

Strategies for Supporting Teachers' Instructional and Mental Health
Needs during the COVID Pandemic in Maine and Other States



Prepared by:

Janet C. Fairman

Patricia L. Lech

Mella R. McCormick

Maddie P. Buxton

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Maine Education Policy Research Institute
University of Maine
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College of Education and Human Development
University of Maine, 5766 Shibles Hall, Orono, Maine 04469-5766 (207) 581-2475
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Overview of the Study

Why was this study conducted? This report is part of an on-going series of research studies conducted by the Maine Education Policy Research Institute (MEPRI), commissioned by the Maine State Legislature, to understand how PK-12 schools are supporting students and teachers during the challenging time of a pandemic where normal instructional practices have been disrupted. Previous studies explored remote instruction for special education students in Maine during the pandemic (Lech & Johnson, 2021a) and the delivery of therapeutic services to students through remote or “telehealth” modalities both before and during the pandemic (Lech & Johnson, 2021b). As part of a larger study conducted by MEPRI this year, we describe strategies to support student learning during the pandemic in a separate report (Lech et al., 2022), and strategies to support teachers in this report. This study focused on identifying and describing practices or strategies that emerged in Maine and elsewhere in the US during the pandemic to support teachers’ delivery of instruction through remote, online or hybrid modalities. Other types of support, such as mental health supports for educators were also investigated.

What do you need to know to put this study into context? The COVID-19 pandemic brought about the sudden closing of schools and disruption in PK-12 student education from mid-March to June 2020. This situation forced teachers to shift abruptly to different methods of delivering instruction and support to students, such as providing work packets to students, sharing resources and assignments asynchronously through online platforms, or delivering instruction synchronously through video-conferencing tools and software. During the 2020-21 school year, some teachers taught students in-person and remotely at the same time, while others taught only through one modality at a time. State education agencies, schools and educators everywhere scrambled to figure out how to overcome barriers including access to high-speed internet and computer hardware devices, and to adopt new online platforms and tech tools to facilitate remote and online instruction (Hamilton, et al., 2020; Young & Donovan, 2020). Maine was better positioned than many states because of the Maine Learning Technology initiative (MLTI) supporting 1:1 laptop or iPad access statewide for all middle school students and teachers and some secondary students and teachers over the past twenty years (MDOE, 2022c). However, teachers had to learn how to use new technology and platforms in a short period of time at the start of the pandemic, and needed to adapt the curriculum and instruction to accommodate different modalities, shortened instructional time, and the variable challenges students faced in learning from home. Schools and teachers struggled to keep students engaged during the pandemic. Pre-existing challenges in school staff shortages, unfilled teaching positions and teacher turnover became even greater during the pandemic, which further added to the workload and stress of existing teachers and staff. These factors indicated a need for both professional development support as well as attention to educator mental health and wellness. Unprecedented federal relief funding was provided to states and districts to address high priority areas during the

pandemic and beyond. These resources have targeted supports for students, teachers and developing the education workforce more broadly.

What did we learn from the study? A high-level overview of the key findings is summarized here.

Part I. Findings from the Survey The statewide MEPRI survey of district curriculum directors sought to identify new practices or strategies districts used to support teachers that emerged during the remote learning and hybrid learning phases of the pandemic (March 2020 through June 2021), and to learn which practices districts intended to continue or not in the current school year (2021-22) and why. A total of 254 public and private district designated curriculum directors were surveyed and 66 (26%) completed the survey in late fall 2021. The response rate from public districts was better at 31%. We highlight key findings from this survey in this section.

Delivery Mode for Instruction. The pandemic forced many districts to adopt remote, online and hybrid delivery modes for student instruction, and these practices changed from last school year to the current year. We also found differences in the delivery modes used by district locale.

- A hybrid delivery mode was adopted for most of the 2020-21 school year in 25 of the responding districts, while in-person instruction (4 or 5 days per week) was the primary mode of instruction in 23 of the districts. (A hybrid model could take the form of having a portion of the students in a classroom attend in-person on certain days while the other students learn remotely from home on other days.)
- A hybrid approach was more common last year among the city, suburban and small town districts, while rural remote schools more often had in-person instruction most of the year.
- This school year (2021-22), all responding districts, except for those that are completely virtual education districts, indicated they were primarily back to delivering in-person instruction 5 days per week.

School and Instructional Scheduling. Almost half of the responding districts adopted hybrid schedules for instruction for some grades during the pandemic, and about one third of the districts adopted schedules with some asynchronous learning time. However, they shifted back to in-person instruction this school year. Some districts also created more time for teacher planning, professional development or wellness by reducing instructional time to some degree.

- A hybrid schedule with four in-person teaching days and one student asynchronous learning day was adopted during the pandemic by nearly half (29) of the districts. Eleven districts would like to continue this schedule, but only one private district is continuing this schedule.

- Occasional asynchronous learning days were adopted by 21 districts. Eight districts are continuing this approach and eight would like to continue asynchronous learning days but are unable to do so.
- Scheduled late-start or early release time was adopted in half (32) of the districts. All want to continue this practice.
- Mandatory meetings for teachers were decreased in 22 of the responding districts, generally to free up more teachers to use as needed, but 12 districts will discontinue this practice
- Sixteen districts set up co-teaching and 23 scheduled opportunities for teachers to interact with peers. Co-teaching is being continued in six districts, five wish to continue it but are unable to do so, and five districts are discontinuing this practice

Professional Development Scheduling and Delivery. Districts changed the delivery format and increased options for teachers to access professional development during the pandemic, and many of the districts plan to continue these changes.

- During the pandemic, professional development shifted to virtual formats. Some form of asynchronous and/ or synchronous virtual professional development was adopted by many of the responding districts (35-42), and most plan to continue this approach.
- Districts offered both district-selected and teacher-selected options for asynchronous professional development in roughly equal proportions. Some districts offered both options.
- As noted above, 29 of the responding districts adopted a weekly schedule that provided one day per week of asynchronous learning for students to increase time for teacher planning, professional development, time for teachers to work with individual students or other purposes. Eleven districts would like to continue this practice. However, only one private district is continuing this practice.
- Districts arranged time for teachers to teach each other about new technology and share successful instructional practices.
- The written comments indicate some teachers are accessing more resources outside of the district for their professional development.
- One district made use of outside online sources part of their professional development plan. Some teachers are becoming “digitally certified.”

Professional Development Content and Focus. The sudden shift to remote and online instruction during the pandemic, and district adoption of new instructional technology and platforms, required teachers to learn about these topics to deliver effective instruction. Many districts responded by focusing more of the professional development on technology and instructional strategies for remote, online or hybrid instruction. Districts also increased attention on educator self-care and wellness in their professional development, to respond to increased teacher workload and stress during the pandemic.

- Only one district reported that they did not adopt training on incorporating technology into instruction during the pandemic.
- More than a third (25) of the 66 districts plan to continue professional development on strategies to increase student engagement in asynchronous learning.
- Nearly half (28) of the districts provided training on their learning management systems, and 23 plan to continue this training.
- A third (21) of the districts increased teacher training on personalized learning and 18 plan to continue training on this topic.
- Over half (39) of the districts provided training on educator self-care and well-being and 35 plan to continue this topic in their professional development. Only three districts did not adopt training on educator self-care and well-being during the pandemic.
- Additional training on coaching families to support student learning was not commonly adopted. Less than a third (19) of the districts reported providing this training.

Designated Remote Teachers. Some of the districts indicated they had adopted the strategy of assigning certain teachers to deliver remote or online instruction during the pandemic, thus avoiding the challenge for teachers of juggling multiple instructional modes at the same time.

- A few districts (13) had designated virtual learning teachers. In their written comments, curriculum directors shared positive views about the benefits of using designated teachers for reducing teachers' workloads.
- Some districts provided stipends to teachers delivering online instruction in addition to their regular classroom instruction.

New Technologies for Instruction. The written comments provided information about new technology and equipment that districts adopted during the pandemic to support teachers' instructional efforts, particularly for remote and online instruction.

- Some districts have purchased or trialed new software, online platforms and purchased instructional equipment during the pandemic. Some instructional equipment included: light boards, mobile computing devices, SWIVL or OWL cameras, microphones and headphones. However, some districts are also concerned about their ability to continue these technology supports due to the uncertainty of funding sources in the future.

Educator Recruitment and Retention. Recruiting and retaining teachers and other staff in schools has been challenging during the pandemic. In written comments, curriculum directors described some strategies their districts used to fill positions and retain staff, but noted this is an on-going challenge contributing to teacher workload and stress.

- Districts are advertising at local events, in newspapers, online and through word of mouth to fill open positions but still report much difficulty in filling vacant positions.
- Several districts report that they have had multiple positions open since the start of the 2021-22 school year.

- Several districts have increased pay for specific positions. Bonuses and stipends for taking on additional duties have been provided in some districts.
- A few districts are hiring full-time substitutes and interventionists.
- Staffing vacancies or teacher absences during the pandemic meant that other teachers had to pick up additional duties.

District Challenges in Implementing Changes. The primary challenges directors felt their schools were facing in implementing desired instructional changes this year were staffing shortages and teacher fatigue. Causes of staff shortages were unfilled positions, absences of teachers and staff, and lack of substitutes. In addition to dealing with the lack of staff, other causes of teacher fatigue and stress were concerns about decreased student learning, concerns about students, quarantines, and multiple changes in the work and teaching routine.

Part II. Review of the Literature Our review of the available literature revealed there is less attention in published articles and research focusing on describing efforts to support teachers during the pandemic. Overall, there is a much stronger focus on the delivery of instruction to students in the literature. The research is still emerging and more will be available in time. The state and district strategies that are described in the literature generally fall into the following approaches: professional development or training, provision of instructional technology, increased time for teacher planning and learning, and mental health/ wellness supports. We also found some evidence of strategies to reassign teachers to virtual or in-classroom instruction during the pandemic, as well as strategies to offer financial incentives to teachers and other staff with stipends or increased pay, to both attract and retain staff. These practices are consistent with the strategies Maine school districts described in our fall 2021 district curriculum director survey. We highlight the strategies described in the literature here.

Professional Development. The shift to remote and online instruction during the pandemic meant that teachers needed to learn how to use new instructional technology and implement different strategies to engage and support students learning from home. New providers emerged to support teachers’ learning needs with a wider array of resources, and much of teachers’ learning moved to virtual spaces as well, providing educators with greater choice and access to professional supports. Some key findings from our review of the literature included the following:

- During the pandemic, state education agencies and school districts focused on providing teachers with professional development and training on topics of implementing technology for remote and online instruction, pedagogical strategies to engage students remotely, and strategies to support students’ social-emotional and mental health.
- Much of teachers’ professional learning moved to remote or online spaces, both synchronous and asynchronous, compared with pre-pandemic learning that was more site-based within schools.

- Both existing and new providers emerged to address the needs of teachers for access to instructional ideas, materials, and guidance as well as for professional development for delivering remote, online or hybrid instruction within their content areas. Providers included governmental agencies, universities, professional organizations and non-profit groups. Peer-to-peer learning and sharing among teachers became a more prevalent approach for supporting teacher learning.
- The increased availability of instructional resources and professional learning support available to teachers during the pandemic, along with the option to engage in learning remotely or online, increased educators' options for professional learning and opportunities to customize their learning.

Professional Time for Teachers. Teachers needed additional time to learn how to use new technology and implement different instructional strategies and approaches for remote, online and hybrid instruction. Adapting curricula for remote or online teaching and instructional planning for multiple modalities also required more planning time for teachers. States and school districts used a variety of strategies to create more time for teachers.

- States and school districts increased the time available for teachers' professional learning and instructional planning by adding paid time to the school calendar, adjusting weekly schedules to create more non-instructional time, shifting to a four-day school week, and moving from a quarterly to a trimester schedule.
- Despite the evidence that most teachers reported receiving some training or other support to shift to virtual instruction, there is also evidence that teachers in larger systems with more resources were more likely to receive these supports. Further, many teachers, particularly in the allied arts and special education, felt they needed much more training and development to shift to new modalities and support students' needs.

Instructional Technology. The need for students and teachers to connect remotely or online for instruction highlighted the existing digital divide in states and regions. States and school districts responded by purchasing or adopting new technology to support remote, online and hybrid instruction.

- States and school districts used federal relief funding and existing funds to acquire and distribute computer hardware such as computer laptops and iPads to students and teachers, increasing the portion of students and teachers with 1:1 device access.
- States and school districts used federal relief funding and existing funds to acquire and distribute hotspots to students and teachers in regions with poor internet connectivity.
- Districts used federal relief funding and existing funds to acquire additional equipment for teachers to use with remote, online or hybrid instruction, such as cameras and smart screens.
- Districts purchased licenses or adopted new software and online platforms to support communication, course materials, video-conferencing and online submission of student

work for remote, online or hybrid instruction. School districts that already had robust platforms and teacher training for remote or online instruction in place prior to the pandemic were far better prepared to shift to remote and online instruction during the pandemic.

- Teachers adopted new technology tools and online apps to increase engagement and support for students learning remotely and online. These are documented in more detail in a companion report (Lech et al., 2022).

Reassignment of Teaching Staff. We found some evidence in the literature that school districts reassigned teaching staff in different ways to meet the challenges of remote, online and hybrid teaching. Although the literature is somewhat thin on this topic, more will emerge in time.

- Districts assigned dedicated teachers to remote or online instruction while maintaining other teachers in the role of in-person classroom teachers, to avoid increased teacher workload and to improve the quality of virtual instruction to students.
- Districts provided more in-class support for teachers managing the demands of hybrid instruction where some students learned in school and others connected remotely.

Financial Incentives for Teachers. The literature describes how a combination of increased workload and school staffing shortages impacted the effort to recruit and retain teachers during the pandemic and beyond. States and school districts responded with different strategies to increase financial incentives for teachers and other school staff.

- Some states passed or created legislation to increase minimum salaries for teachers.
- States and districts created more paid leave time for teachers and staff who were quarantining at home or needed to provide care for family members.
- Districts paid stipends or higher pay to teachers taking on additional duties, for example teaching remotely or online, or giving up their planning periods to cover for other teachers or classes.
- Despite the increased financial incentives for teachers, surveys indicate that continuing staff shortages and additional workload have increased the likelihood that they will leave the profession.

Mental Health and Wellness. Teachers' personal and professional experiences during the pandemic created additional sources of stress and had negative mental health impacts for some. Increased workload and staffing shortages contributed to teachers' stress. A variety of organizations along with school districts provided various types of support and resources to teachers to address their mental health and wellness needs.

- States, universities, professional organizations, non-profit groups and some school districts provided information, resources and training to teachers on identifying and coping with mental health impacts and supporting wellness. Most of these resources were provided online and took many forms.

- Similar supports were provided to teachers to support students’ social-emotional and mental health needs during the pandemic.
- Some school districts also devoted more of their professional development time to topics related to teachers’ mental health, work-life balance, and wellness.
- Some school districts provided counseling services to teachers, using existing staff or community partnerships.
- Larger school systems were more likely to provide mental health supports to teachers than smaller or more rural systems. Surveys indicate that some teachers lack access to mental health services in their districts but would use them if available.
- Despite having additional resources on mental health and wellness, surveys indicate that teachers want more training and supports in this area, both for themselves and to support their students’ needs.

Part III. States’ ARP ESSER Plans The American Rescue Plan Elementary Secondary School Emergency Relief Fund (ARP ESSER) applications submitted to the USDOE in summer through December 2021 by fifty states and two territories were reviewed (OESE, 2021a). These funds were to be used to safely reopen schools in the 2021-22 school year and keep schools open while meeting student needs, focusing on equity and recovery of learning loss for students, and funding can be used through 2024 (OESE, 2021c). Proposed plans were restricted to evidenced-based interventions. While some state applications described efforts to support teachers directly with mental health services, mentoring, professional development or career development, the plans overall placed a stronger emphasis on educator workforce development through a variety of new strategies

Supports for Inservice Educators:

Mental Health Support for Educators.

- States are contracting with mental health professionals to provide support to teachers and other educators.
- North Dakota is providing teachers with virtual support groups led by mental health professionals. Louisiana partnered with a healthcare provider to provide free mental health counseling services to teachers. Arizona is providing counseling services through telehealth (phone or video-conference).

Mentoring Support.

- States are increasing mentoring support to teachers to improve the effectiveness and retention of new and early career educators.
- Oklahoma implemented a virtual coaching platform for teacher mentoring, and Maine is developing mentoring supports for new and conditionally-certified special educators.

Professional Development.

- States used ESSER funds to strengthen and expand mentoring, peer support and coaching programs for new teachers in hope of increasing teacher retention. Additional money is being designated for mentor teachers and teacher coaches.
- Using ESSER funds, several new partnerships between states education agencies and state universities were formed. Many focused on providing virtual professional development to teachers.
- States education agencies provided statewide professional development opportunities for teachers. The most common topics were teaching literacy and technology.
- States also used ESSER funds for regional collaboration and professional development support. Depending on the state, these centers provided coaching, professional development and peer learning opportunities.
- With ESSER funds, several states are providing model curriculum and professional development. The goal is to provide high-quality instructional material and guidance to educators of historically marginalized students. Connecticut's model has teacher coaches working across schools and some districts serving as models for neighboring districts.

Redesigning Educator Roles within Schools.

- Models that allow more opportunities for teacher advancement within the teaching field are being tried in some states. A model that allows teachers to take on additional instructional responsibilities for more pay is being expanded to additional schools in Arkansas.

Educator Recruitment and Workforce Development:

Recruitment, Marketing and Credentialing.

- States and districts have increased or begun efforts to attract family members of students to work in schools.
- There is an expansion of programs designed to increase high school student interest in teaching careers by providing education coursework and experience assisting in K-8 classrooms.
- States are increasing their advertising campaigns that promote teaching. Several are linked to websites that provide information on requirements to become a teacher.
- ARP ESSER funding is being used to increase the number of credentialed paraprofessional staff in schools and to provide training for paraprofessionals. Maine began such a program, while Arkansas increased funding of their training program and North Dakota created a new certification category.

- Two states started programs to provide academic tutors to students to address learning loss. Specific curriculum training is provided to potential tutors. The state then coordinates tutors' placement with schools and organizations providing tutoring to students.

Addressing Teacher Shortages through Remote Learning.

- At least two states are using ESSER funds to explore remote teaching for schools that do not have teachers in specific content areas. Arizona is focusing on middle school math.

Reducing Barriers for Teacher Certification. States are looking at ways to defray the costs and remove barriers associated with teacher certification. Some states implemented “earn and learn” approaches where teacher candidates were able to receive pay and credit for their time in the classroom.

- Rhode Island is providing study assistance to help candidates preparing for the Praxis exam. Oklahoma is paying students during the semesters they do their student teaching. Tennessee is reducing the time from application to approving teacher licenses.
- States see a benefit for teachers, schools, and teacher candidates when candidates have a mentoring relationship within their assigned school and they can be paid to work while completing coursework.
- States are using ESSER funds to promote and expand alternative teacher certification pathways. In some cases, grant and scholarship money is being provided to candidates needing additional coursework for certification. Vermont and New York provide scholarship or other funding to encourage paraprofessionals to complete coursework to become certified teachers.
- Residency programs that place teaching candidates in schools earlier than traditional programs are being expanded. Tennessee’s 3-year bachelor’s degree granting teacher residency was expanded. By becoming certified as an apprenticeship program, additional federal funding sources became available for this teacher residency program. Residency programs encourage school staff to continue working in schools while completing coursework and then fill positions fulltime in those schools.

What did we conclude overall from the study? Maine school districts used both hybrid and in-person modalities in 2020-21, but returned to in-person instruction in 2021-22 with only intermittent disruptions in some places. Districts in higher population areas more often used a hybrid approach while rural remote regions had in-person instruction in 2020-21.

During the pandemic, professional development supports for teachers largely moved to virtual modes (synchronous and asynchronous), with the advantage of opening up more choices for teachers to customize their professional learning. Maine districts plan to continue a mix of virtual and in-person professional development. School districts also made changes to create more time for teachers to plan instruction and engage in learning by adjusting the weekly school

schedule. Some states used ESSER funds to develop or expand partnerships with universities to expand professional development, mentoring, and coaching, and also expanded the resources offered by state education agencies through online platforms.

Mental health supports increased for educators during the pandemic and was a high priority for states and school districts nationally and in Maine. Much of this support also shifted to remote or online modalities. Some states used ESSER funds to develop or expand partnerships with healthcare providers to provide these services while other states built capacity within their state education agencies through additional staffing or online platforms to support schools and educators.

On-going and severe staffing shortages continued to challenge schools during the pandemic, and contributed to educator workload and stress. Many states used ESSER funds to implement a variety of initiatives aimed at developing the educator workforce through more intensive and targeted advertising and recruitment, reduction of barriers to teacher certification, and improving retention of educators through financial supports and career development.

What are some potential implications for education policy and/ or practice? While Maine has implemented many of the strategies described in this report to support teachers' needs and to further grow the education workforce, there are additional strategies used in other states that could be helpful and worth consideration. Maine could look to some of those models to develop programs that fit the state's particular needs, either on a regional or statewide basis. Some general approaches that could be implemented or expanded in Maine include:

- Some districts in Maine would like to continue having one day per week designated for asynchronous time for student learning to allow more time for teachers to collaborate, plan lessons, work with individual students or attend to other professional tasks. State legislation may be needed to allow public school districts to adopt or sustain new scheduling models to meet the needs of their teachers and students.
- Regional and statewide partnerships with healthcare providers could increase providers and services to support educators' mental health and wellness needs (Fairman et al., 2021). Virtual or telehealth approaches provide more opportunity to scale up services.
- Regional and statewide partnerships with universities could increase professional development supports including training for alternative pathways to teaching. More investment is needed to build the capacity to meet this need. Virtual delivery modalities can reduce barriers for people who need to work while completing coursework.
- Regional and statewide investment in mentoring and instructional coaching could be expanded to help support and retain educators in all regions of Maine. Both in-person and virtual modalities are needed. Strong virtual models have been developed in some states prior to the pandemic through partnerships with universities (e.g., Florida), while other models are in development or expansion with the recent federal ESSER funding (e.g., Oklahoma).

- Diverse approaches for communicating with the public about career opportunities in education and different pathway options could be implemented regionally and on a statewide basis, beyond the strategies already implemented.
- Targeted recruitment of secondary and post-secondary students to pursue careers in teaching could increase enrollment in education preparation programs. However, continued attention is also needed to help undergraduate students overcome financial and other barriers to retain students through completion of their training.
- Residency models and alternative pathways have received more attention in Maine recently (Fallona & Johnson, 2019; Jessen et al., 2020) and could be strengthened and expanded through partnerships between school districts and universities and regional approaches.
- Additional financial incentives and supports could be provided to increase recruitment and retention of educators, particularly to build the educator workforce in high needs content areas and locales in the state.
- Career development and opportunities for expanded teacher leadership roles could be strengthened to attract and retain more educators in the profession.
- Development and retention of the paraprofessional workforce could increase the number of people who become certified as classroom teachers, but would also provide important classroom support for students and teachers and could help improve teacher retention.
- Expanded options/ workforce development for virtual teachers and courses, particularly at the secondary level, could increase not only equity in student access to coursework but also help to overcome the challenge of school staffing shortages in some content areas.

While Maine had the advantage of a well-established 1:1 laptop program for middle grades and some secondary grade students (MDOE, 2022c), the pandemic highlighted disparities and gaps in the state’s and local districts’ readiness to shift to remote or online learning when needed. Even as the pandemic may subside, policy, planning and investment efforts should continue to ensure that students don’t experience prolonged disruptions in their education. Areas needing attention include the state’s infrastructure for high-speed internet access, disparity in equitable access to both the internet and computer devices for students and teachers, planning for course delivery remotely or online, policies to allow for reassignment of staff during periods of remote/online instruction, and more attention in preservice and inservice training to provide all educators with the technology skills and effective instructional strategies they need to teach and support students through different modalities when needed.

What methods were used to conduct this study? To learn about strategies to support PK-12 teachers and their instructional practices from across the US, our research team cast a broad net to search both published research reports and news articles released since March 2020. We also reviewed states’ ARP ESSER applications submitted from summer through December 2021 (OESE, 2021a). To examine practices that emerged in Maine schools, we conducted an online

statewide survey of public and private Maine school district curriculum directors over a period of four weeks from November through December 2021. The broad research questions guiding this inquiry were the following:

- How have Maine and other US states and school districts supported teachers' delivery of instruction through remote, online or hybrid modalities during the COVID-19 pandemic?
- What strategies have been adopted to support teachers in other ways, including mental health supports or broader workforce development and retention efforts?
- What positive benefits as well as challenges have Maine and other US school districts experienced with these efforts?

How robust are the findings? This project included a large search and review of the available published literature, including both academic research articles and news articles, to identify a wide range of practices or strategies that have successfully been implemented both in Maine and elsewhere in the US to support teachers' instructional and mental health needs. Our aim is to provide these ideas as resources for school systems, educators, and policymakers. In addition, the project also included a survey of Maine school district curriculum directors to hear in their own words what new practices emerged in their schools and the challenges and successes they experienced in implementing these practices during the pandemic.

We surveyed 254 curriculum directors, both public and private, and 66 responded for a 26% overall response rate. While this response was lower than ideal, it was sufficient for the purpose of this study. However, we cannot know what practices other districts might have implemented in non-responding districts (roughly 75% of those surveyed). The response rate from public school districts specifically was better with nearly a third (31%) responding. The survey participants were representative of the population of Maine's curriculum directors by region and in terms of urban or rural settings.

The federal government offered states several rounds of relief funding programs to address challenges identified during the pandemic. This study did not examine state plans for all of these funding programs, but only the ARP ESSER state applications submitted from summer 2021 through December 2021. Further, our focus in this study was to identify supports for teachers and workforce development specifically. State strategies to address other needs related to the pandemic were not a focus for this study.

Introduction

This report is part of an on-going series of research studies conducted by the Maine Education Policy Research Institute (MEPRI), commissioned by the Maine State Legislature, to understand how PK-12 schools in Maine and elsewhere in the US are supporting students and teachers during the challenging time of a pandemic where normal instructional practices have been disrupted. Previous studies explored remote instruction for special education students in Maine during the pandemic (Lech & Johnson, 2021a) and the delivery of therapeutic services to students through remote or “telehealth” modalities both before and during the pandemic (Lech & Johnson, 2021b).

The intent of this current study was to identify and describe “new or innovative” practices or strategies that emerged during the pandemic to support PK-12 teachers’ delivery of instruction through remote, online or hybrid modalities. In a separate report from this study, we describe practices to support student learning during the pandemic (Lech et al., 2022). Our investigation involved a review of published literature and news articles, a review of state and district planned strategies to support teachers using federal relief funding, and a survey of district curriculum directors in Maine. We found that most of the strategies school districts used to support teachers’ instructional needs and mental health needs were not entirely new, but had been used to some degree before the pandemic. The widespread challenges in education during the pandemic simply created conditions that allowed these strategies to be taken up on a wider scale. The most prevalent strategies to support teachers included: teacher training and professional development resources provided in-person and online; adoption of new or additional computer technology such as hardware, software, online platforms and other equipment for remote or online instruction; additional time for teacher learning and instructional planning; and supports and services for mental health and wellness. There is also evidence that school districts used staffing reassignment strategies to cope with the multiple instructional modalities, increased workload and staffing shortages during the pandemic.

There was more evidence of innovative approaches at the state level to create additional financial incentives and professional time for teachers, as well as workforce development more broadly. For example, some states pursued legislation to raise teacher salaries or create more paid leave time for educators. States also used federal relief funding to improve internet access to

students and teachers to support remote and online education. The final stage of the ESSER funding, the American Rescue Plan, supported state and local strategies to build the educator workforce generally by encouraging more people to enter the education field, and to retain the current workforce by providing practicing educators with professional development and support for educator well-being, and creating new opportunities for educator advancement within the field.

Background

The sudden closure of PK-12 school buildings and shift to remote and online instruction for students in spring 2020 forced educators everywhere and in all grade levels to adopt new technologies and learn how to use them proficiently (New York Time, 2020; Rickles et al., 2020). State education agencies and school districts worked to address the need for internet access for students and teachers to connect remotely, and additional computer and mobile devices were distributed to teachers and students. Maine was well prepared in middle and secondary grades through the 1:1 laptop and iPad program that has been in place for over 20 years (MDOE, 2022c). School districts made use of their existing online platforms or learning management systems (LMS) for remote or online instruction, or they quickly adopted new platforms and software. All of these efforts were aimed at improving the available technology for the purpose of instruction (Ohm, 2020, April 5; Prothero, 2021; Young & Donovan, 2020). Yet, teachers also needed supports to learn how to use new computer hardware and software or online platforms to communicate with their students and their parents, disseminate assignments and learning resources, provide live or recorded instruction through video-conferencing tools, collect students' work, and facilitate assessment or evaluation and feedback of students' work (Darling-Hammond & Hyler, 2020; Young & Donovan; 2020).

In the early days of the pandemic, the physical closure of schools and need to observe physical distancing constrained how school districts could support teachers' professional development. Much of teachers' professional learning also shifted rapidly to online spaces and social media, where teachers found support and learned how to use the new technology tools and effective pedagogical approaches for remote, online or hybrid instruction (Gomez, 2020; Hamilton et al., 2020; Prothero, 2021; Sadler et al., 2020; Trust et al., 2020). Rather than sitting in a shared physical space to learn together, educators shared their knowledge and expertise with each other and accessed external resources by watching webinars, participating in synchronous

video-conferenced meetings, posting and sharing materials, or talking with a colleague or instructional coach. As the pandemic lengthened, states and school districts recognized that teachers needed more than technology and professional development support for instruction—they also needed support and services for their own mental health and wellness, and additional resources and training on supporting students’ social-emotional and mental health needs.

Over the course of the pandemic, the federal government implemented new programs to fund state or local efforts to help schools continue to deliver education remotely or online initially and then to reopen schools safely for in-person instruction. The programs also sought to address some of the negative impacts of the pandemic on schools, educators and students, particularly historically under-served students. The largest such program to date is the American Rescue Plan Elementary Secondary School Emergency Relief Fund (ARP ESSER) signed into effect in March 2021 (OESE, 2021c). The initial COVID-19 relief funding for education was through the CARES Act. It was followed by education funding through the CRRSA Act. States and school districts made use of the federal relief funding to address their pressing technology needs for instruction, enhance educator professional development, and implement educator mental health supports. A portion of the funds was used for educator workforce development more broadly and providing financial incentives to educators.

Methodology

This study involved both a literature review and survey methods to explore how states and school districts were working to support PK-12 teachers’ delivery of instruction through remote, online or hybrid modalities, and teachers’ mental health needs that are critical in their ability to perform their instructional role, during the course of the pandemic. We describe these methods here.

Broad Literature Search

Our research team cast a very broad net to search for research reports and other published articles that described state or district practices to support teachers’ instructional and mental health needs published during the period of March 2020 through February 2022. We used online databases (e.g., ERIC, Education Full Text, One Search, Google Scholar and Global Newsstream), as well as individual newspaper websites for major US cities and regions of Maine, and a variety of search words to find articles describing how schools and educators were providing supporting student learning and supporting teachers during the pandemic. We also

reviewed archived issues of the national weekly publication *Education Week* (www.edweek.org) for articles published since the beginning of the pandemic. We searched for reports and news announcements on national and state governmental agency websites (e.g., the U.S. Department of Education, National Academy of Science, the Maine Department of Education, and the Maine Governor’s Office), and on websites for regional educational laboratories. In addition, we examined the websites of a wide variety of national and state professional associations and education think tanks to find both research reports and descriptions of school practices. Our team closely reviewed more than 90 relevant reports and articles and summarized the findings narratively by topic and the instructional approach described. Our findings from this review are described later in this report.

Review of States’ ARP ESSER-Funded Approaches

To explore how states and school districts are seeking to support teachers and the educator workforce more broadly during the pandemic beyond the published literature, our research team reviewed the ARP ESSER applications submitted by each state including Maine and two territories to the USDOE from summer through December 2021. These state plans were obtained from the USDOE website (OESE, 2021a). These documents reflect the particular priorities and needs in each state and across diverse school districts. While some of the approaches described in the plans sought to expand existing practices or programs, others reflect new approaches. Using standard methods for qualitative analysis of documentation content, two members of the team reviewed these plans to identify and categorize the strategies states and school districts are hoping to implement with the support of federal funding. Narrative summaries were developed to describe these approaches for supporting student learning more broadly and are shared in the Findings section of this report. This report describes strategies outlined in the state ARP ESSER applications submitted in spring-summer 2021, focusing on strategies that relate specifically to supporting teachers directly or educator recruitment, retention and workforce development more broadly. These applications included other efforts aimed at supporting students and schools, which we do not describe in this report.

Survey of Maine Curriculum Directors

MEPRI conducted an online statewide survey (see Appendix A) of Maine school district curriculum directors over a period of four weeks from November through December 2021. This survey explored both district strategies to support student learning and also strategies to support

teachers during the pandemic. This report focuses on supports for teachers, and we report on student supports in a separate MEPRI report (Lech et al., 2022). Survey questions that explored supports for teachers asked about changes in the areas of staffing recruitment and assignments, teacher pay, instructional scheduling and time provided to teachers for instructional planning or professional development, professional learning topics and use of virtual modalities in professional development. The survey aimed to learn about new practices that districts had tried and whether or not those practices were being continued. Directors were also asked to indicate the predominant mode of delivering instruction for most students in the previous school year (2020-21).

Using staffing lists available from the Maine Department of Education (MDOE) and verifying them with individual school district website information, we sent emailed invitations and a web link for the survey to 254 public and private district curriculum directors (special schools for students with disabilities or incarcerated youth were not included in the survey), along with informed consent information. All survey materials were reviewed and approved by the University of Maine's Institutional Review Board. Survey content and questions were developed based on our findings from the literature review and through input from members of the Maine Curriculum Leaders Association (MCLA). The survey was pilot tested with district curriculum directors and revised based on their feedback. We conducted the survey through the Qualtrics online platform. Reminders were automatically emailed twice to non-responders. By the close of the survey in late December, a total of 66 administrators had completed the survey for an overall response rate of 26%. However, there was a significantly higher response rate for curriculum directors from the regular PK-12 public systems (31%) compared to other public schools (13%) that include the charter schools, magnet schools, Indian Education, state-operated schools and the Unorganized territory, the eleven private schools (18%) that are mostly secondary schools with 60% or more public funding, and other private schools (9%) that include both sectarian and non-sectarian schools. More information about the schools and regions represented in the survey sample can be found in the Findings section and the Appendix.

The survey included both fixed-choice items and open-ended items that allowed for participants to write comments. Demographic data were collected from respondents. Email addresses were matched with National Center for Educational Statistics (NCES) and MDOE data on districts to allow for analysis of response rates. The majority of fixed-response questions

presented respondents a list of related instructional practices. Fixed-choice responses were tabulated and the percentage of survey respondents was calculated for each choice. Districts were grouped by county into four areas: Central (Kennebec, Knox, Lincoln, Sagadahoc, and Waldo), Northern (Aroostook, Hancock, Penobscot, Piscataquis and Washington), Southern (Cumberland and York) and Western (Androscoggin, Franklin, Oxford, and Somerset). Using SAS statistical software, selected responses were compared by geographic location, district status (public, public-private, private) and rural location to examine if there were any differences in response by county, region or locality, or district status.

Two open-ended survey questions directly explored school district strategies to support educators during the pandemic. One question asked curriculum directors to describe “noteworthy” strategies to “support teachers in providing high quality hybrid, remote or online instruction” that emerged in their districts during the pandemic. Another question asked directors to describe strategies their districts found helpful during the pandemic to “assign or recruit staff for instruction or student support.” Other open-ended survey questions focused on supports for students, and challenges in implementing instructional changes. However, we found directors also shared responses to these questions that focused on teachers, and so we summarize findings from all the relevant written comments (n=63) in the Findings section of this report. Typed comments were analyzed by two members of the research team using spreadsheets and standard, qualitative analysis and coding methods. Each comment was categorized and sorted by the topic and ideas expressed by participants. Narrative summaries were developed describing the overall findings from this analysis. These are shared in the Findings section of this report.

The broad research questions guiding this inquiry were the following:

- How have Maine and other US states and school districts supported teachers’ delivery of instruction through remote, online or hybrid modalities during the COVID-19 pandemic?
- What strategies have been adopted to support teachers in other ways, including mental health supports or broader workforce development and retention efforts?
- What positive benefits as well as challenges have Maine and other US school districts experienced with these efforts?

Findings

We report findings from this study in three sections below. First, we describe key findings from our statewide survey of Maine school district curriculum directors (public and

private) to learn how districts have supported teachers during the pandemic. Next, we describe the strategies schools and districts have used across the US to support teachers, identified through our review of recently published research reports and news articles. Finally, we provide an overview of the strategies planned by various states and school districts, gleaned from the federal ARP ESSER applications submitted by 50 states and two territories.

Part I. Findings from the Survey

In this section, we present results of a statewide survey of school district curriculum directors conducted in late fall 2021. First, we describe the districts completing this online survey and how representative the survey was overall. Next, we summarize the most common modes of delivering instruction for the 2020-21 and 2021-22 school years for the participating districts, to provide some context for the changes we describe. After that, we describe the changes districts made during the pandemic in a variety of areas including: school and instructional scheduling, professional development scheduling, professional development content and focus, adoption of new technology for instruction, and assignment and recruiting of teachers and other staff. We also provide a summary of curriculum directors’ written comments, outlining some of the challenges they had experienced in implementing changes. A brief summary of key results and limitations is provided at the end of this section.

Response Rates

The aim of this survey was to uncover new and innovative practices that emerged during the pandemic in Maine schools to support teachers. Private and private-public school districts were included. Schools that primarily serve students with special needs were not included. The response rate from public school curriculum directors was 31%. A much lower response rate (9%) was obtained from the 34 private school curriculum directors. The combined, overall response rate was 26%.

Table 1. Response Rate by District Type

	Responses		Sent		Response rate
Public	89%	59	76%	193	31%
Private – 60% Publicly Funded	3%	2	4%	11	18%
Other Public	3%	2	6%	16	13%
Private	5%	3	13%	34	9%
Total	100%	66	100%	254	26%

When responses were examined by district locale, the response rate was similar for city or suburban, small town and remote rural curriculum directors. The data on locale were obtained from the NCES site which does not include private schools, public-private schools and some special purpose schools.

Table 2. Response Rate by Locale

	Responses		Sent		Response rate
City or Suburb	21%	14	18%	46	30%
Town	58%	38	51%	129	29%
Rural remote	14%	9	12%	31	29%
Missing NCES data	8%	5	19%	48	10%
Total	100%	66	100%	254	26%

Demographics

The curriculum directors represented a cross-section of Maine school districts. Of those providing demographic information, most (60%, n=31) served as curriculum director for PK-12 or K-12 grade levels. The next most common position (25%, n=13) was curriculum director for grades PK-8 or K-8.

Table 3. Grade Levels Served by Curriculum Directors (n=51)

PK-12 or K-12	61%	31
PK-8 or K-8	25%	13
9-12	10%	5
6-12	4%	2
Total		51

The curriculum directors represented districts in all geographic regions of the state and all locales. Over half (54%, n=28) indicated their district was in a small town. Twenty-nine percent (n=15) indicated they were in remote rural areas. Curriculum directors primarily were in large districts with 1,000 or more students (n=19) or smaller districts with 101-500 students (n=20).

Table 4. District Size by Geographic Location (n=52)

	City or Suburban	Small town	Remote rural	Total
1,000 or more students	37% 7	63% 12	0% 0	100% 19
501-999 students	10% 1	50% 5	40% 4	100% 10
101 to 500 students	5% 1	40% 8	55% 11	100% 20
less than 100 students	0% 0	100% 3	0% 0	100% 3
Total	17% 9	54% 28	29% 15	100% 52

Delivery Mode for Instruction

This school year (2021-22), all of the responding curriculum directors except those in virtual districts said their districts’ primary mode of instruction was in-person five days a week. Prior to the most recent onset of the Omicron wave, which hit Maine schools hardest after December 2021, over a third of respondents (35%, n=17) reported that some students were temporarily isolated or quarantined with remote instruction provided this school year. But the majority of their students were receiving in-person instruction in school this year.

Last school year (2020-21), hybrid instruction was the most common form of instruction in city or suburban schools (78%, n=7) and small town schools (59%, n=16) for the responding Maine districts. In remote rural areas, in-person learning remained the norm (85%, n=11) in 2020-21. A hybrid model could take the form of having a portion of the students in a classroom attend in-person on certain days while the other students learn remotely from home on those days.

Table 5. *Primary Mode of Instruction for Most Students in the District, 2020-21 (n=49)*

	Fully remote	Hybrid	In person 4 or 5 days per week	Total
City or Suburban	0% 0	78% 7	22% 2	100% 9
Small town	4% 1	59% 16	37% 10	100% 27
Remote rural	0% 0	15% 2	85% 11	100% 13
Total	2% 1	51% 25	47% 23	100% 49

School and Instructional Scheduling

Teaching and school schedules changed considerably when schools went remote. As schools reopened, teachers had new challenges. Many districts responded by changing teachers' instructional schedules. One of the most common changes was to use hybrid schedules that had some students four days in person with one day of asynchronous learning for all students. Twenty-nine curriculum directors reported that their districts used this type of hybrid instructional schedule at some time during the pandemic. Most of those (n=17) indicated their districts wanted to discontinue this schedule, and there were eleven districts that wanted to continue this schedule. Scheduling of asynchronous learning days is being continued in many districts this year for some students who cannot attend in person. Occasional asynchronous learning days were adopted by twenty-one districts. Eight of these districts are continuing the occasional asynchronous days and another eight districts want to continue but are unable to do so. Five districts that tried asynchronous student learning days for professional development said that they want to discontinue them.

There seemed to be confusion on the option of four-day in-person teaching with longer school days. Most curriculum directors (n=44) indicated that their districts did not adopt this schedule; however, five districts indicated that they adopted this schedule during the pandemic and another seventeen left this question blank indicating that they may already be using this schedule.

Table 6. Changes in Scheduling During the Pandemic (n= 65)

	No answer		Did not adopt during the pandemic		We plan to continue this practice		We want to continue this practice but are unable to do so		We want to discontinue this		Total
	%	n	%	n	%	n	%	n	%	n	
Four-day in-person teaching schedule with one day for asynchronous learning (time for teachers to do professional development, one-on-one tutoring)	17%	11	39%	26	2%	1	17%	11	26%	17	100%
Decrease in mandatory meetings	18%	12	26%	17	33%	22	5%	3	18%	12	100%
Occasional asynchronous learning days (time for teachers to do professional development, one-on-one tutoring)	20%	13	48%	32	12%	8	12%	8	8%	5	100%
Setting up co-teaching times (e.g. one virtual, one in-person)	24%	16	52%	34	9%	6	8%	5	8%	5	100%
Regularly designated professional development time during school hours (Late start/Early release days)	26%	17	26%	17	39%	26	9%	6	0%	0	100%
Scheduling time for teachers to interact with each other (visiting other classrooms, meeting)	26%	17	39%	26	23%	15	12%	8	0%	0	100%
Four-day in-person teaching schedule with longer school days	26%	17	67%	44	2%	1	3%	2	3%	2	100%

Professional Development Scheduling and Delivery

Professional development scheduling also changed (see Table 6 above). The survey results indicate there has been a decrease in scheduled instructional time to allow for increased time for teachers to plan instruction, engage in professional development, or for other purposes. Thirty-two directors reported that their districts regularly set aside time during the school day for teacher professional development during the pandemic. This was generally accomplished with either a late-start or early-release scheduling. All districts that tried this strategy indicated they want to continue it. Twenty-six districts are continuing the practice and six districts indicated they want to continue this but feel that they are unable to do so this year. The most common

scheduling change that directors (n=37) reported was a decrease in mandatory meetings for teachers during the pandemic. Twelve districts want to discontinue this practice. Twenty-two directors said the decrease in meetings is continuing while three directors indicated that their districts want to continue this practice but are unable to do so.

Directors were also asked if their districts used the strategy of co-teaching times or scheduling time for teachers to interact with each other during the first year of the pandemic. The interactions could be meetings or visiting other teachers' classrooms. Most districts did not start these practices during the pandemic. The sixteen districts that began co-teaching during the pandemic were split with six districts continuing the practice, five wanting to continue but unable to do so and five districts wanting to discontinue it. Most (n=15) of the 23 districts that scheduled time for teachers to interact with each other continued it. Eight districts wanted to continue this time for teachers to interact but were unable to do so (see Table 6 above).

In the open-ended comments, nine directors described ways that districts had created more time for teachers to plan for instruction, including collaborative planning time. These scheduling strategies included creating a half day per week or early release time once a week, designating one day per week as a fully remote day, and scheduling one day per week for planning time in one district. Providing teachers more discretionary time was also seen as a way to decrease burn-out. Several recognized that teachers needed more personal time. One director wrote, "The amount of stress put on the teachers to help their students and their own families was tremendous." Another director wrote,

Teachers need more prep time and more scheduled time to meet with students that is NOT during a lunch break or a prep period. Teachers need those times for themselves, so working a day or afternoon of office hours into a weekly schedule would be ideal.

While there has been much talk around returning school to the traditional in-person instructional schedule, the same is not being said about teacher professional development. According to the survey findings, teacher professional development has shifted into more virtual, individualized professional development options in Maine schools during the period of the pandemic. The focus of teachers' professional learning has also changed to meet the pressing needs of educators. Virtual delivery practices emerged during the pandemic and are being retained in most districts. There did not appear to be any difference in adoption of virtual

professional development between central, northern, southern and western geographic areas. There was also no significant difference between remote, small town and city/suburban districts in their adoption and continuation of virtual professional development for teachers. Forty-two directors reported that their districts adopted some form of virtual professional development. Only two directors said that their district did not adopt any form of virtual professional development. Nine left these options blank. Twenty-eight directors reported their districts plan to continue asynchronous professional development using teacher selected topics, asynchronous professional development using district selected topics and a synchronous remote option all of which were adopted during the pandemic. There were six additional districts that are continuing a synchronous remote option, and two that want to continue this but are unable to do so. Eight additional districts adopted and are continuing asynchronous professional development either with district selected topics or teacher selected topics (see Table 7 below).

Table 7. *Changes in the Delivery of Teacher Professional Development (n=58)*

	No answer		Did not adopt during the pandemic		We plan to continue this practice		We want to continue this practice but are unable to do so		We want to discontinue this		Total
Synchronous remote option for teachers to attend school or district professional development	17%	10	10%	6	59%	34	3%	2	10%	6	100%
Asynchronous professional development-teacher selected topics	21%	12	21%	12	55%	32	2%	1	2%	1	100%
Asynchronous professional development-district selected topics	24%	14	12%	7	55%	32	2%	1	7%	4	100%

Some curriculum directors wrote comments describing how their districts arranged for teachers to learn from each other and from others in the district. Fourteen directors indicated that their districts provided training and professional development to teachers on remote instruction, where teachers generally learned through informal sharing with their colleagues. Two comments described how districts changed the format of professional development to include a mix of face-to-face, asynchronous and online learning for educators, as well as more choice of learning options. Some districts used their existing team structures or professional learning communities (PLCs). Two directors wrote that their districts used technology mentors and two directors described the use of instructional coaches either within the district or through a university partnership. Comments describing some of these changes included the following:

We provided opportunities for all teachers in grades K-12 to share practices via departments and grade levels. Teachers learning from other teachers in the field is a very successful strategy.

We created a one-week training schedule where teachers taught their peer's new technology. The teacher facilitated the training, and on the following day, offered an open Q & A session. This allowed teachers time to play and try it out and then get immediate feedback.

In open-ended comments, curriculum directors also described how educators accessed professional development from sources outside the district. When teachers were asked to add this training onto their schedules, some felt it could become too much. One director felt that “teachers did not want to attend outside virtual sessions due to the overwhelming of other components on their plates.” A more successful approach was one that allowed teachers to replace some district led professional development with outside professional development. One director wrote,

We changed our professional learning structure from one that was focused on receiving in-person contact hours to a mixture of both in-person contact hours and anywhere/anytime contact hours through online modules. As a result we now have many teachers in our district who have become "digitally certified" in various resources and tools that are engaging and support asynchronous/synchronous learning environments.

Professional Development Content and Focus

The content of teacher professional development also changed during the pandemic. An expected change was an increased focus on incorporating technology into instruction. Only one district responding to the survey did not incorporate additional training on technology into their teacher professional development during the pandemic. The open-ended comments referenced specific topics teachers learned about including: learning about online platforms, video-conferencing tools and screen casting. Instructional strategies for teaching remotely, such as using a flipped classroom approach, were also topics of educator professional development during the pandemic. Curriculum directors indicated their districts were willing to incorporate more technology as schools returned to face-to-face learning. Thirty-five districts reported that they plan to continue providing additional training for incorporating technology into instruction. Districts also started and plan to continue to provide teachers additional training on practices that increase student engagement with asynchronous learning (n=25) and additional training on lesson structure for clarity (n=24). There were mixed intentions when it came to providing professional development on synchronous virtual learning. Sixteen districts were continuing this type of training, eight wanted to continue this training and seven wanted to discontinue this training (see Table 8).

There was also a shift toward increasing professional development on individualized student learning. Twenty-three districts were continuing training on their district learning management systems and eighteen were continuing additional training on personalized learning for students. None of the districts that increased professional development training in these areas wanted to discontinue it.

With the increased role of family involvement during remote schooling, it was somewhat surprising to see that additional training in coaching families to support student learning was adopted in less than a third of responding districts' professional development during the pandemic. A large number of directors (n=23) left the option blank on the survey, indicating that they may have done this prior to the pandemic. Sixteen districts reported that they did not adopt this practice. Of the nineteen districts that increased training in this area, two wanted to discontinue it.

The same number of districts of indicated they had adopted and plan to continue additional training on self-care/ educator well-being (n=35) as reported they are continuing to

provide additional training on incorporating technology (n=35). Only three districts did not adopt training on self-care and educator well-being. No districts want to discontinue this training on self-care and educator well-being (see Table 8 below).

Table 8. Changes in Professional Development Content since the Start of the Pandemic (n=58)

	No answer		Did not adopt during the pandemic		We plan to continue this practice		We want to continue this practice but are unable to do so		We want to discontinue this		Total
Additional training for self-care/educator well-being	28%	16	5%	3	60%	35	7%	4	0%	0	100%
Additional training on practices that increase student engagement with asynchronous learning	31%	18	9%	5	43%	25	7%	4	10%	6	100%
Training on synchronous virtual learning	34%	20	12%	7	28%	16	14%	8	12%	7	100%
Additional training on lesson structure for clarity	34%	20	19%	11	41%	24	3%	2	2%	1	100%
Additional training on personalized learning	34%	20	29%	17	31%	18	5%	3	0%	0	100%
Additional training on incorporating technology for instruction	34%	20	2%	1	60%	35	3%	2	0%	0	100%
Additional training on district's learning management system	36%	21	16%	9	40%	23	9%	5	0%	0	100%
Additional training on coaching family to support student learning	40%	23	28%	16	22%	13	7%	4	3%	2	100%

Remote Instruction Teachers

Using dedicated virtual teachers is a strategy that could reduce the workload for teachers as they can focus on preparing instruction for one modality rather than multiple modalities simultaneously. Having designated remote teachers was a practice adopted by 22% of the responding districts (n=13). Ten of these districts (18%) used teachers employed by the district, while another three districts used teachers from outside the district or private contractors. Another 11% of districts (n=6) wanted to use designated teachers but did not have the staffing to do so. In open-ended comments, curriculum directors described different approaches districts took to separate remote education from in-person instructional duties. One said their district offered stipends as an incentive to teachers for providing online instruction: “We provided a stipend to several teachers to offer online instruction to students in addition to their regular classroom instruction.” By contrast, another director described how a district reorganized staff to separate remote from in-person teachers: “We did not ask teachers to do ‘double duty’ hybrid. We reorganized our staffing to have a free standing ‘school within a school’ with a PK-12 remote learning academic that took on its own identity.” The districts that did have remote instruction teachers felt this strategy was helpful to teachers, students and families.

New Technologies for Instruction

In open-ended responses, nine curriculum directors described how their districts had purchased new technology to support teachers’ efforts to implement remote, online or hybrid instruction during the pandemic. Some of the new purchases included: software licenses and online platforms, light boards, mobile computing devices, SWIVL or OWL cameras, microphones and headphones. A challenge mentioned was the lack of funding to continue access to software platforms and other technology supports. One director wrote, “We purchased additional software resources for teachers to utilize with students. Many of these resources will continue, but we are not able to fund all of these resources indefinitely.”

Educator Recruitment and Retention

One open-ended question asked district curriculum directors: “What strategies has your district found helpful during the COVID-19 pandemic to assign or recruit staff for instruction or student support?” A total of 22 directors responded to this survey question. However, a third of the comments (n=7) wrote about challenges districts experienced with staffing shortages and recruitment without offering any strategies for recruitment.

Increasing pay and stipends was a strategy used for both recruitment and retention of teacher and other school staff. Four curriculum directors described how their districts used the strategy of offering additional pay or stipends to attract or retain teachers and other staff. One director reported “We offered a pay differential for those that were willing to take on additional duties.” Another district increased the pay for substitute teachers, another increased pay for educational technicians and bus drivers to fill those staffing needs, and a fourth district offered a signing bonus to fill a nursing position that was vacant for several months.

One district hired full-time substitute teachers and interventionists to address the shortage of substitute teachers during the pandemic. The director wrote:

We hired full time building substitutes to cover classrooms when a staff member has to be out. This person also works with students in need of additional support when they are not covering a classroom. We also hired interventionists to address students that are behind.

Advertising through community-based and local events, newspapers, online platforms, and word of mouth another strategy districts used to recruit for open staff positions with some success reported in one district.

Despite districts’ efforts to adjust staffing assignments or offer incentive pay or salaries to teachers and staff, seven of the curriculum directors (n=7) commented on the difficulty districts have continued to face in filling vacant positions. Specific challenges included the problem of new hires leaving for better paying positions elsewhere, and existing teachers having to cover for the vacant positions, further stretching their workload during a challenging time. The vacant positions and staffing shortages went beyond classroom educators to include many other auxiliary and support staff positions. Several directors said that their districts have multiple positions that were open since the 2021-22 school year began. They had no candidates for them. One curriculum director commented “We are experiencing massive problems hiring people to do the work as classroom teachers, interventionists, coaches, Ed Techs, substitutes, bus drivers, food service workers, and custodial staff.” In at least one district, teacher shortages have resulted in teaching staff having to take on more teaching responsibilities.

One advantage seen during the pandemic was students being more efficiently supported. One director wrote,

We are able to connect students via zoom with much needed supports sooner than when

we had to rely on supports in their community. Staff missed meeting in person but were able to meet more students online in a given day than when they had to travel to the student during normal operations.

Challenges in Implementing Changes

In response to an open-ended survey question asking curriculum directors about the challenges districts have faced in “implementing desired instructional changes this school year (2021-22),” about half (n=30) of curriculum directors shared written comments. The theme of staffing shortages was the most frequently mentioned challenge in almost half of the comments (n=12), and was nearly matched by the theme of teacher fatigue and stress (n=11).

Staff shortages were due to several causes. Directors mentioned vacant positions, educators absent due to COVID, and the lack of substitute teachers. Comments on staffing shortages included these: “Shortage of substitutes--We are all just covering for each other;” “Staff shortages, no applicants;” “Finding staff to provide additional instructional services;” and “Positions are filled, but many staff members have been unable to work for a variety of reasons.”

Teachers’ stress and exhaustion was also attributed to several causes besides staff shortages. Teachers were concerned about their students. Learning losses weighed on some teachers’ minds. Others were struggling themselves with personal concerns. Comments regarding the negative impacts of increased workload and concerns about students causing fatigue and stress for teachers included the following: “Lack of staff, teachers are exhausted, quarantines;” “Energy. Everyone is overly stressed and overworked. Everyone is exhausted;” “Teacher stress, so mental ability to take on one more thing;” and “Our teachers are struggling themselves emotionally with all the changes and unfinished learning of our students.”

Summary and Limitations of the Survey.

Districts completing the survey indicated they had made many changes affecting teachers and students during the pandemic. Districts in higher population areas primarily adopted hybrid modes of instruction in 2020-21, while rural remote districts mostly continued in-person instruction. Curriculum directors reported that a return to in-person learning was a high priority in their communities and all but one private district shifted back to in-person learning for most students in 2021-22. Districts continued to allow remote or asynchronous options for a small number of students as needed, and during occasional periods of high COVID rates in their communities, this school year.

The responding districts indicated they intend to continue many of the strategies they implemented to support teachers during the pandemic, but not all of the changes. The changes fell into the following categories: school and instructional scheduling, professional development scheduling and delivery, professional development content and focus, adoption of new technology for instruction, and staffing assignments and recruitment/ retention strategies. Some districts adopted a four-day in-person and one day asynchronous schedule in 2020-21 and found this new schedule helped to create more time for teachers to plan instruction, engage in professional development or work individually with students. However, only one private school is continuing this schedule. Other districts created more time for teachers by reducing instructional time through late start/ early release days and several districts plan to continue this practice.

The pandemic stimulated an increase in virtual professional development opportunities for teachers, which included both synchronous and asynchronous learning options selected by the district and by teachers, and most of the responding districts indicated they plan to continue these options. Districts also reported that professional development during the pandemic included a focus on technology topics, remote/ online instructional strategies, engaging students in instruction, and personalized learning for students. Many of the districts also offered professional development on self-care and wellness for their educators, and most plan to continue attention to this topic. Districts used various strategies to provide time for teachers to collaborate in their learning and work. Although many districts reported difficulty in filling positions, almost all have increased their efforts to recruit teachers and staff. Some districts offered stipends to teachers or increased teacher or staff salaries. Maine districts have adopted practices to support teachers during the pandemic and are continuing to make changes to recruit, support and retain teachers.

While the survey was helpful in identifying many of the practices districts adopted to support students during the pandemic, there are some important limitations to consider when interpreting the survey results. First, the survey did not ask about every possible strategy that districts might have adopted during the pandemic to support teachers. The open-ended items did allow curriculum directors to mention other practices not listed on the survey specifically. Another limitation is related to the format of the fixed-choice survey items. We structured the survey to find out what practices were adopted during the pandemic and which ones might be

continued or not. Despite the effort to pilot the survey instrument, some curriculum directors may have found the format or instructions on items confusing, making it difficult to interpret the results when they left some items blank. When districts had already adopted a particular practice prior to the pandemic, they were asked to leave those items unchecked on the survey. Finally, while the districts completing the survey were representative of Maine districts overall, a large percentage of the 254 districts surveyed (74%) did not complete the survey. We cannot know what practices may have been adopted in non-responding districts

Part II. Review of the Literature

In our search through published research reports, news articles and other literature on PK-12 school practices to support teachers' instructional practices and their mental health during the pandemic, we found that state education agencies and school districts were using strategies or approaches that had been used successfully prior to the pandemic, but in a more limited way. The widespread challenges for schools and educators during the pandemic stimulated a more intensive effort by state education agencies to support educators' needs remotely through online platforms and there was a corresponding effort by school districts to use online and remote strategies to support their educators, as well as face-to-face supports such as instructional or mentoring and mental health counseling services.

Overall, we found far less published literature that focused on teachers and described specific strategies to support teachers than we did in our search for strategies to support student learning. The research and literature are still emerging, and hopefully the topic of supports for teachers will receive more attention in the near future. Broadly, the literature currently available documents a range of strategies to support teachers during the pandemic that primarily fall into four broad categories: professional development to support remote, online or hybrid instruction; increased time for planning and professional learning; adoption of instructional technology; mental health and wellness supports. To date, there is less literature describing strategies related to staffing assignments or reassignments for remote, online or hybrid instruction, or teacher pay and incentives, despite some evidence that these strategies have been implemented during the pandemic. We describe the strategies used to support teachers in these areas and some interesting shifts, particularly in professional development, which provided teachers with more customized options for their learning. We also outline some persistent challenges in providing all teachers with the supports they need, given the pre-existing inequities in the resources and capacity

available at the school district level, and on-going staffing shortages in education. At the end of this section, we briefly summarize findings from the literature and implications for the education workforce.

Professional Development

Based on our review of the available literature, the primary way states and school districts have supported teachers' remote, online and hybrid instruction is through professional development (PD) resources and training. In reviewing the various approaches to professional development, we noted dramatic shifts in the following aspects: focus or content of professional learning, delivery modalities used, providers and facilitators of professional development, scheduling for professional learning, and degree of educator choice in their professional learning. We describe each of these changes in turn.

Focus of PD. As educators geared up to teach remotely, online, in in hybrid schedules, they needed to learn how to use new technology and online platforms for instruction. Professional development within the first year of the pandemic shifted from general education or content area topics to a strong focus on how to use instructional technology as well as more pedagogical aspects of engaging and re-engaging students in learning and classroom management of different groups of learners for different modalities (ECS, 2020 June, Oct.; Hamilton et al., 2020; Prothero, 2021; Young & Donovan, 2020). Schools provided varying levels of training to teachers on how to use online platforms and course management systems to both deliver instruction and collect student work, and teachers actively sought out help to acquire these skills independently. Video-conferencing was a new tool for most educators and they needed some time to learn these systems and use them proficiently. Yet at least one national survey of teachers (n=596) in 2020 found that teachers largely transferred the instructional approaches they used in the classroom to their video-screens during remote instruction (Arnett, 2021). Various reports highlighted the need for teachers to learn different instructional approaches for more effective remote and online teaching, such as the so-called flipped classroom approach, small group learning and other strategies (Arnett, 2021; Gallagher & Cottingham, 2020). The pandemic illuminated some gaps in teachers' initial and on-going preparation to effectively use instructional technology. Researchers have called for more attention to developing educators' technology literacy generally, beyond the immediate needs presented by the pandemic (Marshall & Ward, 2020).

As teachers noticed declining student attendance during periods of remote instruction, and also negative impacts for students' mental health during the pandemic, they also needed to figure out how to use both technology tools and employ other instructional or pedagogical strategies to re-engage students in school and class activities. Educators identified student engagement as an area of high priority for their professional development needs, and another area where they indicated very little support was in supporting students with disabilities through remote modalities (Hamilton et al., 2020). State education agencies, higher education institutions, professional education organizations, non-profit organizations and school districts provided varying levels of professional development through online training, modules and activities for instruction, and other resources to teachers to support students' engagement in learning and social-emotional, mental health needs (COEHD, 2020; MDOE, 2021; NCEE, 2020; PBIS, 2021). Educators and content area specialists shared a wide variety of strategies through resources and videos posted online for teachers, some specific to subject areas or developmental groups of students. Some strategies teachers learned about and used to re-engage students included: the use of online applications and platforms to provide fun, interactive games, competitions, scavenger hunts, surveys and other activities in their remote or hybrid teaching as a way to both engage students and to reduce the effects of the social-emotional and mental health challenges for students (Bartlett, 2021; Chen & Greenwood, 2021; Martin-Sómer et al., 2021).

While the focus on technology and remote instruction helped to address some immediate gaps in teachers' knowledge and skills, there was less time and focus on other content-specific topics and some of teachers' learning needs may have been under-supported during the first year of the pandemic. There is also evidence in the literature that some school systems had less capacity to support teachers' in learning how to teach remotely or online, exacerbating pre-existing inequities across districts (Darling-Hammond & Hyler, 2020; Hamilton et al., 2020). Many teachers reported they had received some preparation to teach remotely or online prior to the pandemic and felt somewhat to well prepared for that shift (An et al., 2021; Gudmundsdottir & Hathaway, 2020; Hamilton et al., 2020). However, while states and school districts increased their efforts to address teachers' learning needs during the pandemic, there is evidence that many teachers felt they were not adequately prepared to support all of their students through remote, online or hybrid modalities (Hamilton et al., 2020). This was especially true for early education teachers (Weiland et al., 2021), special education teachers (Penharkar, 2021), and educators in

the allied arts (Ackermann & Harlow, 2020; Hash, 2021; Johnson et al., 2021; Weiland et al., et al, 2021).

Delivery of PD. Just as student instruction shifted to online spaces, teachers' professional learning also moved by necessity to online spaces predominantly. While state education agencies and school districts had previously provided some online professional development resources to teachers prior to the pandemic, this effort was greatly expanded during the early months of the pandemic to include an array of professional learning modalities including: webinars, formal and informal online workshop and discussion forums conducted by video-conference, virtual "office hours" with content specialists in the state education agency, online teaching videos, online training modules on a variety of topics for educators, instructional activities organized by content area, and other instructional resources for students and teachers provided online. Educators experienced a significant shift away from in-person or in-school professional development and the traditional workshop format to professional learning in virtual spaces and on social media platforms (Gomez, 2020; Hamilton et al., 2020; Prothero, 2021; Sadler et al., 2020; Trust et al., 2020). Some districts used their instructional coaches to support teacher learning for distance education. A study in Arkansas documented the use of instructional coaches to help early childhood educators shift to remote or hybrid instruction (Weiland et al., 2021). Some school districts made a concerted effort to provide mentoring for newer teachers during the pandemic, to support their shift to new instructional modalities and to help with teacher retention (Darling-Hammond & Hyler, 2020).

Providers of PD. Prior to the pandemic, most of the professional development teachers accessed on a regular basis was selected or offered by and within their school districts. Some teachers also accessed professional development and resources from their state education agencies or from educational organizations and professional meetings or conferences. The sudden closure of schools and need to support student learning from home created a crisis for the delivery of student instruction and support of teachers. Many organizations stepped up to this challenge to assemble, curate and provide robust professional learning support for teachers and instructional resources and learning activities for students. These organization included state education agencies, higher education institutions, professional organizations in education, non-profit groups and others (COEHD, 2020; Community Learning for ME, 2020; MDOE, 2020a; NCEE, 2020). For example, the Maine Online Opportunities for Sustained Education (MOOSE)

is a website hosted by the state education agency that provides educators, parents and students with a wide array of instructional resources, videos and modules for different content areas (MDOE, 2020a). Using federal relief funding, South Carolina launched free online training for up to 6,000 educators and principals in the 2020-21 year to support effective remote and online instruction (ECS, Oct. 2020). Large school districts, such as the Miami-Dade County district, offered dozens of professional development offerings on remote and distance learning to teachers (Miami-Dade County Public Schools, 2020). Maine's Rethinking Remote Education Ventures (RREV) project, funded by the U.S. Department of Education, will fund online professional development to help educators design their own approaches to remote instruction and school districts can apply for RREV funding for their own initiatives (OESE, 2021b). Non-profit and other organizations provided virtual, asynchronous instructional coaching to teachers during the pandemic (Fugnitto & Stuart, 2021).

Some state education agencies partnered with higher education institutions to provide teachers with training or courses they needed to improve their remote and online teaching skills, leveraging pre-existing capacity in higher education to accommodate large numbers of online or remote adult learners. For example, the state education agency in Arizona partnered with a state university to create a virtual teacher institute that gave teachers access to online professional development to support their delivery of online and blended instruction to students (ECS, Oct. 2020).

In addition to a wider array of providers of online professional development for educators during the pandemic, there were also increased opportunities for individual classroom teachers and instructional coaches to lead and facilitate virtual professional development, through both formal and informal, peer-to-peer events and professional learning communities. The established structure of teacher grade-level teams in many schools supported the ability of teachers to learn and plan for instruction through new modalities together (Johnson, 2021). Peer-to-peer learning allowed teachers with more technology expertise or experience with online learning to share their knowledge with colleagues, and for educators to share their common challenges and find support (Hamilton et al., 2020; Prothero, 2021). Teacher to teacher sharing was also organized on a much larger scale in large, urban school districts such as Miami-Dade County Public Schools in Florida (Miami-Dade County Public Schools, 2020) and Long Beach Unified School District in California (Darling-Hammond & Hylar, 2020). In the Long Beach district, students

and teachers relied heavily on live-streamed or recorded instructional videos created by expert teachers in content areas.

One challenge in professional development support is the lack of equitable access to instructional coaching across school districts. As teachers struggled both to learn new technology and figure out how to adapt and modify the curriculum to new modalities, teachers in larger school systems generally had more access to supports and coaches while teachers in smaller or more rural systems often lacked these supports (Darling-Hammond & Hyler, 2020). There is still a lack of research on teachers' views of the professional development they received during the pandemic, and more is needed to understand what types of support they deemed most helpful in their effort to shift to remote, online and hybrid modalities.

Scheduling of PD. As teaching and educators' professional learning moved to remote and online spaces during the pandemic, and their instructional schedules became more complicated by the task of planning for multiple instructional modalities, the scheduling of professional development also shifted away from one-time only offerings to more on-demand scheduling and access. We discuss this phenomenon in the section below.

Educator Choice in PD. Prior to the pandemic, teachers generally had some degree of choice in the topics and format of their professional learning, but the options were much more limited. Teachers were required to attend certain kinds of training and professional development events organized by their schools and districts, but were also offered some choices of which sessions to attend. In addition, teachers also accessed graduate courses, workshops and professional development events outside their districts by choice. Some schools encouraged teachers to initiate and lead some professional development (Darling-Hammond & Hyler, 2020; Johnson et al., 2021; Miami-Dade County Public Schools, 2020; Prothero, 2021). For a variety of reasons, the pandemic opened up more options for educators to choose both the modality and topic/ focus of their professional learning experiences, with more of that learning taking place online or through social media, often outside the district's offerings (Gomez, 2020; Hamilton et al., 2020; Prothero, 2021; Sadler et al., 2020; Trust et al., 2020). This shift allowed teachers to access more professional learning opportunities at a time of their own choosing and convenience through synchronous and asynchronous remote learning, and to spend their time learning about topics to address their individual learning needs as well as how to address their students' needs. These changes are significant and represent a dramatic increase in educators' choice and agency

in designing their own professional learning pathways as well as shift away from a one-size-fits-all approach to more personalized or customized learning. In Maine, schools had already begun to shift toward more customized teacher professional learning through their implementation of the performance evaluation and professional growth (PE/PG) systems at the district level (Mette et al., 2019), but the widespread press for on-demand, remote educator learning during the pandemic created the right conditions to support more individualized teacher professional development.

While there were many significant shifts in the way teachers accessed professional development and the focus of their learning during the pandemic, it is unclear to what extent these practices will continue past the pandemic. Already in Maine, some curriculum directors shared with us that their districts returned to more traditional modes of in-school professional development in the 2021-22 school year, reducing the options for educator choice and remote professional learning. It's not clear how teachers will respond to restricted choices for their professional development in the future, or the implications for teachers' professional development more broadly.

Professional Time for Teachers

The need to plan lessons for in-school and remote/ online students over the course of the pandemic has increased the workload and time demands on teachers (Kaden, 2020; Prothero, 2021; Will, 2021a). Some teachers delivered instruction to students through multiple modalities simultaneously, while other educators were assigned to only in-person or remote modalities. In addition to planning instruction for students learning through different modalities, teachers also had to figure out how to adapt their curriculum and lesson to shortened instructional time and new modalities. This work required more planning and preparation time, beyond the professional development time needed to learn how to teach remotely or online.

Some state education agencies and school districts created policies and used federal relief funding to create more time for teachers' professional learning. For example, in Massachusetts, the state added 10 additional days at the start of the 2020-21 school year for training teachers and other staff in preparation to reopen schools (ECS, Oct. 2020). The Norfolk, Virginia school district also provide additional days off to teachers and more planning periods (Crawford, 2021). School districts elsewhere altered school schedules in different ways to create more time for teachers, both to both support student instruction but also to alleviate the effects of increased

teacher stress and burnout, for example by providing some unscheduled time for educator self-care (Innovative Education in VT, 2022; Will, 2021a). Some schools created more time for teachers by shortening one instructional day per week through designated early release or late start periods reserved for teacher time. Other schools shifted to a four-day school week with one day being reserved for remote teaching and teacher planning, professional development or other tasks. The Caribou school district in Maine moved from a quarterly to a trimester schedule in fall 2021, partly to support more time for student interventions but also to create more teacher planning time (Bangor Daily News, 2021). In Colorado, many school districts have been moving toward a four-day school week since 1980, and currently have 64% of districts with this schedule. This schedule lengthens the school day but gives teachers three day weekends. Teachers are not expected to work on the fifth day, but could choose to use the time to plan lessons, engage in learning, hold student fieldtrips or attend to personal tasks (Colorado Department of Education, 2021). Some districts implemented this scheduling change during the pandemic and hope it will provide more time for teachers but also support teacher retention (Johnson Brandt, 2021). It's not clear yet how predominant these different scheduling strategies are across states, or the perceived impacts of these changes. More research is needed to assess how well these changes are working and whether they will be sustained over time. There are some indications that with students returning to more in-person learning this year, most schools may have returned to more traditional scheduling. Again, there's a possibility that reducing the time available for professional planning and development may negatively impact teachers' job satisfaction and retention at a time of severe teacher shortages.

The literature includes evidence that educators did not feel sufficiently supported or prepared to shift to remote, online or hybrid instruction (An et al., 2021). In particular, there are studies indicating teachers in early childhood education (Weiland et al., 2021), special education (Pendharkar, 2021), and the allied arts (Ackermann & Harlow, 2020; Hash, 2021; Johnson et al., 2021) felt less well prepared and supported in their efforts to adapt curricula and instruction for new instructional modalities.

Instructional Technology

Another way states and school districts supported teachers' shift to remote, online and hybrid teaching during the pandemic was through the provision of additional instructional technology. This technology included computer hardware such as laptops and mobile devices

like iPads, internet hot spots for connectivity, equipment such as cameras or smart screens, and access to new online platforms and software to deliver instruction (Hamilton et al., 2020; Hodgman et al., 2021; Prothero, 2021; Young & Donovan, 2020). These required new purchases and were often supported by the federal recovery funding programs. Some states, like Maine, had the advantage of already having high levels of 1:1 laptop or computer device access through long-standing investments over the past two decades. In Maine, these devices were concentrated in the middle and secondary grades for teachers and students (MDOE, 2022c). Students and teachers in elementary grades generally had less access to 1:1 laptops or devices for instruction, and students had unequal access to this technology in their homes. In Maine, the state education agency purchased hotspots for regions with poor accessibility to the internet to help address the digital divide. States and districts used federal relief funding to acquire new or additional instructional technology or to address internet access in their effort to improve their capacity to deliver remote and online instruction (Blad et al., 2021). One report documented teachers' use of interactive whiteboards provided by their school district in Texas, where teachers felt this tool helped increase students' engagement and learning (Lieberman, 2020).

Beyond the challenges of internet access and computer hardware, school districts also had to find software and online platforms to support communication and the delivery of remote or online instruction. While a few school districts in Maine (e.g., Camden's school administrative district 28) and other districts in the US had the advantage of being prepared before the pandemic to offer virtual learning during snow days, particularly for older students, most were not prepared (Abbate, 2020; Cramer, 2020). Reports have called for more state and district planning for future disruptions or emergencies to better prepare both new and experienced teachers with the technology and skills they need to shift to remote or online learning when needed (Francom et al., 2021).

Reassignment of Teaching Staff

Reassignment of educators for remote, online or hybrid teaching during the pandemic was another strategy that some school districts used to manage the high demand for remote learning during the pandemic (Prothero, 2021; Will, 2021b). For example, districts separated teaching assignments to have designated teachers for remote or online teaching, while others taught only students in the classroom. Some districts provided additional in classroom staffing support to teachers to support delivery of in-person and remote modalities for groups of students,

but this was also a challenge given the severe staffing shortages in schools. All of these strategies were intended to lessen the workload demand and stress for educators, and to increase the quality of instruction for students connecting remotely or online. Despite some evidence of districts using staff reassignment as a strategy to deliver remote, online or hybrid instruction, the practice is not yet well documented in the available literature. This strategy is distinctly different from the creation of separate, virtual education programs and teachers that exist outside of brick and mortar schools, which is an option that exists in most states and many larger school districts.

Financial Incentives for Teachers

We learned through our statewide survey of school district curriculum directors in Maine that some districts were using stipends or incentive pay for teachers who took on additional duties in teaching through new modalities, so this is a strategy to support teachers that emerged during the pandemic in Maine and likely in other states as well. The New York City and Norfolk, Virginia school districts implemented policies to pay teachers who give up their planning periods to cover instructional duties for other teachers (Crawford, 2021; UTF, 2022). While school districts have often used stipends and merit pay systems to incentivize and reward teachers for extra effort and time spent on leadership activities such as mentoring, coaching, developing new district curricula, leading professional learning groups or other activities outside their regular instructional duties, some districts also found this strategy useful during the pandemic. While there is evidence that some districts paid teachers additional stipends or salary for taking on remote, online or hybrid teaching during the pandemic, we found few reports that documented this strategy in any detail.

The reported increase in teachers' workload, educators feeling burned out, and staffing shortages all created conditions that put a spotlight on the broader need to ensure teacher pay was adequate to retain teachers in the profession. Some states, like Maine, have recently adopted legislation to boost minimum pay for teachers (Shepherd, 2019). Other states, such as Florida, Virginia, South Dakota and others initiated proposals during the pandemic to boost teacher pay and stem the growing staffing shortage in education (Davidson-Hiers, 2020; Matzen, 20021; Vozzella & Schneider, 2021). A research report examining differences between high and low staffing shortages for special education teachers found that seven states had lower staffing shortages and generally higher teacher salaries and also produce more teachers in this area in comparison with other states (Peyton et al., 2021). Some school districts have used the federal

relief funding to provide one-time salary increases for teachers. In Maine, the Ellsworth school district used ESSER relief funding to provide an additional \$6,000 in teacher pay for the 2021-22 school year in recognition of the additional teacher workload generally during the pandemic (Berleant, 2021). Addressing staffing shortages in substitute teachers during the pandemic, some districts in California, Illinois, Massachusetts and other states increased substitute pay to encourage more people to fill this need (Gallegos, 2021; Gerber, 2022; Krishnamurthy, 2021).

In addition to tackling the problem of low teacher pay, states and school districts also adopted policies to improve the number of paid leave days educators could use during the school year during the pandemic. Educators have faced tough dilemmas when they need to stay at home to care for children or family members or need to quarantine due to the COVID health precautions but have run out of paid leave time. In Maine, legislation adopted in summer 2021 required school districts to provide additional paid leave for educators, but some districts interpreted that requirement as expiring in fall 2021. A new bill would reinstate that requirement (Feinberg, 2022).

Mental Health and Wellness

As the pandemic forced educators everywhere to suddenly shift to remote or online instruction with their students, learn new technology systems, adapt curricula to new circumstances, plan for instruction through multiple modalities each day, and re-engage students in school, these increased demands created additional stress and negative impacts for educators' general health and mental health (Prothero, 2021; Will, 2021a). In March 2020, a national survey of over 5,000 teachers conducted by researchers from Yale University asked teachers to report their most frequent emotions. Teachers indicated they felt anxious, fearful, worried, overwhelmed and sad (Brackett & Cipriano, 2020). In addition, teachers noticed an increase in students' anxiety, social-emotional and mental health problems during the pandemic and wanted more training and resources to support students (Darling-Hammond & Hyler, 2020).

Again, state education agencies and other organizations took note, along with school districts, to respond with different kinds of supports (Biddle et al., 2020; COEHD, 2020; MDOE, 2021; NCEE, 2020; PBIS, 2021). One approach was to provide information and resources online for teachers to access remotely by choice and in their own time. Teachers could access resources on health and wellness information related to supporting students as well as for educators through written materials online, videos, webinars, training modules, and other resources. In

Maine, the state education agency developed a curriculum and resources on social-emotional learning hosted on a website for educators and families to access (MDOE, 2021). The U.S. Department of Education also maintains a website with many reports describing strategies to support students' social-emotional and mental health during the pandemic, but there's a lack of guidance addressing strategies to support the mental health needs of teachers (NCEE, 2020).

Another approach was to devote time during professional development events or meetings to sharing strategies with teachers to support health and wellness. With increased isolation for teachers, some schools and districts set aside time for educators to connect with each other informally through small groups, sharing time, discussions or social activities. For example, some districts provided time for teachers to practice mindfulness, meditation or yoga or to engage in fun social activities like trivia games to support work-life balance (Cardoza, 2021). Other events and shared resources promoted physical exercise for wellness (Whalen et al., 2021). Districts also shared information with educators on coping with stress, anxiety or depression (Biddle et al., 2020).

School districts with health clinics and mental health service providers also encouraged educators to use this resource for counseling and support during the pandemic (Biddle et al., 2020; Cardoza, 2021). Some districts already had services in place or partnerships with community providers, while other districts realized the need to develop those partnerships and services (Fairman et al., 2021). A review of studies focused on early childhood educators found that 23 studies across seven states noted mental health and depressive symptoms for this group based on educators' self-reports on surveys. Many of the educators indicated they would use mental health supports if they were available. In Arkansas, early childhood educators were able to access mental health consults (Weiland et al., 2021). One article urged school districts to talk openly with educators about detecting signs of mental health problems and more effort to create virtual systems of support as well as reducing the barriers for access (Gewertz, 2021). A review of school districts in Maine in summer 2020 found that larger school systems were far more likely to offer mental health services to students and staff than smaller systems (Biddle et al., 2020).

Some articles aimed at educators and school leaders call for the strategy of rethinking the school culture more broadly, to examine practices and expectations that may not support teachers' health and may contribute to burn out. For example, one article noted the common

practice of sending email messages to teachers at night or on the weekend as one example of a practice that can negatively impact teachers' ability to maintain a work-life balance. The authors described how one urban district created a wellness committee to promote educator and staff wellness broadly through sharing and supporting strategies to promote physical, mental and emotional health and well-being. They promoted a sense of community through grade-level teams and time for teachers to share experiences informally, longer break periods during the school year, and scheduled half-days for professional development (Knight-Hay & Gilpatrick, 2021). Some articles suggest districts can create "contact chains" as support networks, or utilize peer mentoring to support teachers, particularly for new teachers who started teaching during the pandemic period (Darling-Hammond & Hyler, 2020; McKee, 2021).

Despite these important efforts to support teachers, the demands of teaching during the pandemic have continued to create higher levels of job stress, mental health impacts for educators, and teacher turnover. On-going and increased school staffing shortages contributed increased workload and stress for teachers trying to cover classrooms and vacant positions (Lieberman, 2021). A national survey by the National Education Association in January 2022 found that one source of job stress for teachers has been the increased workload due to staffing shortages in schools, resulting from staff turnover, staff out of school in quarantine, and unfilled job positions. In this recent survey, 80% of responding educators reported that unfilled job openings created more work for employed educators, 90% agreed that educators feeling burned out is a serious problem, and 55% of respondents indicated they will leave teaching sooner than planned (Kamenetz, 2022). Prior to the pandemic, teaching shortages were already a major challenge. In 2018-19, there were more than 100,000 teaching positions that were vacant or filled with under-prepared teachers (Darling-Hammond et al., 2020). These findings have serious implications for the PK-12 education workforce in the coming years, and indicate the existing challenges of staffing shortages and teacher retention are increasing due to the pandemic.

Summary and Implications from the Literature

While we found a wide variety of articles on the delivery of education during the pandemic, there is a scarcity of literature describing efforts to support teachers' instructional and mental health needs. Much of the literature is focused on the delivery of instruction to students and suggestions for supporting students. Research on state and district efforts to support teachers will take time to emerge and reach publication. Looking across the available literature on

supports for teachers during the pandemic, we found many strong efforts at the state and district levels to support teachers' professional learning to help prepare educators to pivot to remote, online and hybrid instruction. States and districts also acquired and disseminated new computer hardware and software for instruction. A wide variety of organizations provided professional development and resources to help educators learn how to use new technology tools and adjust their curricula and pedagogical approach for new modalities. States and school districts created additional time in the school schedule for teachers to plan for instruction, collaborate, engage in professional learning, and for wellness activities. Many groups also provided mental health supports to educators, and some schools provided direct services to their teachers. Educators had more options to choose their own professional learning focus and to connect to a broader array of teaching and mental health resources online. Researchers have called for a more comprehensive approach to supporting teachers during the pandemic that includes multiple strategies: investing in high quality initial and on-going teacher preparation, focusing professional learning on current needs of educators, supporting robust mentoring supports, creating new teacher roles, and creating more time for teachers to collaborate (Darling-Hammond & Hyler, 2020). More research is needed to assess what approaches for teacher support worked well, for whom, and why. The literature is still quite emergent at this point.

Part III. Strategies Outlined in State ARP ESSER Plans

To explore what practices and strategies other states and school districts in the US have implemented or plan to pursue to support teachers during the pandemic, we reviewed the American Rescue Plan Elementary Secondary School Emergency Relief Fund (ARP ESSER) state applications for 50 states and two territories that were submitted to the USDOE from summer 2021 through December 2021 (OESE, 2021c). These plans were accessed through a USDOE website (OESE, 2021a). Like the broad literature review we conducted, the state applications provide a way to learn about a variety of strategies to support teachers and educator workforce development that emerged across the country. Some of these strategies may not have already been implemented in Maine, but could be helpful. The ARP ESSER funds required that proposed interventions be evidenced-based practices. Some of the strategies states proposed to directly support teachers involved mentoring, mental health supports, professional development and career development opportunities. States proposed to create new programs and also sought to expand existing programs that were working effectively. Most ARP ESSER applications also

emphasized recruitment and retention and educator workforce development more broadly. The applications we reviewed were submitted prior to the start of the 2021-22 school year during which many districts experienced severe staffing shortages. The applications indicate that by the summer of 2021, many states had already recognized the need to reduce teacher workload by hiring more teaching and support staff such as paraprofessionals. The ARP ESSER program also encouraged states to use some of the funds to recruit and retain teachers in high need areas. Workforce development strategies included efforts to reduce barriers to the teaching profession, development of alternative career pathways and residency programs, and increased effort to advertise and recruit new people into teaching careers. Since the start of the pandemic, several states have instituted innovative practices and provided resources to address needs of teachers. We first describe strategies states are using to directly support inservice teachers, then describe some of the strategies used for teacher recruitment and workforce development.

Supports for Inservice Educators

States described different strategies for supporting inservice educators through mental health supports, mentoring, professional development and career development.

Mental Health Support for Educators. Teachers faced many stressors during the pandemic, from both personal experiences and work-related factors such as increased workload. Several states recognized the need for teachers to receive mental health support and to reduce the barriers teachers were experiencing in accessing mental health services. Some states created new support programs while other states wanted to build the capacity of existing programs and partnerships. North Dakota created virtual support groups for teachers which were led by mental health professionals. The Louisiana state education agency has a one-million dollar project in partnership with a healthcare provider to offer free telehealth counseling and therapy sessions to public school teachers and staff across the state—approximately 166,000 educators. Other states developed programs where teachers support each other. In their ARP ESSER application, Arizona planned to partner with other state agencies, universities, and philanthropic agencies to support educator mental health. The Arizona Educator Peer Support Program (<https://www.azeducator.org/about>), founded towards the end of 2021, matches educators in need with peer coaches who provide pedagogical or emotional/mental support via confidential phone or video conferencing. Although this was not mentioned in the ESSER application, Maine made the WarmLine for frontline workers available to school staff in October 2020. This phone hotline

is staffed by volunteer medical health professionals. When it was expanded to school staff, the volunteer staff pool was expanded to include retired teachers (MDOE, 2020b)

Educators' needs to work remotely were not typically discussed in the ESSER funding applications. However, Vermont noted one of the advantages of expanding their state virtual learning cooperative was that it allowed teachers who needed to work remotely an opportunity to teach fully remote courses.

Mentoring Support. Several states recognized that the first years of a new teacher's career are crucial in their decision to remain in the profession. Supports such as mentoring can be important for helping new teachers improve their effectiveness and encouraging retention. In their ESSER applications, states are addressing new teachers' needs through a variety of ways. Oklahoma used ESSER funds to develop a virtual coaching platform. Oklahoma also invested ESSER money into training programs for instructional coaches for schools, coaching stipends and mentoring stipends. A similar program is occurring in Maine, but it is not mentioned in Maine's ESSER funding application. Through a partnership with the University of Maine, the MDOE implemented Maine's Alternative Certification and Mentoring Program to provide new or conditionally certified special educators with mentors and coursework that could be accessed while they work in their jobs to advance their careers in the education field. We found several similar programs directed at new teachers in other states that have gained popularity and are effective in supporting the educator workforce.

Professional Development. In their ESSER applications, several states described partnerships with institutions of higher education to provide professional development to their educators. The Arizona Department of Education partnered with the state's three universities to create a dedicated Educator Recruitment and Retention team at the state level to support schools with recruitment, retention, and professional development strategies. Arizona will provide all K-12 educators and special educators with access to resources, supports and professional development in math education. This team has also developed and implemented principal and administrator learning academies. Tennessee's education agency partnered with two universities to offer professional development opportunities to current and future educators. Through a partnering state university, the agency offers a free and optional professional development resource for school administrators. New Hampshire contracted with a state university to invest

approximately \$6 million in creating a new statewide learning management system that provides learning resources for students and professional development programs for educators.

The two top areas of focus for statewide professional development seem to be technology and literacy. North Dakota is using ESSER funds to blend adaptive digital education with traditional classroom instruction. They contracted with a private company for educator professional development training. North Dakota is also increasing the professional development offered through their seven Regional Education Associations. In Colorado, the state education agency provided a new educator boot camp that emphasized how to engage students in online and blended environments. Alaska wants all teachers, including art and physical education teachers, to be reading teachers. The state is offering professional development on the science of reading and developing foundational literacy skills. Vermont will use their ESSER funds to contract with literacy specialists to develop professional learning modules.

A few states are looking at providing standardized curriculum and professional development across districts. The rationale behind this is the idea that all students should have access to high quality learning materials and instructors. The District of Columbia is doing an audit of literacy curricula. At the same time, they are making available professional development and high quality literacy curricula to districts. They will use ESSER funds to do the same for math. Low performing schools and districts in Washington, DC are being encouraged to adopt the state provided curriculum. Connecticut is providing a model curriculum for grades K-8 and training teacher leaders who in turn will coach other teachers. Connecticut is also providing districts with guidance and resources for small scale assessments that have high quality questions. There are incentives for the districts to adopt the curriculum and the state will monitor how these resources are being used. Rhode Island emphasized to districts that high-quality curriculum and implementation supports is an ESSER funding priority. Low performing districts in Rhode Island may receive additional funding to implement evidence-based measures such as curriculum adoption. Rhode Island is providing implementation supports for a specific math curriculum, Eureka, in the elementary grades which includes professional development.

Redesigning Educator Roles within Schools. Some states pursued strategies to redesign professional responsibilities and roles for educators or school leaders, which may include professional development, to increase professional career opportunities and improve educator retention. Arkansas expanded the Opportunity Culture model to more schools. This is a

multi-class organizational structure where excellent teachers and principals have expanded duties and pay. Teacher leaders teach part-time which provides time for them to co-plan, co-teach and coach a subject or grade level team. The teacher leaders work with other team leaders and the principals. Teacher residencies and training can be part of this model. This allows excellent teachers to advance and be recognized for their skills. Starting in North Carolina in 2013, Opportunity Culture schools are primarily found in southern states but are also found in the Chicago Public Schools system (Opportunity Culture, 2022).

Educator Recruitment and Workforce Development

The state ESSER applications described a variety of strategies to develop the educator workforce. We describe the different approaches here.

Recruitment of Families and Secondary Students. One of the major stressors for educators during the pandemic was staff shortages. States and districts tried new recruitment strategies to fill the empty positions as well as strengthen the educator workforce more broadly for the future. One strategy was the effort to recruit the families of students and high school students to work in the schools as educational aides or other support staff, in the hope that they would eventually pursue a career in teaching or other school positions. States described variable levels of success with this strategy.

An innovative practice that we discovered during our research is the Parent Education Academy (PEA) that was introduced in 2020 as part of the All in Education non-profit organization based in Phoenix, Arizona. This program initially offered a four-week training course to educate parents on how to support their children's education during at-home distance learning, but was eventually expanded into a ten-week course. In addition to assisting parents with at-home learning, the PEA course also prepares parents for potential jobs in the field of education by providing valuable skills and guidance from certified trainers and mentors at local school sites. (Lerner, 2022, All in Education, 2021) In January 2022, the demand for this type of program grew due to the spike in COVID-19 Omicron variant cases that severely disrupted the operations of schools nation-wide. A news article we reviewed described that school districts in California tried to enlist parents and high schools students as volunteers in their schools during the Omicron surge. In Palo Alto, over 600 people volunteered. In another California district, when parents were encouraged to become substitute teachers, only three people responded.

(Pereira, 2022). Rhode Island also mentioned using ESSER funds to hire parents as support staff in the schools.

In addition to trying to recruit parents, family members and high school students with free time, several states expanded their Educator Rising (EdRising) programs. This is a national program for high school and college students interested in a career in education. There is a career technical education curriculum which in some states offers dual high school and college credit for coursework. Participating schools are encouraged to provide high school students with clinical experience by having them assist in K-8 classrooms (Educators Rising, 2022). In New England, this program was mentioned by Connecticut in their ESSER application. New Hampshire and Rhode Island also have chapters. While EdRising is directed at recruitment into the education field generally, North Dakota is looking to fund a program of dual credit for high school students interested in becoming special education teachers.

Public Marketing and Media Campaigns. Increased effort with advertising to recruit people into teaching and education careers was mentioned quite often in the state ARP ESSER applications. Colorado (TEACH CO) and Connecticut (TEACH CT) each have a pre-existing marketing campaign that they plan to strengthen. Vermont used ESSER funds to hire a part-time educator recruiter who travels to job fairs and colleges. North Dakota will continue to market in-state and nationally their web-based recruitment site for teachers, administrators and support staff. Maine did not mention advertising in their ESSER application, however several new initiatives on that front were made during the pandemic. In Maine, the MDOE joined with the University of Maine and the television network News Center Maine in February 2022 to launch the national #Loveteaching advertising campaign. They are running public advertisements promoting teaching as a career. The MDOE also launched a new website that allowed individuals to easily see what is required to become a “guest worker” in schools (MDOE, 2022a, 2022b).

Credentialing of Tutors and Paraprofessionals. Several states described in their ARP ESSER plans efforts to increase the number of credentialed paraprofessionals that support teachers by working with students. There was a large variation in the way states credentialed paraprofessionals. Nationwide, there is no consistent definition of what training paraprofessionals should have. Vermont does not offer certification of para-educators. Other

states required paraprofessionals to have a significant number of college course hours in education or special education.

Tutoring has become a new job classification in some states. Almost every state looked at increasing tutoring as the ARP ESSER program required that twenty percent of ESSER funds were to be targeted toward recovering student learning losses. Two states started programs to train and provide academic tutors to students needing to overcome learning gaps. Tennessee created TN ALL Corps to provide tutoring across the state. In what may be the first credentialing program of this type, Tennessee will recruit, train and certify tutors and will develop a statewide directory of tutors. Arkansas also created a statewide tutoring corps. They seek to recruit and train tutors then connect them with students statewide. Arkansas did not mention certification of their trained tutors.

Paraprofessional training was discussed in some ESSER applications. In Arkansas, through high school career technical education programs and passing the ETS paraPro assessment, a teenager can earn a Certified Teaching Assistant credential and college credits. This is through the Educator Rising program mentioned earlier. Arkansas also has a program that covers tuition and fees for those working on an associate degree in Education that leads to credentialing as a paraprofessional. A new certification for special education technicians was created in North Dakota. The goal for this new certification was to create a pathway for special education technicians to become special education teachers. The certification requires completion of college-level courses in special education. Maine was unique in using ESSER funds to create a new paraprofessional training program. Through the community colleges, a Learning Facilitator program was offered at no cost. Participants received micro-credentials and placement assistance.

Addressing Teacher Shortages through Remote Learning. An on-going challenge for school districts nationwide is the shortage of teachers in some content areas and difficulty in filling those positions. Some states are considering how remote learning could be used to support the development of educators in high needs content areas. Vermont is using ESSER funds to explore how remote learning could be used to enable the sharing of teachers on a statewide basis to address teacher shortage areas. Arizona funded their Math Momentum project which uses an individualized student digital learning model. It is targeted at districts without a qualified math teacher in the middle school grades.

Reducing Barriers to Certification for Teacher Candidates. When states created emergency certification pathways during the pandemic, they became more aware of the factors discouraging entry into the teaching profession. Several states used their ESSER funds to expand and promote existing programs for undergraduates while others explored new ways to support entry into teaching by removing some potential barriers.

States identified several barriers to entering the teaching profession. In 2020, Massachusetts required emergency teacher applicants to have a bachelor's degree. Half of the 7,000 applicants were already working in the schools, but many had never applied to take the teaching exam. Some of the 2020 Massachusetts emergency certified teachers identified the financial cost of additional classes for certification as a barrier to completing the coursework. A news article noted that while only eight percent of those teaching under traditional licenses in Massachusetts identify as persons of color, a quarter of emergency licenses were granted to people of color (Jung, 2021). Recognizing that the testing requirement for teacher certification was deterring some candidates, Rhode Island will be devoting some funds to Praxis content supports that are available to all pre-service educators. With some of their ESSER funding, Tennessee is working at reducing time from application to license, with the goal of shortening this to less than 21 days.

The time investment and financial cost related to student teaching were addressed in several state ESSER applications. Undergraduate enrollment in teaching programs has been declining for years. Barriers to students opting into a teaching major include the additional time and monetary costs incurred with the certification requirement of student teaching for a semester. While their peers may be gaining professional experience by working as a paid assistant in a laboratory on campus, teaching candidates are required to be assigned full-time for a semester as student teachers. Teaching candidates also have to have reliable transportation to get to their student teaching assignments. In urban areas, student teachers can take public transportation or taxis to their assigned schools. In less urban areas, student teachers need to have their own cars. They are also expected to have a professional wardrobe. While they are incurring these costs, they also lose hours that they could be working at a paying job. Oklahoma is using some their ESSER funds to pay teaching candidates for their student teaching semester. Each student teacher receives \$1,625 at the start of their teaching semester. At the end they may receive another \$1,625 if they sign a contract to teach in Oklahoma for a year.

Connecticut is using ESSER funding to support an existing program that allows undergraduates to work part-time in some schools prior to doing student teaching. In addition to earning money, the college students develop networks and a better understanding of the teaching profession prior to student teaching. The Connecticut NextGen educator program pays college students to work in classrooms, two to three days per week. The teachers serve as mentors and are not involved in evaluation or administering the program. The teachers benefit by having consistent classroom support from a pair of students assigned to them (Connecticut State Department of Education, Central Connecticut State University, 2020) Maine plans to use ESSER funds for college students and teacher candidates to have a summer teaching experience under the mentorship of a certified teacher.

Several states used their ESSER funds to expand use of their alternative certification pathways. Vermont and New York have two-pronged approaches that separately address the needs of potential educators with a bachelor's degree in another field and the needs of paraprofessionals wishing to become teachers. Vermont used ESSER funds to provide \$25,000 scholarships for educators with a bachelor's degree going through the alternative certification pathway. Vermont plans to use some ESSER funds to develop an alternative certification pathway for para-educators working in areas of high need. They would receive a one-year temporary license while taking a four-course pathway over two summers and one school year through state universities. New York will use ESSER monies to further fund pre-existing grant programs for potential teachers. One is for paraprofessionals to work toward teacher certification and the other is for prospective teachers to work in districts with shortages and/or high need schools. In their ESSER application, New York also mentioned their transitional G credential which allows one who has successfully taught at the university level to teach the same subject at the secondary level for a year, then count their teaching experience as fulfilling the certification experience requirement.

Reducing Barriers to Certification through Residency Programs. Teacher residency pathways are an attractive approach for states, school districts and those seeking to become teachers, as teacher candidates can continue to work in schools and classrooms and attend preparation courses. Teacher candidates are able to get practical experience in schools while also forming relationships and networks within a particular school district that make them more likely to stay in those communities. Tennessee had begun a teacher residency program prior to the

pandemic, then used ESSER funding and grants to expand it (Jacobson, 2022). It is the first apprenticeship in teaching approved by the U.S. Department of Labor. Participants earn their degree without cost while being paid to work in the schools. The program covers the cost of courses and textbooks. Graduates of the three-year program will receive a bachelor's degree and be dual certified in general education and either special education or English as a second language. Tennessee has seven districts that are certified as Educator Preparation programs. Teacher residents work in one of these districts or one of the thirty affiliated districts. Each teacher residency district is also affiliated with a university. Other states are also expanding teacher residencies, such as Illinois' Teach Chicago Tomorrow, but did not include them in their ESSER funding plans (Jacobson, 2022).

Tennessee is also using ESSER funds to support teacher transition into school administrative roles. This also has a residency aspect to it. Tennessee's Aspiring Principal Network allows a teacher to earn a master's degree while getting daily administrative experience in their school. ESSER money will be used to expand this program.

Summary of State Strategies to Support Teachers in ARP ESSER Plans

The ARP ESSER funding provided new resources with the goals of supporting the safe return of students to in-school instruction, improved equity in education and addressing students' learning loss. States are using their ESSER funds to support students, teachers and schools. Our review focused on supports for teachers specifically. While some of the state strategies involve direct supports to inservice teachers, the state ESSER applications placed a greater emphasis on addressing the educator staffing shortages in schools and building the educator workforce for the future. The supports provided to teachers directly were also intended to help improve teacher retention and stem the growing loss of educators in the field. A wide variety of strategies were used in these efforts.

Many states identified the need to increase mental health support and services to educators as a high priority. The pandemic produced increased workload and stress for teachers, and the growing shortage of school staff contributed to these problems. States worked to provide both virtual and in-person mental health supports to educators, often free of charge, through partnerships with healthcare providers.

Another type of support for teachers involved professional development including mentoring. States often used university partnerships to support teachers' professional learning,

mentoring and coaching needs through the pandemic, and virtual modalities were used to scale up the number of teachers who could be supported. Some states provided paid stipends for coaches and mentors.

Some states also looked to attract and retain teachers and principals through job-redesign within schools, providing more opportunity for career growth and pay.

Workforce development strategies were strongly emphasized in the state ESSER plans, and involved a range of different approaches. One strategy was increased effort to encourage more people to pursue teaching careers through statewide advertising and public media campaigns, using a broader array of communication tools and outlets.

Another strategy states used was targeting new groups and expanding the alternative pathways to teacher certification. Some states recruited families of enrolled students and secondary students, to encourage them to pursue careers in PK-12 education by starting with paraprofessional work in schools. Some states developed new programs to credential and hire academic tutors to work with students to address learning losses, and other states sought to increase the number of credentialed paraprofessionals to assist teachers in the classroom.

States also tried to remove some of the barriers to certification for people already working in schools, teacher candidates and student teachers. Some states provided scholarships and/or financial supports for courses and fees or paid candidates during their semester of student teaching. States also encouraged residency or “grow your own” programs that feature an “earn and learn” approach that allows people to continue to work in schools with a salary while taking courses toward certification. Some states worked to reduce the time it takes for approval of teacher certification.

Finally, some states increased support for virtual teachers to meet the need for instruction in high need content areas where there are larger staffing shortages in schools.

Conclusion

Our statewide survey indicated that school districts in higher population areas in Maine typically delivered instruction using a hybrid schedule in 2020-21, while rural remote school districts were more likely to continue in-person instruction that year. In the current 2021-22 school year, all responding districts returned to in-person instruction with options for some remote learning when needed, with the exception of the virtual schools and one private school that went to a schedule of four days in-person and one day asynchronous. Increased COVID

cases and on-going, severe staffing shortages forced disruptions and an intermittent return to remote learning and instruction for some schools during the late winter months.

The survey, literature and review of state ESSER applications revealed that states and school districts placed a strong priority on supporting teachers' instructional needs as they shifted to remote, online and hybrid teaching during the pandemic, and also on addressing teachers' mental health and wellness needs during and beyond the pandemic. In supporting these needs, states and school districts relied more heavily on virtual modalities, partly out of necessity during the pandemic, but also with the intention to scale up efforts.

The shift from in-person to virtual professional development during the pandemic increased opportunities for teachers to learn anytime, anywhere. Educators could choose among topics they most needed to learn about and access resources in many different formats, often from new providers outside school districts. They could engage in formal and informal learning, collective or individualized, synchronous or asynchronous, allowing a more customized approach to professional development. School districts also made changes to create more time for teachers to plan instruction and engage in learning by adjusting the weekly school schedule. And more opportunities existed for teachers to lead professional learning and share practices with colleagues. The districts responding to our survey largely intend to maintain many of these changes which they view as beneficial, but most indicated they would not continue to have one day per week for asynchronous learning. States are using ESSER funding to increase support for mentors and instructional coaches for teachers. These supports are important elements to improve teaching skills and effectiveness, but also help with teacher retention. Some state education agencies partnered with their state universities or expanded their online platforms to increase their capacity to support teacher professional development.

Personal stress as well as increased workload and school staffing shortages contributed to increased negative impacts for educators' mental health and wellness during the pandemic. States and school districts placed a high priority on increasing mental health supports for educators. Mental health supports mirrored the changes in professional development support for teachers by shifting to remote or online modalities. This shift allowed educators to access information, confidential support and services more easily, as well as small group support. States also used ESSER funds to increase the availability of mental health services and providers in their states through partnerships with healthcare providers and by adding state-level staffing and

online platforms to support schools and educators. School districts put more attention on mental health and wellness for their educators and school staff during the pandemic, and want to continue this effort. Despite the growing need for mental health supports for teachers and students, and the documented efforts to address those needs using new approaches, the current workforce of mental health providers is not large enough to meet the level of need.

Workforce development was another strong area of focus for states and school districts struggling to deal with on-going staffing shortages and challenges in filling vacant teaching and other school support positions. The review of literature and state ESSER plans indicated that states and school districts were using a variety of strategies to increase advertising, recruitment, retention and development of the educator workforce. States are using new media outlets for recruitment, targeting new groups in recruitment efforts, streamlining the process for certification, creating and strengthening a variety of alternative pathways for a teaching career. Some of these strategies provide additional financial supports to people at different stages in their training. Programs for paraprofessionals and teacher residency models allow educators to continue to work in schools while completing coursework toward certification.

Implications for Policy and Practice

While Maine has implemented many of the strategies described in this report to support teachers' needs and to further grow the education workforce, there are additional strategies used in other states that could be helpful and worth consideration. Maine could look to some of those models to develop programs that fit the state's particular needs, either on a regional or statewide basis. Some general approaches that could be strengthened or expanded in Maine include:

- Some districts in Maine would like to continue having one day per week designated for asynchronous time for student learning to allow more time for teachers to collaborate, plan lessons, work with individual students or attend to other professional tasks. State legislation may be needed to allow public school districts to adopt or sustain new scheduling models to meet the needs of their teachers and students.
- Regional and statewide partnerships with healthcare providers could increase providers and services to support educators' mental health and wellness needs (Fairman et al., 2021). Virtual supports provide more opportunity to scale up services.
- Regional and statewide partnerships with universities could increase professional development supports including training for alternative pathways to teaching. More

investment is needed to build the capacity to meet this need. Virtual delivery modalities can reduce barriers for people who need to work while completing coursework.

- Regional and statewide investment in mentoring and instructional coaching could be expanded to help support and retain educators in all regions of Maine. Both in-person and virtual modalities are needed. Strong virtual models have been developed in some states prior to the pandemic through partnerships with universities (e.g., Florida), while other models are in development or expansion with the recent federal ESSER funding (e.g., Oklahoma).
- Diverse approaches for communicating with the public about career opportunities in education and different pathway options could be implemented regionally and on a statewide basis, beyond the strategies already implemented.
- Targeted recruitment of secondary and post-secondary students to pursue careers in teaching could increase enrollment in education preparation programs. However, continued attention is also needed to help undergraduate students overcome financial and other barriers to retain students through completion of their training.
- Residency models and alternative pathways have received more attention in Maine recently (Fallona & Johnson, 2019; Jessen et al., 2020) and could be strengthened and expanded through partnerships between school districts and universities and regional approaches.
- Additional financial incentives and supports could be provided to increase recruitment and retention of educators, particularly to build the educator workforce in high needs content areas and locales in the state.
- Career development and opportunities for expanded teacher leadership roles could be strengthened to attract and retain more educators in the profession.
- Development and retention of the paraprofessional workforce could increase the number of people who become certified as classroom teachers, but would also provide important classroom support for students and teachers and could help improve teacher retention.
- Expanded options/ workforce development for virtual teachers and courses, particularly at the secondary level, could increase not only equity in student access to coursework but also help to overcome the challenge of school staffing shortages in some content areas.

While Maine had the advantage of a well-established 1:1 laptop program for middle grades and some secondary grade students, the pandemic highlighted disparities and gaps in the state's and local districts' readiness to shift to remote or online learning when needed. Even as the pandemic may subside, policy, planning and investment efforts should continue to ensure that students don't experience prolonged disruptions in their education. Areas needing attention include the state's infrastructure for high-speed internet access, disparity in equitable access to both the internet and computer devices for students and teachers, planning for how course delivery remotely or online, policies to allow for reassignment of staff during periods of remote/online instruction, and more attention in preservice and inservice training to provide all educators with the technology skills and effective instructional strategies they need to teach and support students through different modalities when needed.

Bibliography

- Abbate, L. (2020, March 26). How snow-day learning prepared this Maine school district for the COVID-19 pandemic. *Bangor Daily News*.
- Ackermann, S. & Harlow, T. (2020). The battle of COVID-19: Art teachers as indestructible force. *Art Education*, 74(6), 28-32.
- ALL In Education. (2021). *Parent Educator Academy*. <https://allineducation.org/>
- An, Y., Kaplan-Rakowski, R., Yang, J., Conan, J., Kinard, W., & Daugherty, L. (2021). Examining K-12 teachers' feelings, experiences, and perspectives regarding online teaching during the early stages of the COVID-19 pandemic. *Educational Technology Research and Development*. <https://doi.org/10.1007/s11423-021-10008-5>
- Arnett, T. (2021). *Breaking the mold: How a global pandemic unlocks innovation in K-12 instruction*. Christensen Institute. <https://files.eric.ed.gov/fulltext/ED610663.pdf>
- Bangor Daily News. (2021, Dec. 10). *CHS principal says intervention plan a first step in addressing student learning loss*.
- Bartlett, L. (2021, July 26). Only 15 students showed up for online class. Then, teachers got creative. *Education Week*. (Online publication.).
- Berleant, A. (2021, Dec. 15). School board approves extra pay for teachers, other staff. The *Ellsworth American*. <https://www.ellsworthamerican.com/maine-news/school-board-approves-extra-pay-for-teachers-other-staff/>

- Biddle, C., Frankland, M., Crane, R., Sulinski, B., & O’Neil, W. (2020, Aug.). *Moving beyond crisis schooling: What can we learn from the innovation of Maine districts to support remote student learning from March-June 2020?* Orono, Maine: College of Education and Human Development, University of Maine. <https://umaine.edu/beyond-crisis-schooling/reports-and-publications/>
- Blad, E., Klein, A., Lieberman, M., & Walsh, M. (2021). School districts seek billions in new federal money for connectivity, FCC announces. *Education Week*, 41(3), 3.
- Brackett, M., & Cipriano, C. (2020). *Teachers are anxious and overwhelmed. They need SEL now more than ever*. EdSurge. <https://www.edsurge.com/news/2020-04-07-teachers-are-anxious-and-overwhelmed-they-need-sel-now-more-than-ever>
- Cardoza, K. (2021). ‘We need to be nurtured, too’: Many teachers say they’re reaching a breaking point. National Public Radio. <https://www.kqed.org/mindshift/57716/we-need-to-be-nurtured-too-many-teachers-say-theyre-reaching-a-breaking-point>
- Chen, X., & Greenwood, K. (2021). Supporting young students’ word study during the COVID-19 quarantine: ABC scavenger hunt. *The Reading Teacher*, 74(6), 819-823.
- College of Education and Human Development (COEHD). (2020). *PreK-12 resources for educators and families*. University of Maine. <https://umaine.edu/edhd/pk12-resources/topics/>
- Colorado Department of Education. (2021). *The four-day school week information manual*. <https://www.cde.state.co.us/cdeedserv/fourdayschoolweekmanual>
- Community Learning for ME. (2020). *Resources for families, students and educators*. <https://www.communitylearningforme.org/>
- Connecticut State Department of Education, Central Connecticut State University. (2020). *NextGen Educators. A talent pool of emerging educators*. <https://portal.ct.gov/-/media/SDE/Digest/2020-21/CCSU-NextGen-EducatorsFINAL.pdf>
- Cramer, M. (2020, Sept. 27). Pandemic steals another tradition: Remote learning means no more snow days. *New York Times*.
- Crawford, N. (2021, Nov. 5). *Norfolk school board votes to give staff extra days off, compensate for substituting during planning periods*. <https://www.wavy.com/news/local-news/norfolk/norfolk-school-board-votes-to-give-staff-extra-days-off-compensate-for-substituting-during-planning-periods/>
- Darling-Hammond, L. & Hylar, M.E. (2020). Preparing educators for the time of COVID...and beyond. *European Journal of Teacher Education*, 43(4), 457-465. <https://www.tandfonline.com/doi/full/10.1080/02619768.2020.1816961>

- Davidson-Hiers, C.D. (2020, July 22). Hanna: teacher pay bill a mirage, Leon superintendent says raises not certain. *Tallahassee Democrat*.
- Education Commission of the States (ECS). (2020, June). *COVID-19 series: Remote learning*. Washington, DC. <https://www.ecs.org/covid-19-series-remote-learning/>
- Education Commission of the States (ECS). (2020, Oct.). *COVID-19 series: Professional learning for teachers and leaders*. Washington, DC. <https://www.ecs.org/covid-19-series-professional-learning-for-teachers-and-leaders/>
- Educators Rising (2022). *Programs and Products*. <https://educatorsrising.org/programs-products/>
- Fairman, J., Biddle, C., & Chien, M. (2021). *School-community partnerships in Maine*. A report of the Maine Education Policy Research Institute (MEPRI). Orono, ME: University of Maine. <https://mepri.maine.edu/posts/>
- Fallona, C., & Johnson, A. (2019). Approaches to “grow your own” and dual general and special education certification. A report of the Maine Education Policy Research Institute (MEPRI). Gorham, ME: University of Southern Maine.
- Feinberg, R. (2022, Jan. 31). *Maine teachers call on lawmakers to reinstate COVID-19 leave*. Maine Public. <https://www.mainepublic.org/maine/2022-01-31/maine-teachers-call-on-lawmakers-to-reinstate-covid-19-leave>
- Francom, G., Lee, S.J., & Pinky, H. (2021). Technologies, challenges and needs of K-12 teachers in the transition to distance learning during the COVID-19 pandemic. *TechTrends: Linking Research & Practice to Improve Learning*, 65(4), 589-601.
- Fugnitto, G. & Stuart, K. (2021). Coaching anytime, from anywhere empowers teachers. *The Learning Professional*. 42(4), 56-59.
- Gallagher, H.A., & Cottingham, B. (2020). Improving the quality of distance and blended learning. *Ed Research for Recovery Project*, Brief No. 8. <https://files.eric.ed.gov/fulltext/ED607718.pdf>
- Gallegos, E. (2021, Oct. 2). School districts raise pay for substitute teachers amid dire shortage. *TCA Regional News*.
- Gerber, D. (2022, Jan. 22). Demand is high for substitute teachers: Schools raise pay and cut requirements to cover absences. *Boston Globe*.
- Gewertz, C. (2021). Teachers' mental health has suffered in the pandemic. 7 ways districts can help. *Education Week*, 40(32). 19-21.

- Gomez, M. (2020). A COVID-19 intervention: Using digital escape rooms to provide professional development to alternative certification educators. *Journal of Technology and Teacher Education*, 28(2), 4255-432.
- Gudmundsdottir, G., & Hathaway, D. (2020). “We always make it work”: Teachers’ agency in the time of crisis. *Journal of Technology and Teacher Education*, 28(2), 239-250.
- Hamilton, L., Kaufman, J., Diliberti, M. (2020). Teaching and leading through a pandemic: Key findings from the American educator panels spring 2020 COVID-19 surveys. RAND Corporation. https://www.rand.org/pubs/research_reports/RRA168-2.html
- Hash, P. (2021). Remote learning in school bands during the COVID-19 shutdown. *Journal of Research in Music Education*, 68(4), 381-397.
- Hodgman, S., Rickles, J., Carminucci, J., & Garet, M. (2021, June). *District approaches to instruction in 2020-21: Differences in instructional modes and instruction time across contexts*. Research brief. American Institutes for Research (AIR). https://www.air.org/sites/default/files/2021-07/research-brief-covid-survey-differences-instructional-modes-june-2021_0.pdf
- Innovative Education in VT. (2022). How one district gave teachers the gift of time. University of Vermont. <https://tiie.w3.uvm.edu/blog/how-one-district-gave-teachers-the-gift-of-time/#.YjS0AerMJEZ>
- Jacobson, L. (2022, February 22). New Tennessee apprenticeship program hailed as “game changer” in effort to reduce classroom shortages. *The 74 million* <https://www.the74million.org/article/new-tennessee-teacher-apprenticeship-program-hailed-as-game-changer-in-effort-to-reduce-classroom-shortages/>
- Jessen, S., Fairman, J., & Fallona, C. (April 2020). *Considering “grow-your-own” (GYO) models by examining existing teacher preparation programs in Maine*. A research report of the Maine Education Policy Research Institute (MEPRI). Gorham, ME: University of Southern Maine.
- Johnson Brandt, B. (2021). 2021-22 school calendar targets 4-day school week. *Holyoke Enterprise*. <https://www.holyokeenterprise.com/school/2021-22-school-calendar-targets-4-day-school-week>
- Johnson, J., Daum, D., & Norris, J. (2021). I need help! Physical educators transition to distance learning during COVID-19. *Physical Educator*, 78(2), 119-137.
- Johnson, S. (2021). Why teacher teams are more critical than ever: Effective instructional teams helped schools navigate the pandemic. *Educational Leadership*, 79(1), 59-63.

- Jung, C. (2021, March 25). *An accidental experiment: An emergency teacher license gives an unexpected boost to teacher diversity*. WBUR News. <https://www.wbur.org/news/2021/03/25/emergency-teaching-licenses-diversity>
- Kaden, U. (2020). COVID-19 school closure-related changes to the professional life of a K-12 teacher. *Education Science*, 10(165), 1-13.
- Kamenetz, A. (2022, Feb. 1). *More than half of teachers are looking for the exits, a poll says*. Maine Public. <https://www.mainepublic.org/npr-news/2022-02-01/more-than-half-of-teachers-are-looking-for-the-exits-a-poll-says>
- Knight-Hay, S., & Gilpatrick, M. (2021). Feeling the burn: Create a culture of wellness to support teachers who seem to be losing their spark. *Principal*, 100(3), 42-43.
- Krishnamurthy, M. (2021, Oct. 17). How suburban school districts are scrambling after pandemic. *Daily Herald*.
- Lech, P., Fairman, J., McCormick, M., Buxton, M. (2022). *Strategies for supporting student learning needs during the COVID pandemic in Maine and other states*. A report of the Maine Education Policy Research Institute (MEPRI). Orono, ME: University of Maine.
- Lech, P. & Johnson, A. (2021a, March). *How students with IEPs and their Teachers are faring in Maine schools during the COVID-19 pandemic*. A report of the Maine Education Policy Research Institute (MEPRI), jointly produced by the University of Maine and University of Southern Maine. <https://mepri.maine.edu/posts/>
- Lech, P. & Johnson, A. (2021b, June). *Telehealth support services for students in Maine schools, before and after the COVID pandemic*. A report of the Maine Education Policy Research Institute (MEPRI). Orono, ME: University of Maine. <https://mepri.maine.edu/posts/>
- Lerner, D. (2022, January 11). *Demand soars for Parent Educator Academy amidst turbulent school year*. KNXV. <https://www.abc15.com/rebound/state-of-education/demand-soars-for-parent-educator-academy-amidst-turbulent-school-year>
- Lieberman, M. (2020, November 11). How Hybrid Learning Is (and Is Not) Working During COVID-19: 6 Case Studies. *Education Week*, 40(14), 8-9.
- Lieberman, M. (2021). How staff shortages are crushing schools: Teachers are sacrificing and patience in running thin. *Education Week*, 41(11), 4-5.
- Maine Department of Education (MDOE). (2020a). Explore Maine Online Opportunities for Sustained Education (MOOSE). <https://www.maine.gov/doe/moose>
- Maine Department of Education (MDOE). (2020b, October 5). *Maine Frontline WarmLine now available to support Maine school staff*. (press release). <https://mainedoeneews.net/category/news-views/press-releases/>

- Maine Department of Education (MDOE). (2021). *Social-emotional learning*. <https://www.maine.gov/doe/sel>
- Maine Department of Education (MDOE). (2022a, February 9). *Maine Department of Education and Educate Maine Launch Guest School Staff Member Campaign*. [press release] <https://mainedoeneews.net/category/news-views/press-releases/>
- Maine Department of Education (MDOE). (2022b, February 14). *Maine teachers and school staff highlighted on News Center Maine as part of #LoveTeaching and #LoveSchoolStaff campaign*. [press release] <https://mainedoeneews.net/category/news-views/press-releases/>
- Maine Department of Education (MDOE). (2022c) *About the Maine Learning Technology Initiative (MLTI)*. <https://www.maine.gov/doe/Learning/LTT/MLTI/About>
- Marshall, D., & Ward, L. (2020). Technology, literacy, and teaching during a pandemic. *Technology & Engineering Teacher*, 80(1), 30-31.
- Martín-Sómer, M., Moreira, J., & Casado, C. (2021, June 01). *Use of Kahoot! to keep students' motivation during online classes in the lockdown period caused by Covid 19*. <https://www.sciencedirect.com/science/article/pii/S174977282100035X>
- Matzen, M. (2021, Sept. 1). South Dakota's board reports teacher shortage: Exacerbated by pandemic, lagging teacher pay issue. *Argus Leader*.
- McKee, L. S. (2021, September 10). First-Year Teachers Need Support This Year. Here Are 5 Ways Prep Programs Can Help (Opinion). *Education Week*. <https://www.edweek.org/teaching-learning/opinion-first-year-teachers-need-support-this-year-here-are-5-ways-prep-programs-can-help/2021/09>
- Mette, I., Fairman, J., Lech, P., & Frankland, M. (2019). *Deepening understanding of performance evaluation and professional growth (PE/PG) implementation in Maine school districts: Principal and teacher perceptions of PE/PG system implementation*. A research report of the Maine Education Policy Research Institute (MEPRI). Orono, ME: University of Maine. <https://mepri.maine.edu/posts/>
- Miami-Dade County Public Schools. (2020). *Instructional Continuity Plan 2.0*. <http://api.dadeschools.net/WMSFiles/224/icp-plan/MDCPS-ICP-PLAN.pdf>
- National Center for Education Evaluation (NCEE). (2020). *COVID-19: Evidence-based resources*. Regional Educational Laboratory Program, Institute of Educational Sciences, U.S. Department of Education. <https://ies.ed.gov/ncee/edlabs/projects/covid-19/>
- New York Times (NY Times). (2020, April 24). Teachers and students describe a remote-learning life: *New York Times*.

- Office of Elementary & Secondary Education (OESE). (2021a). *American Rescue Plan, Elementary and Secondary School Emergency Relief, State Plan Applications*. U.S. Department of Education. <https://oese.ed.gov/offices/american-rescue-plan/american-rescue-plan-elementary-and-secondary-school-emergency-relief/stateplans/>
- Office of Elementary & Secondary Education (OESE). (2021b). *Rethinking remote education Venture 9RREV*—*State of Maine*. Application for grant under the education stabilization fund--rethink K-12 education models (ESF-REM) from the Maine Department of Education. U.S. Department of Education. <https://oese.ed.gov/files/2020/07/S425B200039-Education-Maine-Department-Of.pdf>
- Office of Elementary & Secondary Education (OESE). (2021c). *Elementary and Secondary School Emergency Relief Fund*. U.S. Department of Education. <https://oese.ed.gov/offices/american-rescue-plan/american-rescue-plan-elementary-and-secondary-school-emergency-relief/>
- Ohm, R. (2020, April 5). Digital divide for thousands of Maine students without adequate home internet access, social distance protocols have multiplied the challenges to getting an education. *Portland Press Herald*.
- Opportunity Culture (2022). *A Complete Opportunity Culture Design*. <https://www.opportunityculture.org/a-complete-opportunity-culture/>
- Pendharkar, E. (2021). 3 reasons why being a special education teacher is even harder during the pandemic. *Education Week*. 41(7), 12.
- Pereira, I. (2022, January 11). Schools turn to parents for help as omicron surge causes staff shortages. ABC news. <https://abcnews.go.com/US/schools-turn-parents-omicron-surge-staff-shortages>
- Peyton, D., Acosta, A., Harvey, A., Pua, D., Sindelar, P., Mason-Williams, L., Dewey, J. Fisher, T., Crews, D. (2021). Special education teacher shortage: Differences between high and low shortage states. *Teacher Education and Special Education*, 44(1), 5-23.
- Positive Behavioral Intervention and Supports (PBIS). (2021). *Family plan for positive behavior at home*. <https://www1.maine.gov/doe/sel>
- Prothero, A. (2021, Sept. 14). Pandemic Fuels Tech Advances in Schools. Here's What That Looks Like. *Education Week*. (Online special report on hybrid and blended learning.)
- Rickles, J., Garet, M., Neiman, S., & Hodgman, S. (2020, Oct.) *Approaches to remote instruction: How district responses to the pandemic differed across contexts*. Research brief. American Institutes for Research (AIR). <https://www.air.org/sites/default/files/COVID-Survey-Approaches-to-Remote-Instruction-FINAL-Oct-2020.pdf>

- Sadler, T., Friedrichsen, P., Zangori, L., & Ke, Li. (2020). Technology-supported professional development for collaborative design of COVID-19 instructional materials. *Journal of Technology and Teacher Education*, 28(2), 171-177.
- Shepherd, M. (2019, June 14). Maine Lawmakers OK 2-year budget after a few tense hours at the State House. *Bangor Daily News*.
- Trust, T., Carpenter, J., Krutka, D., Kimmons, R. (2020). #RemoteTeaching & #RemoteLearning: Educator tweeting during the COVID-19 pandemic. *Journal of Technology and Teacher Education*, 28(2), 151-159.
- United Federation of Teachers (UTF). (2022, Feb., 17). *Preparation periods*. <https://www.uft.org/news/you-should-know/know-your-rights/preparation-periods>
- Vozzella, L. & Schneider, G. (2021, Feb. 12). Virginia's House and Senate pass competing state budget plans: The proposals boost teacher pay while addressing the ongoing pandemic. *The Washington Post*.
- Weiland, C., Greenberg, E., Bassok, D., Markowitz, A., Rosada, P., Luetmer, G., Abenavoli, R., Gomez, C., Johnson, A., Jones-Harden, B., Maier, M., McCormick, M., Morris, P., Nores, M., Philips, D., & Snow, C. (2021, June). *Historic crisis, historic opportunity: using evidence to mitigate the effects of the COVID-19 crisis on young children and early care and education programs*. Ann Arbor, MI: University of Michigan, Gerald R. Ford School of Public Policy.
- Whalen, L., Barcelona, J., Canteio, E. & McGaughtry, N. (2021). #HealthyKidsQuarantined: Supporting schools and families with virtual physical activity, physical education, and nutrition education during the Coronavirus pandemic. *Journal of Teaching in Physical Education*, 40(3) 505-507.
- Will, M. (2021a). As teacher morale hits a new low, schools look for ways to give breaks, restoration. *Education Week*, 40(17), 3-7.
- Will, M. (2021b). 4 ways districts are giving teachers more flexibility in their jobs. *Education Week*, 40(32), 13-15.
- Young, J. & Donovan, W. (2020, April). *Shifting to online learning in the COVID-19 spring*. Pioneer Education Policy Brief. ERIC. <https://eric.ed.gov/?id=ED604252>

Author Information

Janet C. Fairman is Associate Professor of Education in the School of Learning and Teaching, College of Education and Human Development, University of Maine, and co-Director of MEPRI. She holds a doctoral degree in education policy and has expertise in the areas of education policy analysis, program evaluation, and qualitative research methodology. Her research includes a focus on STEM education, innovative and reform practices in education, teacher and school leadership, and teacher professional development.

Patricia L. Lech is a Senior Research Associate in the School of Learning and Teaching, College of Education and Human Development, University of Maine. She has expertise in quantitative research methods and statistical data analysis, as well as education program evaluation.

Mella R. McCormick has a bachelor's and master's degree in philosophy and is currently a doctoral student in the Public Policy with a concentration in Educational Leadership program in the school of Education and Human Development, Muskie School of Public Service, at the University of Southern Maine (USM). She has held faculty appointments in Michigan and Nevada and is currently a research assistant in the Center for Education Policy, Applied Research, and Evaluation (CEPARE) at USM and in MEPRI. Her research interests include ethics, critical thinking, feminist theory and social justice.

Maddie P. Buxton has bachelor's degrees in both English and Spanish and is currently a graduate student in the Master of Arts in Teaching (MAT) program in the School of Learning and Teaching, College of Education and Human Development, at the University of Maine. She hopes to eventually teach secondary English and to work with Spanish-speaking students who are learning English.

Appendices

Appendix A. Survey Instrument

Appendix B. Additional Tables of Survey Results

Appendix A. Survey Instrument

MEPRI Study of School District Practices During the COVID-19 Pandemic

The Maine Education Policy Research Institute (MEPRI) has been asked by the state legislature to conduct a research study to identify new district practices that emerged during the COVID-19 pandemic to support student learning and instruction through remote, hybrid, and online modalities. To this end, MEPRI is conducting a statewide survey of curriculum directors. As a designated school district curriculum director, you are invited to share your views by participating in this survey study conducted by Dr. Janet Fairman and Dr. Patricia Lech of the University of Maine. This survey is confidential and no individuals nor school districts will be identified in any reports. The estimated time to complete the survey is approximately 15 minutes. You may stop and start this survey at any time. For questions about the study, please contact: janet.fairman@maine.edu. For problems with completing survey, please contact: patricia.lech@maine.edu.

Survey Questions:

Did your school or district make changes in any of these areas in response to the pandemic (either last year or this year)? (Check all that apply)

- Adjusted school schedules to allow teachers more time during the contracted day for professional learning or instructional planning
- Adjusted professional development formats (asynchronous, virtual, etc.)
- Adjusted professional development content
- Adjusted school schedules for student learning
- Adjusted student support (tutoring, mentoring, home visits, outreach to families, counseling...)
- Adjusted grouping formats or modes for students (asynchronous, multi-age, etc.)
- Adopted online learning options for students
- None of the above

Scheduling Changes for Teacher Learning or Planning Time

Indicate which practices your district **adopted during the pandemic**, if any, and plans for continuation. If your district was using the practice prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
Four-day in-person teaching schedule with one day for asynchronous learning (time for teachers to do professional development, one-on-one tutoring)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Occasional asynchronous learning days (time for teachers to do professional development, one-on-one tutoring)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regularly designated professional development time during school hours (Late start/Early release days)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduling time for teachers to interact with each other (visiting other classrooms, meeting)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Setting up co-teaching times (e.g. one virtual, one in-person)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Four-day in-person teaching schedule with longer school days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decrease in mandatory meetings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Scheduling Changes for Student Learning Time

Indicate which practices your district **adopted during the pandemic**, if any, and plans for continuation. If your district was using the practice prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
Remote learning on snow days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduled time for individualized learning (Tutor time, accelerated learning time)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduled time for individual interactions, clubs, SEL, (Home room)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduling longer class sessions (A/B blocks, fewer classes in a semester)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adopted later start time for middle/ high school students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Supports for Educators' Practices

Please describe any noteworthy strategies that emerged in your district during the pandemic to **support teachers** in providing **high quality hybrid, remote or online instruction**. Please be specific and note the grade range where the practices were used and if they are continuing this year.

Staffing Changes During the Pandemic

Does your district have designated teachers for remote students this **current** school year, 2021-22?

Yes, using teachers within the district

Yes, by using teachers from outside of the district

Yes, by using private contractors/ vendors

No, district wanted to do this but did not have staffing to do so

No

Other _____

(Optional) What strategies has your district found helpful during the COVID19 pandemic to assign or recruit staff for instruction or student support?

Changes in Delivery of Professional Development

Indicate which changes in the delivery of teacher professional development, if any, your district **adopted during the pandemic**, and plans for continuation. If your district was using the practice prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
Synchronous remote option for teachers to attend school or district professional development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asynchronous professional development- district selected topics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asynchronous professional development- teacher selected topics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Changes in Content of Professional Development

Indicate which changes in professional development content your district **adopted during the pandemic**, if any, and plans for continuation. If your district was using the practice prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
Additional training on district's learning management system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional training on practices that increase student engagement with asynchronous learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Training on synchronous virtual learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional training on lesson structure for clarity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional training for self-care/educator well-being	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional training on coaching family to support student learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional training on personalized learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional training on incorporating technology for instruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Instructional and Student Support Practices

Please describe any noteworthy strategies that emerged in your district during the pandemic to support **students' learning needs**. Please be specific and note the grade range where the practices were used and if they are continuing this year.

Other Changes in Instructional Practices

Indicate which practices your district **adopted during the pandemic**, if any, and plans for continuation. If your district was using the practice prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
Project-based learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Incorporation of allied arts into educational projects (STEAM)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students are in-person doing asynchronous virtual learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Synchronous virtual learning with all students in-person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Synchronous virtual learning with some students in-person while others are remote	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of online platform to support collaborative learning (e.g. Google Doc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of online platform (Google, Seesaw) in elementary grades	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Outdoor learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Changes in Instructional Grouping Practices

Indicate which practices your district **adopted during the pandemic**, if any, and plans for continuation. If your district was using the practice prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
Individualized learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Individual education plans for all students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Individual education plans for some students without IEP needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
One-on-one academic time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frequent use of small learning groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer adapted learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer adapted assessment to guide lesson	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Multilevel grades	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strategic grouping of students by developmental level within a grade for some subjects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strategic grouping of students by developmental level across grade levels for some subjects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student designed courses for credit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Changes in Student Supports

Indicate which practices your district **adopted during the pandemic**, if any, and plans for continuation. If your district was using the practice prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
Tutoring during scheduled academic time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tutoring before or after school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tutoring outside traditional education time (evenings or weekends)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extended school year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regular one-on-one meetings for every student with a designated staff person (Social support)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Career mentoring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work internship programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Changes in Online Learning Options

Indicate which online learning options your district **adopted during the pandemic**, if any, and plans for continuation. If your district was using the option prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
MOOSE modules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SEL4ME	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Early College online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advanced Placement Classes online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Remote high school classes (e.g. BYU courses)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online educational videos such as Khan Academy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online individual tutoring arranged through the district/schools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online individual tutoring arranged by students/families	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Online Learning Options

Indicate which online learning options, if any, your district students are using this year. (Check all that apply)

MOOSE modules

SEL4ME

Early College online

Advanced Placement Classes online

Remote high school classes (e.g. BYU courses)

Online educational videos such as Khan Academy

Online individual tutoring arranged through the district/schools

Online individual tutoring arranged by students/families

Other _____

Other _____

What are some of the reasons your students did not use these **online options** listed in the previous question? (Check all that apply)

District and schools not aware of some of these options

District and schools chose not to promote some of these options

Teachers, students and families were aware of some of these options but chose not to use them

Some teachers, students and families did not have internet to easily access and/or devices to access these options

Other _____

Other _____

Adoption of new instructional practices

What were the **primary** factors in your district's adoption decision around new instructional practices during the pandemic? (Select up to three)

Change was planned prior to the pandemic

Change was based on district's experience during pandemic

Change occurred due to change in school community attitudes toward new instructional practices during pandemic

Change was made possible due to new resources made available since March 2020

Change was made possible due to increased funding since March 2020

Change was made due to shortages (staff, supplies)

Change was delayed due to the pandemic (lack of resources or staff)

Change was delayed due to a desire to return to normal before instituting change

Other _____

No significant changes were considered this school year

What other new or innovative instructional practices is your district thinking about adopting?

What challenges has your district faced in implementing desired instructional changes this year?

(Optional) Please describe any new or innovative practices that your district adopted last year but did not continue this year. Explain that decision.

Mode of Instruction

During **most** of last school year, 2020-21, how did your district provide instruction for **most students**?

(Please select one best response)

In-person, 5 days per week

In-person, 4 days per week

In-person for younger students, hybrid for older students

In-person for younger students, fully remote for older students

Hybrid (For example, each student scheduled 1 to 3 days per week in person, remaining days remote)

Hybrid for younger students, fully remote for older students

Fully remote

Other _____

During this **current** school year, how has your district provided instruction? (Check all that apply)

In-person, 5 days per week for most students

Entire school temporarily remote with online instruction

Entire school temporarily remote without online instruction

Some isolated/quarantined students temporarily remote with online instruction

Some isolated/quarantined students temporarily remote without online instruction

Long-term remote education for some students

Other _____

Demographics

Please indicate for which grade levels you serve as a curriculum coordinator.

PK-8 or K-8

PK-12 or K-12

9-12

Other _____

Are you a curriculum director for more than one district?

Yes

No

What category best describes your district?

- Public
- Public/ Private
- Private

What is the total student enrollment in your district?

- less than 100 students
- 101 to 500 students
- 501-999 students
- 1000 or more students

In what county are your district's schools primarily located?

- Androscoggin
- Aroostook
- Cumberland
- Franklin
- Hancock
- Kennebec
- Knox
- Lincoln
- Penobscot
- Piscataquis
- Oxford
- Sagadahoc
- Somerset
- Waldo
- Washington
- York

What best describes your school(s) setting?

- City or Urban
- Suburban
- Small town
- Remote rural

This is the end of the survey. You may go back to previous questions.

Appendix B. Additional Tables of Survey Results

Table B1. *Use of Designated Remote Teachers this School Year, 2021-22.*

No	67%	38
Yes, using teachers within the district	18%	10
No, district wanted to do this but did not have staffing to do so	11%	6
Yes, by using teachers from outside of the district	4%	2
Yes, by using private contractors/ vendors	2%	1
		57

Table B2. *Curriculum Directors that Work in More than One District.*

No	92%	48
Yes	8%	4
		52

Table B3. *Response Rate by Geographic Area*

	Responses		Sent		Response rate
Public	89%	59	76%	193	31%
Private - 60% Publicly Funded	3%	2	4%	11	18%
Other Public	3%	2	6%	16	13%
Private	5%	3	13%	34	9%
Total	100%	66	100%	254	26%

Table B4. *Response Rate by Locale*

	Responses		Sent		Response rate
City or Suburb	21%	14	18%	46	30%
Town	58%	38	51%	129	29%
Rural remote	14%	9	12%	31	29%
Missing NCES data	8%	5	19%	48	10%
Total	100%	66	100%	254	26%