill 1105, which included $22 million for DPI to award as grants to public school units and $1 million to DPI for Gaggle safety management products to enhance student safety during virtual learning (Fofaria 2020a). Gaggle describes its program as "a digital sentry that keeps students safe" (Gaggle n.d.). The program allows districts to monitor the use of laptops issued to students through the schools - including review of files, online drives, and emails for "alarming content" – violations of appropriate language, questionable content, and safety issues (Davis 2019).

Take one example of Gaggle's sentry surveillance from Mooresville Graded School District in North Carolina. The district's Assistant Superintendent for Elementary Instruction and Technology, Scott Smith, describes a pre-COVID situation on the Gaggle website for "Success Stories." Smith describes a phone call he received at 2:00am:

> A student in the district had emailed her father (using a school-issued device) about how she locked herself in the bedroom because she thought she heard an intruder in the home. "When are you coming home?" the email said, "I'm locked in the bedroom. I think somebody's trying to break in." Dr. Smith alerted the local police department to conduct a wellness check on the student. Thankfully, the "intruder" turned out to be an older sibling who was locked out of the house. "Gaggle did what it was supposed to do," [Smith] explained (Gaggle n.d.).

This anecdote highlights deeply problematic aspects of surveillance technology and district-issued smart devices. Gaggle intervened based on a monitor of student emails, which led the district administrator to call the local police. The efficiency of connection between "sentry" surveillance and police mobilization is frightening, particularly in an era of heightened visibility of Black vulnerability to police violence. As Fedders 2019 has noted, "there is a troubling lack of transparency with students and families regarding what words trigger a Gaggle alert as well as how discretion is deployed regarding when to send an officer to a student's home" (1704).

Gaggle and other surveillance technologies extend the reach of state surveillance of and threat to Black lives in North Carolina. "Already vulnerable populations are those most likely to experience negative repercussions from being surveilled" (Fedders 2019, 1715). This includes low-income students who are

more likely to rely on school-issued devices, Black and other racial minority students who are more likely to face investigation and arrest by School Resource Officers (SROs), and LGBTQ students who disproportionately rely on the internet for information about sexuality and identity (Fedders 2019, 1716-1717).

COVID-19 has forced widespread expansion of device adoption by families who cannot otherwise access schooling. In turn, those families are now subject to greater scrutiny and digital surveillance, which impedes student social and emotional learning. As Fedders notes, research has demonstrated "the damaging effect of surveillance on children's ability to develop in healthy ways," and digital surveillance "heightens the growing disparity in power between data users (companies) and data suppliers (students)" (1710-1711).

What we need to know: We need rigorous analysis of when, where, and how students and families are subject to increased digital surveillance due to policies, programs, and budgets implemented during COVID-19. As the state expands its investment in Gaggle and other surveillance technologies, we need rigorous longitudinal data on the ways that such technologies alter student behavior, impact student interactions with SROs and other carceral agents, and lead to disproportionate violence against young people.

3. TEACHERS

Research has continuously demonstrated that teachers are the most important factor affecting student learning and achievement (e.g., Sanders 1996). However, in North Carolina and across the nation, districts and schools continuously struggle to recruit and retain effective teachers (García and Weiss 2019). This challenge is especially felt by schools and districts in rural areas and those that serve economically disadvantaged and/or a majority Black and Latinx students. COVID-19 has not only made these educational inequities more apparent, it has exacerbated the already formidable obstacles that schools and districts face in retaining and supporting effective teachers. North Carolina faces the twinned task of understanding how the pandemic has impacted teachers and addressing the long-term sustainability of its education workforce. This section examines teachers as a crucial impact indicator of educational success in North Carolina, including issues of remote teaching, teacher health concerns, preparation and licensure, and teacher turnover and retirement.

REMOTE TEACHING
Since the start of the pandemic in March, a majority of teachers across the country have been faced with the challenge of educating students through remote instruction. In North Carolina specifically, more than 70 percent of students started school this year remotely (Hui and Grubb 2020). While remote learning is a necessary means of protecting both students and educators from COVID-19, it has exacerbated existing challenges teachers face in effectively educating students, especially those from lower socio-economic backgrounds and students of color (Kraft and Simon 2020a). Teachers have therefore had to create innovative lesson plans that allow them to engage students remotely, especially those who do not have access to the necessary resources to achieve academic success.

Student engagement with remote learning is an increasing concern for teachers, especially for students living in poverty and students of color (Kraft and Simon 2020b). In a survey conducted by Kraft and Simon 2020a, teachers report that on average only 60 percent of students regularly engage in remote learning. However, this is not consistent across demographics, with only 50 percent of students in high-poverty schools and 45 percent of students in schools with a majority of Black students engaged in remote learning. This is in contrast to 75 percent of students in low-poverty schools and 72 percent of students in schools where fewer than 10 percent of Black students are enrolled (Kraft and Simon 2020a).

Disparities in engagement can be attributed to the differing access to necessary resources like computers and broadband, which act as a major barrier for remote learning (Kraft and Simon 2020a). Only 64 percent of teachers in high poverty schools and 66 percent of teachers in majority Black schools reported that their students have access to necessary technology for remote learning. This stands in stark contrast to the 87 percent of teachers in low-poverty and 81 percent of teachers in majority white schools that indicate that their students have access to the necessary resources (Kraft and Simon 2020a).

These observations by teachers are most likely the result of systemic inequities in education as well as in economic and health conditions exacerbated by COVID-19 that are discussed in other sections of this report. Schools serving low-income and communities of color are disproportionately impacted by the pandemic because they historically have less resources and access to educational opportunities, which translates into more challenging working environments for teachers (Kraft and Simon 2020a). Unsurprisingly, Kraft and Simon (2020) found that schools with more supportive working conditions have been far more successful at helping their teachers maintain a sense of success during the pandemic than those with unsupportive working conditions. Their research shows that in schools with highly-supportive

working conditions, the percent of teachers who feel successful declined only slightly by 6 percentage points, from 99 percent to 93 percent. However, in schools with unsupportive working conditions, the percent of teachers who felt successful plummeted by 42 percentage points, from 90 percent to 48 percent.

North Carolina teachers are experiencing similar remote learning concerns. The Department of Public Instruction has created an online, anonymous North Carolina Teacher Working Conditions Survey, which includes questions on resources, community support and involvement, professional development, instructional practices and support, and new teacher support (NCDPI 2020a). The most recent data were collected between March 1st and April 7th of 2020, with 102,545 out of 121,424 educators participating from across the state. Although collected during the emergence of COVID-19, experts are confident that the survey results were not impacted by the pandemic (Kraft and Simon 2020a).

What we need to know: The Teacher Working Conditions survey data can be analyzed for individual school districts and charter schools, but the survey results are not broken down by teacher or student racial demographics or socio-economic status. Importantly, as of now there is not a collection process to assess the teaching working conditions for NC teachers during the pandemic. More research in both areas will be necessary in order to understand the implications of remote teaching and learning in relation to racial and socioeconomic inequities.

TEACHER HEALTH CONCERNS

As districts across the country and the state of North Carolina grapple with how and when to reopen schools safely, an often-overlooked consideration is the health of teachers and other school staff. While initial research has found that children are at relatively low risk of major health complications due to coronavirus, a recent report from the Kaiser Family Foundation estimated that nearly 1.5 million teachers nationwide – 24 percent – are at high risk of serious illness if they are infected (Claxton et al 2020).

Over 1 million students in North Carolina returned to school either with all-virtual or hybrid schedules in August, and many of their teachers were required to return to school buildings – sometimes even in cases in which students were learning entirely at home (Gordon 2020b). Requirements for teachers to return to their classrooms has resulted in some push-back from educators who have argued that returning to the classroom forces teachers to weigh job security against the health risks that prompted decisions for students to continue with remote learning (Gordon 2020b).

Despite concerns from educators, some district leaders argued that there are benefits to having teachers physically back in school even during remote learning – such as using the physical classroom to model the learning environment that students are used to, ensuring that teachers have access to necessary resources for student engagement, and helping educators to develop effective routines and procedures for when students are able to return to schools (Gordon 2020b).

Since the beginning the North Carolina Department of Health and Human Services has been using their COVID-19 dashboard to keep track of data on COVID-19 cases. As required by G.S. 130A-136, school principals must report suspected cases of reportable communicable diseases, including COVID-19, to their local health director of the county or district. DHHS maintains a publicly accessible report on COVID-19 Ongoing Clusters in Child Care and School Settings (NCDHHS 2020), which includes the names of licensed/regulated child care settings and school settings where there is an ongoing cluster and the number of positive COVID-19 cases and deaths related to that cluster. This report includes the county, facility name, and the deaths rates of both staff and children.

In a child care or school setting, a COVID-19 cluster is defined as a minimum of five laboratory confirmed cases with illness onsets or initial positive results within a 14-day period and plausible epidemiologic linkage between cases. A cluster is considered over if there is not evidence of continued transmission within the setting. If additional cases are subsequently reported and a new cluster exists, it will be reported as a second, new cluster in that setting. As of September 1st, 2020, there were six total confirmed K-12 COVID-19 clusters, two of which were reported prior to the start date for most NC schools (NCDHHS 2020).

What we need to know: The COVID-19 Ongoing Clusters in Child Care and School Settings report provides data that can help us to assess questions about which schools are being impacted by COVID-19 infections and spread among staff and students (NCDHHS 2020). However, this report does not provide insight into which staff positions are affected or the racial and socioeconomic background of those affected by the disease, allowing for little to no understanding of the effect of the pandemic on inequalities related to teacher health conditions.

PREPARATION & LICENSURE

Understanding the unique challenges that COVID-19 presented to aspiring educators, the State Board of Education and General Assembly opted to waive certain testing and licensure requirements for the current year (NCDPI 2020b). The Praxis I Core exam, which is a basic skills exam that must be passed in order for a teaching candidate to enter an approved NC Educator Preparation, was waived for the 2020-21 school year. Additionally, beginning and early-career teachers with an Initial Professional License that would have expired on June 30th, 2020, were given a one-year extension to pass the required exams. The waiving of these two current teaching requirements could present a unique opportunity for North Carolina to understand how these licensure requirements may relate to barriers to entry in the teaching profession- particularly among educators of color.

Licensure exams are certification exams that teaching candidates must pass to become fully certified teachers. The intended purpose of these exams is to identify gaps in academic skills that need to be addressed and screen out candidates who do not have the knowledge or skills to be effective teachers (Motamedi et al. 2018). However, research has shown that licensure and certification exams are often weak predictors of teacher effectiveness. In addition, researchers have found that Black and Latino candidates disproportionately pass certification assessments at lower rates than their white peers, which contributes to a lack of teacher diversity in the educator workforce. For this reason, experts argue that, regardless of the intended purpose, these exams may act as exclusionary tools that serve to sustain the majority white teaching workforce (Motamedi, et al. 2018; Petchauer 2012).

Fortunately, North Carolina has publicly available resources that can be used to understand the pandemic's impact on EPP enrollment, EPP graduation rates, licensure pass rates and teacher attrition, across teacher demographics. The state could also use these tools to understand the extent to which current teaching exam requirements perpetuate the lack of diversity in teaching and inequities in education and how the waiving of the Praxis Core and other licensure requirements may provide an opportunity to assess their utility and impact.

The Department of Public Instruction has recently created a user friendly and publicly accessible dashboard that provides the public with the ability to easily compare report card information between EPPs, including performance and other data reported by each EPP. This dashboard is updated annually and provides data on EPP applications, admission, enrollment, completion, and licensure passage rates,

broken down by EPP type and racial demographics (NCDPI n.d.a). The initial section of the performance report provides an overview of the institution as well as the program areas and levels offered. The student enrollment portion provides descriptive statistics about the students enrolled in an institution's program. Information about student entrance, program completion, licensure, and teacher effectiveness are included.

What we need to know: The North Carolina Department of Public Instruction collects and reports on a wide variety of indicators that can help us to understand disparities in teacher licensure requirements across racial groups. In order to assess the impact of COVID-19 and the waiving of these requirements for the 2020-21 school year, these will need to be updated for the current year, and broken down by teacher demographics.

TURNOVER & RETIREMENT

As the school year began, many schools and educators across the nation were faced with fears over potential layoffs and increased teacher turnover as a result of decreased enrollment in public schools and stress over remote learning and health concerns. For example, Kurtz 2020 found that nationwide, 31 percent of teachers and district leaders say that teacher morale is "much lower" than it was prior to the pandemic. 32 percent of teachers reported that they are likely to leave their jobs this year even though they would have been unlikely to do so prior to the pandemic (Kurtz 2020).

Teachers across the country feared layoffs as a consequence of state budget cuts due to the pandemic, and experts have predicted that without additional substantial federal bailout funds, the number of teacher layoffs will only grow (Will 2020). As Madeline Will has noted, research shows that layoffs by seniority tend to disproportionately punish poor schools and schools with high proportions of Black and Latinx students. Black and Latinx teachers tend to work in schools with more Black and Latinx students. "Teacher layoffs are devastating for any school community—but an unintended consequence is often a further eroding of the diversity of the teaching force, which is already about 80 percent white," writes Will (2020).

The fear of layoffs was also a concern among teachers in North Carolina at the beginning of the school year due to unanticipated changes in student enrollment in public schools (Hui and Grubb 2020). As the school year began, parents were busy deciding if they would enroll their students back in school, if the district chose the partially in-person option of plan B, or choose another option that allowed their students to learn from home and avoid the risk of contracting COVID-19. Schools who serve students from lower socioeconomic backgrounds and those in rural communities, already facing declining enrollment, would have been affected the most by changes in enrollment.

Potential increases in teacher turnover rates as a result of declines in morale, stress, and health concerns, is another looming threat to public education in light of the pandemic. North Carolina's teacher turnover rate for the 2018-2019 was 7.5 percent, a slight drop from 8.09 percent in 2017-2018 (Childress 2020). Turnover rates are higher in high-poverty districts and those that serve high numbers of students of color (WestEd 2020). Turnover rates are expected to increase across the board in 2020, and will likely continue to disproportionately impact these districts.

Research has shown that teacher turnover across the country will partly be driven by the challenges of teaching from home. A 2019 study found that 37 percent of early childcare workers who left the field did so because they were educating or caring for children in some domestic capacity (CCSA 2020). Many

teachers with children in the home are now also juggling home-schooling domestic responsibilities along with remote-schooling professional responsibilities (García and Weiss 2020).

North Carolina teachers who recently resigned, retired or opted out of their jobs ahead of pandemic reopening efforts have indicated that leaving the students has been hard, but remote learning has made their jobs too difficult (Fearnow 2020). Veteran K-12 teachers in states across the U.S. are resigning and retiring at higher rates as schools begin reopening amid the coronavirus pandemic this fall, with educators citing the stress tied to remote learning, technical difficulties and COVID-19 health concerns. Concerns over health is a likely contributor to low morale among teachers. Teachers who reported that they were planning to resign were more likely than those who were not planning to resign to be considered high-risk of serious illness if exposed to COVID-19 (51 percent versus 32 percent) or live with someone who was high-risk (53 percent versus 33 percent) (Kurtz 2020).

In North Carolina, we are fortunate to have access to data on teacher turnover and teacher shortages through the State of Teaching Report, which is produced annually by the Department of Public Instruction. When the data from the 2020-21 school year are released, this report will allow us to understand the impact that the pandemic has had on teacher turnover in the state, especially for the schools and districts that are most acutely dealing with funding inequities and are hardest hit by enrollment declines. This report also reports the racial demographics of teachers in the state in comparison to student demographics, and provides a snapshot of teacher attrition rates broken down across racial demographics and geographic location.

What we need to know: The State of the Teaching Profession report provides a useful overview of teacher turnover, teacher shortages, and teacher demographics across districts, but it does not provide a deeper understanding of the reasons for teacher attrition or mobility nor does it provide a thorough breakdown of these measures across racial demographics. In order to have a full understanding of the impact of the pandemic on teacher turnover in the state and the State of Teaching report will need to provide data on teacher attrition and mobility broken down by race, pathway, subject area, and years of experience as well as further analysis on the reasons that teachers chose to leave the profession for the 2020-21 school year.

4. RESOURCES AND OPPORTUNITY

In North Carolina and nation-wide, systemic inequities in society as a whole are reflected in our education system. Opportunity gaps – the inequitable distribution of educational resources and opportunity across students of different races/ethnicities, socioeconomic backgrounds, and zip codes – result in inequities in short and long-term academic and economic outcomes. We have only begun to estimate the extent to which COVID-19 has exacerbated these inequities and disproportionately impacted children of color and children from disadvantaged families. This section examines resources and opportunity as impact indicators in educational equality in North Carolina, including issues of school funding, student health, and access to early learning opportunities.

SCHOOL FUNDING

For over twenty-five years, the state of North Carolina has been engaged in litigation over funding for public education. Recent developments in the court case known as *Leandro*, which was first brought against the state by five low-wealth school districts in 1994, have clarified the extent to which students across North Carolina – especially low-income students, students of color, English Language Learners, and students with disabilities – have been consistently denied access to a Sound Basic Education, a right that is guaranteed through our state constitution and prior *Leandro* rulings.

A report published in December 2019 by court-appointed consultants confirmed that the state is not providing the resources required to meet the fundamental needs of all of North Carolina students. North Carolina was ranked 48th in the nation on per-pupil spending after adjusting for regional cost differences in 2019 (Education Week 2019). When adjusted for inflation, per-pupil spending in North Carolina has declined by approximately 6 percent since 2009-10. The state also ranked 49th nationally on a measure of funding effort, or the level of spending on education as a percentage of state wealth overall.

Early childhood education, like K-12, has suffered from significant disinvestment from the state. Cost is a major barrier for families across the state to pay for high-quality programs on their own. While the state provides over $150 million to fund NC Pre-K each year, this only covers a fraction – about 60 percent – of the cost. In 2011, the state legislator cut the budget for Smart Start by twenty percent, and funding for the program has not been restored to adequate levels since. Remaining costs are left to other sources – mostly local county governments (WestEd 2020).

When it comes to local funding for public education, there are also substantial funding inequities across districts. Districts that serve higher numbers of low-wealth students are located in counties with lower property values, and thus are less able to generate revenue to support public schools than are higher-wealth districts (PSFNC 2020a). Schools and districts across the state, especially those that enroll more students of color, low-wealth students, and English Language Learners, often struggle to provide their students with textbooks and supplies, recruit and retain high-quality teachers, hire support staff, offer advanced courses and extracurricular learning opportunities, and more (WestEd 2020).

The Leandro report identifies eight critical needs that the state must address to ensure each and every child in North Carolina receives a sound basic education, as well as a series of recommendations and a sequenced action plan that addresses how to effectively increase support for high-poverty schools, how to strengthen our access to high quality early childhood education, and a way forward in revising the state's school funding model to better distribute adequate, efficient and equitable resources, among many other recommendations (WestEd 2020). COVID-19 will only worsen the already large funding

inequities that are embedded in North Carolina's Pre-K through 12 education system, as the same student groups who are most impacted by the state's lack of investment in public schools are also the most negatively impacted by physical and mental health challenges, the recession, and lack of access to resources necessary to engage fully in remote learning.

Before the pandemic, North Carolina's public schools were operating on the previous year's budget due to a budget stalemate in the General Assembly during the 2019 long session, so school districts were not approved to receive any major new appropriations for the 2020-21 school year (Sirota et al. 2020). When the economy shut down in March 2020 to curtail the spread of the COVID-19 pandemic, it created a severe unemployment crisis and financial shock to most households who rely on earned income for financial support and stability. This will likely lead to significant hits to state and district budgets in the years ahead due to decreased tax revenue.

In May, N.C. Senate leader Phil Berger, a Republican from Eden, NC, estimated that state budget losses due to the pandemic could be as high as $4 billion, around 16 percent of North Carolina's $25 billion budget (Doran and Sherman 2020). The Brookings Institute recently estimated that income tax revenue in North Carolina would decline by less than 1.5 percent (Sheiner and Campbell 2020). The Center on Budget and Policy Priorities estimated in July that state budget shortfalls over fiscal years 2020-2022 will total a cumulative $555 billion (McNichol and Leachman 2020). This would almost certainly result in cuts to desperately needed education spending from the state. National analysis by the Learning Policy Institute estimated that a fifteen percent reduction in state education funding could lead to the loss of more than 300,000 teaching positions across the country. A hypothetical fifteen percent cut would translate into a percentage of 8.4 percent of the teaching force lost in North Carolina (Griffin 2020).

When looking at local revenue and expenditures for public schools, it is likely that the impacts of the recession will not hit all county budgets equally. As a recent report from the Learning Policy Institute reported,

> Wealthy districts with high levels of local property tax revenue will be less impacted by the downturn. Low-wealth districts that have a greater reliance on state revenue will be hit particularly hard by this recession, as they were in the last recession. These low-wealth districts are the most likely to see the loss of a large number of their teaching positions and are most in need of additional assistance from either state or federal sources (Griffith 2020).

The full impact of the economic downturn on state and local budgets is yet to be seen, but it will undoubtedly impact funding for Pre-K through 12 education in North Carolina in the years to come, and will exacerbate already existing inadequacies and inequities in our state's funding system that have been documented as a result of the *Leandro* case.

Moreover, the rise in unemployment will further limit the ability of many families to provide resources to support their children's education and well-being – including early childhood care, materials for remote learning, and fundamental needs like health care, nutritious food, and stable, adequate housing. For instance, more than 20 percent of U.S. households said in August that they did not expect to be able to pay their monthly rent or mortgage bill in September, according to a Census Bureau survey (Appelbaum 2020). Care for children was relatively less affordable for Black families than white families prior to the pandemic, a problem that has likely been compounded due to the widespread closure of daycare centers, afterschool programs, and public schools across the country (Hardy and Logan 2020, 6). Black and Latinx

Americans are disproportionately impacted by the prohibitive costs of childcare services and shortage of available services due to pandemic closures (Grooms et al. 2020).

Beyond the impact of the recession, public school funding has also been threatened by potentially dramatic declines in student enrollment as parents with means seek out private or home school options, which could translate into loss of funds that are tied to average daily membership (ADM). In late August, Mary Ann Wolf, President of North Carolina Public School Forum, identified stabilizing budgets ahead of potential enrollment declines as a crucial tactic for meeting the needs of students and teachers in the years ahead. Wolf called first for the General Assembly to pass a "hold harmless" provision, which would allow districts to receive the same levels of funding that they originally planned for, which were based on either projected enrollment numbers or the previous year's ADM – whichever was highest. Wolf noted, "The funds for schools for 2020-21 have already been appropriated, so let's ensure our superintendents can rely on having those dollars so they can meet unexpected costs associated with remote and hybrid learning and putting the safety protocols into place" (Wolf 2020). Wolf also called on the state to provide additional funding for health and safety during COVID-19 and to allow districts to deploy existing resources autonomously to maximize their ability to meet diverse student and community needs across the state (Wolf 2020). Fortunately, in September 2020 the state General Assembly passed House Bill 1105, which included a hold harmless provision that protects school districts from budget cuts due to a decline in enrollment in the 2020-21 school year (Fofaria 2020a; PSFNC 2020c).

The pandemic has also led to increased costs for districts, which have added additional strain on already very tight budgets. The American Federation of Teachers, a national union, estimated that schools across the country will need a collective $116 billion to open safely and effectively, including costs to cover reducing class sizes, increasing school staff, and hiring counselors and educators to help students recover from the impact of the pandemic (Goldstein and Shapiro 2020). Seven in ten adults nationwide say that public schools in their area currently need more resources in order to safely reopen to students (Hamel et al 2020).

The North Carolina Department of Public Instruction (DPI) is the main source for data on K-12 school funding data in the state. DPI reports appropriation and expenditure figures, broken down by district and source of funds (federal, state, and local). Data on state appropriations by district for 2020-21 will be publicly available by the end of October, and will be based on projected or allotted average daily membership figures that were calculated before the pandemic. Initial allotments by district are available now through the Department of Public Education website. If a hold harmless for school budgets had not been passed, appropriations would have been adjusted based on actual ADM figures, which will be reported after the second month of school has been completed, in November. Data on actual expenditures by district, as well as expenditures per pupil, will be available for the 2020-21 school year in November 2021. This will include data on expenditures from both state and local funding sources.

What we need to know: The impact of COVID-19 on school funding and resources will likely be studied for years to come. We need to evaluate the extent to which COVID-19 has increased costs for schools and districts due to the need for PPE and cleaning supplies, additional personnel, transportation, and more- and how these costs vary across districts with different student demographics. We must also examine how COVID-19 has impacted the extent to which North Carolina is providing a sound basic education to all students, disaggregated by race, socioeconomic status, language status, as well as how and to what extent the economic downturn has and will continue to impact state and local budgets and expenditures on public education.

STUDENT HEALTH

From the moment the pandemic arrived in the United States, members of African-American, American Indian, and Latinx groups have been at greater risk for severe illness and death from COVID-19 as a result of longstanding health inequities (Braithwaite and Warren 2020, 2). As the *New York Times* has noted, "Black and Latino people have been disproportionately affected by the coronavirus in a widespread manner that spans the country, throughout hundreds of counties in urban, suburban and rural areas, and across all age groups" (Oppel Jr. et al. 2020; Bansal et al 2020). The same health disparities visible throughout the population are present in PreK through 12 schools among students, teachers, and staff; the same populations will be vulnerable to disproportionate risk of illness and death as schools reopen.

Nationwide, 91 percent of parents of color report being either "very worried" or "somewhat worried" about their child getting sick with coronavirus if they return to school in the fall, compared to 55 percent of white parents (Hamel et al 2020). Similarly, 92 percent of non-white parents report being worried about teachers and other staff getting sick with coronavirus (92 percent), while far fewer white parents do (Hamel et al 2020). The same reasons that explain disproportionate incidence and mortality in Black, Latinx, and Indigenous Americans in the general labor force apply to those working in Pre-K through 12 education settings: overrepresentation in essential jobs where social distancing is impossible, underrepresentation in access to healthcare, and higher probability of being poor (Graham et al 2020; Oppel Jr. et al. 2020).

Student health will also be impacted by the link between school attendance and food security for many children nation-wide. Before the pandemic, public schools in the U.S. provided 30 million free or nearly-free meals per day to children. In the months after schools closed, Denver public schools served 12 percent of the meals they usually provide, for example (Darville 2020). In June, a survey by the Census Bureau indicated that 14 million children in the U.S. are hungry because of financial strain — more than five times the number in 2018. One in three Black households and one in five Latinx households with children reported some food insecurity for children (Darville 2020).

Experts are also concerned about the impact of COVID-19 and school closures on mental health, social/emotional health, social/emotional learning among North Carolina students (Bell 2020b). When schools closed, students lost not only in-class instruction and the basic supports that schools provide. Students also lost access to team sports, clubs, group activities, and other recreational options, such as swimming and playgrounds. Many aspects of children's social and emotional development are likely to lag in the coming years due these losses of extracurricular engagement. Forming social and emotional bonds with peers will be simultaneously more important and less available during the current crisis.

The North Carolina Early Childhood Foundation has called for immediate and long-term policy action by the state to increase equitable access social/emotional learning programs for infants, toddlers, and families of color struggling with the effects of the pandemic in addition to structural racism (NCECF 2020). NCECF has also called for the collection of data on children's social/emotional functioning on the population-level through surveys and the individual-level through aggregating child-level screens (Bell 2020b). These calls are in keeping with the evidence-based belief that so-called noncognitive skills, including creativity, tolerance, persistence, empathy, resilience, self-control, and time management are crucial to student development and learning (García and Weiss 2020). NC DHHS is collecting data on COVID-19 infection rates among young children. The data are not yet public due to concerns over privacy, but some information, at least summary data, are expected to be reported in the coming months.

What we need to know: The health and safety of students is of paramount importance. We need basic health-related data on the pandemic's impact on student wellbeing, including rates of infection among young children, long-term health outcomes, and health-related delays in educational development. This must include data regarding social/emotional outcomes, disaggregated by race and income, so that state resources can be targeted at the communities most impacted by the pandemic. We also need to understand how disproportionate COVID-19 infection and death rates among people of color have impacted the lives of students of color and their loved ones.

ACCESS TO EARLY LEARNING OPPORTUNITIES

A wealth of research has shown that high-quality early childhood education is essential grounding for long-term academic success and life outcomes (WestEd 2020), and many advocates, educators, and state leaders have pushed for the expansion of affordable early childhood education programs to ensure that all students have access. Pre-K services in North Carolina have traditionally been a mark of pride for the state, ranking among the highest-quality programs in the country in the National Institute for Early Education Research's annual State of Preschool Yearbook. Access, however, has been lacking, and the percent of 3- and 4-year-olds enrolled in the program has not changed in the previous decade. In 2019, North Carolina ranked 27th in the United States in the percent of 4-year-olds served by the state preschool program (Abledinger 2020; Bell 2020a).

COVID-19 threatens access and learning in Pre-K programs across the state. Even before the pandemic, 99 of 100 counties in North Carolina had been rated as infant and toddler child care "deserts" – meaning that for every three infants or toddlers only one space was available in a high-quality Pre-K facility (Saidi 2020). Pre-COVID state investment in Pre-K ranked 20th in the nation, with investment per NC Pre-K child (including TANF) in 2018-19 at $5,450, down $172 from 2017-2018, adjusted for inflation (Abledinger 2020).

By June sixty-six percent licensed child care facilities in the state had reopened (Bell 2020c), but health and the economic downturn loom as threats to sustainable care. The North Carolina Department of Health and Human Services (DHHS) provided between $500 and $30,000 per month for licensed child care centers and between $359 and $2,500 per month for licensed family child care homes that remained open during April, May, and June to serve, in particular, the children of essential workers in the state (Bell 2020a).

What we need to know: We need a deeper understanding of how the closure of childcare facilities and the economic impact of COVID-19 on the budgets of state and local governments, families, and individuals, has and will continue to impact access to high-quality early childhood education. In term, we also need research on the extent to which access gaps have and will continue to contribute to long-term inequities in academic, economic, and social outcomes for children and families.

5. ACADEMIC OUTCOMES

Perhaps the most challenging questions to answer with regards to how COVID-19 has contributed to racial and socioeconomic inequities in education are related to students' academic outcomes. The transition to remote or hybrid-remote learning models has created challenges for instruction and assessment of student learning. The waiving of testing and accountability requirements for the 2019-20 school year, while necessary, makes assessing the extent to which learning loss has occurred as a result of the pandemic very challenging. This section examines academic outcomes as a key impact indicator of educational equality in North Carolina, including issues of learning loss and testing.

LEARNING LOSS

Closures of public schools and childcare centers in 2020 rapidly reduced the number of daily instructional hours for students, if they received instructional hours at all. The best national estimates are that six in 10 students were regularly engaged in their remote coursework during the final months of the previous school year, meaning that four in 20 were not regularly engaged (Darville 2020). Although the magnitude of school closures was unprecedented, pre-COVID research had consistently indicated that reduction of instructional and learning time impedes student performance, with disparate impacts on different groups of students (García and Weiss 2020).

Online learning has mixed effects on student learning. Research indicates that online teaching is effective only when students have consistent access to technology and when teachers have targeted training in online instruction (García and Weiss 2020). On a related note, homeschooling is effective only when "intentional, personalized, and sufficient resources are available" (García and Weiss 2020). These factors contribute to concerns over learning loss as a significant driver of educational inequality now and in the years after the COVID-19 pandemic.

COVID-19 learning losses may be particularly devastating for Pre-K children in the state. As Saidi 2020 has noted, "Decades of research have established that high-quality birth-through-age-8 learning environments — along with health and development on track from birth and supportive and supported families and communities — impact each child's ability to fulfill his or her potential." These environments may be at risk due to care facility closures from the pandemic.

Reports on learning loss among K-12 students from spring 2020 were discouraging. Researchers at Brown and Harvard tracked online math learning in 800,000 students before and after school closures. They found that by late April, student progress in math decreased by about half in classrooms located in low-income zip codes, by a third in classrooms in middle-income zip codes and not at all in classrooms in high-income zip codes (Goldstein 2020). Researchers from Stanford found that online students lost 80 days of learning in reading and 180 days of learning in math compared with students in traditional schools over a period of one year. Students from low-income households lost 266 days in math (Hassel and Hassel 2020).

Initial research nationwide suggested that by September 2020, most students were likely to have fallen behind academically compared to where they would have been if they had stayed in schools through the 2019-2020 school year. A working paper from NWEA indicates that the average student could begin the next school year having lost as much as a third of their expected progress in reading and half of their expected progress in math (Goldstein 2020). Some students will have lost the equivalent of a full school-year's worth of academic gains since the pandemic began (Goldstein 2020; Dorn et al. 2020).

Learning losses may remain with students well beyond the conclusion of their formal education. Research in the aftermath of Hurricane Katrina found that five years after the storm, roughly a third of the New Orleans' schoolchildren had been held back, nearly double the average in peer Southern states (MacGillis 2020). The Brookings Institute also observed modeling that suggests that negative impacts of learning loss due to World War II remained with students some 40 years later (Psacharopoulos et. al 2020). García and Weiss 2020 make additional projections of pandemic-related learning loss based in the history of school closures due to natural disasters.

A report from the Brookings Institute used a national sample of over 5 million students in grades 3-8 to project learning losses in math and reading, termed the "COVID Slide." The preliminary estimate in May was that students would begin the fall 2020 school year having lost roughly 70 percent of the learning gains in reading from the prior year relative to a typical school year. In math, estimates indicated that students would return with less than 50 percent of the gains from the previous year (Soland et al. 2020). McKinsey also estimated that learning losses due to COVID-19 will cost an estimated impact of $98.8 billion in future annual earnings across the entire current K–12 cohort (Dorn et al. 2020).

What we need to know: Most of the data on learning loss due to COVID-19 are based on projects from past events that have forced students out of school buildings or rapidly collected national data from digital learning and testing platforms. Given the variation in resources, learning environments, family circumstances, and student needs, learning loss is an incredibly complex and challenging area of study made even more challenging due to the difficulties of implementing fair and valid assessments amid a pandemic. Efforts to grapple fully with how COVID-19 has impacted student learning across demographics and will require multiple vectors of analysis: large-scale, in-depth, multi-method research and evaluation of student learning using high-quality, relevant, and fair assessment tools that can be effectively implemented in a variety of remote and in-person settings.

TESTING
Each year, the Department of Public Instruction is required to report data on student performance on statewide standardized tests (EOGs, EOCs), disaggregated by race, economic disadvantage, disability and status and English proficiency. Publicly available data are typically reported in the fall, for the prior year, and are available at the school, district, and state levels.

In Spring 2020, the U.S. Department of Education granted North Carolina a waiver for standardized tests mandated by the Every Student Succeeds Act (ESSA) in public K-12 schools for the remainder of the 2019-20 school year. The North Carolina General Assembly voted soon after to waive state accountability requirements that are tied to statewide standardized tests, including A-F school grades and teacher performance measures.

As of August 2020, no federal waiver for standardized testing appeared to be forthcoming for the 2020-21 school year. Mark Johnson, State Superintendent for Public Instruction (DPI) has recommended that students take standardized tests either when they return to school for in-person instruction, or when the district decides to administer the tests "at a school-sanctioned site that meets the North Carolina Department of Health and Human Services guidelines for COVID-19" (Granados 2020).

If state tests are administered in the 2020-21 school year which, for schools that are on block schedules, will happen as early as December, their utility will be limited. Because no tests were administered in the 2019-20 school year, student growth over the past year- an important measure of actual student learning (or learning loss) will be impossible to calculate. Test scores reported for the current school year will

simply indicate a students' proficiency level at that point in time. It is unknown whether comparing current year test scores to those from 2018-2019 would provide useful information to target investments and instructional supports.

Moreover, the pandemic will likely exacerbate the existing limitations of standardized tests in public K-12 education, which are known to contain biases that favor students who are white and from middle and upper-class backgrounds. A report from the Economic Policy Institute indicates that standardized assessment testing will reward "a narrow set of skills and more affluent students who have access to specialized instruction" (García and Weiss 2020). In particular, EPI highlights the exacerbating effect of standardized tests developed for "standard" times:

> This means that standardized testing during the pandemic will deliver results that are, by design, going to be even more closely correlated with life circumstances than is true during periods of regular classroom instruction. Compounding all of the barriers to meaningful and equitable monitoring and testing during the pandemic, teachers in remote settings lack the tools that they have when they are in their classrooms to interpret test results. In other words, in a classroom, teachers are more able to distinguish between a low score likely due to the student's lack of understanding of the material versus a low score due to the student's frequent absences, emotional distress, or other factors. As a result, teachers working remotely are hard-pressed to respond to a test score with an appropriate strategy to support the student (García and Weiss 2020).

These findings suggest that a new approach to testing and assessment of student learning will be essential to the post-pandemic K-12 landscape. The report pushes districts to increase diagnostic assessments and needs-based assessments to help students receive the targeted instruction they need to close learning gaps with better-resourced peers. Alternatives to standardized tests could include diagnostic tests, formative tests, SEL assessments, and assessments that can be performed remotely such as project-based assessments and capstone projects (García and Weiss 2020).

What we need to know: Standardized testing and accountability, if implemented in 2020-21 will likely contribute to existing stress and challenges that students, teachers, and school leaders are facing. Student performance would also reflect inequities in educational opportunity and biases that are inherent to the nature of high-stakes testing. However, without some systematic form of data collection and reporting on student learning (and learning loss), the impact of COVID-19 on academic outcomes will be difficult to assess, educators and policymakers may overlook students and schools that need additional support. We need systematic use of valid, bias-free assessments that do not lead to stigma or punitive accountability policies to help teacher and school leaders to effectively educate and meet their students' needs.

6. CONCLUSION

COVID-19 and its effects will impact education in North Carolina for decades. This landscape analysis confirms that while we await contemporary data from DPI and other public institutions, we know enough to indicate that the pandemic is most likely to have a disproportionate impact on students, teachers, and staff from lower socio-economic backgrounds and traditionally marginalized racial minority populations in North Carolina. In other words, the communities most likely to face systemic inequalities in education are likely to face exacerbated inequalities due to the pandemic.

This landscape analysis reviewed impact indicators on educational equality through consideration of existing research on access to technology and remote learning, teacher training, health, and preparation student resources and opportunity for learning, and assessment of academic outcomes. Of crucial importance to each section were the multiple overlapping challenges that children, teachers, schools, families, and districts face as a result of COVID-19, all of which exacerbate existing educational inequalities and place additional stress on Black and Latinx students and teachers, as well as low-income families, communities, and schools. Racialized health and wealth disparities only make educational challenges more difficult in a time of pandemic and widespread economic insecurity.

Moving forward, existing data collection and reporting efforts across the state should focus on actionable insights that serve North Carolina's most vulnerable students and schools. This report describes many challenges to educational equality in our state, but we strongly believe that North Carolina can and will rise to those challenges. Collection of targeted data on the impact indicators outlined here can help position North Carolina to answer the question: In what ways and to what extent has the COVID-19 pandemic impacted racial and socioeconomic inequities in educational opportunity and access in North Carolina? Still, our ability to gain a deep and comprehensive understanding of the scope of the problems and the needed supports is within our reach. As a state we are capable of the large-scale efforts and state-wide dedication of time and resources that are necessary to close education gaps in North Carolina. Our children deserve nothing less.

ABOUT THE PUBLIC SCHOOL FORUM OF NORTH CAROLINA

The Public School Forum of North Carolina has served as a nonpartisan champion for better schools since 1986. Its mission is to provide trusted, nonpartisan, evidence-based research, policy analysis and innovative programs that empower an informed public to demand that education best practice becomes common practice throughout North Carolina. PSFNC advances the cause of public education in North Carolina through the production of research and ideas, program development, and citizen engagement. For more information, visit: www.ncforum.org.

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The Samuel DuBois Cook Center on Social Equity at Duke University is a scholarly collaborative engaged in the study of the causes and consequences of inequality and in the assessment and redesign of remedies for inequality and its adverse effects. Concerned with the economic, political, social and cultural dimensions of uneven and inequitable access to resources, opportunity and capabilities, Cook Center researchers take a cross-national comparative approach to the study of human difference and disparity. Ranging from the global to the local, Cook Center scholars not only address the overarching social problem of general inequality, but they also explore social problems associated with gender, race, ethnicity, and religious affiliation. For more information, visit: https://socialequity.duke.edu/.

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The Brady Education Foundation seeks to close the educational opportunity gaps associated with race, ethnicity and family income. The Foundation pursues its mission by promoting collaboration among researchers, educators, and other stakeholders via the funding of research and program evaluations that have the potential of informing private funders and public policy. For more information, visit www.bradyeducationfoundation.org.

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