



Actionable Evidence Initiative Case Study

A Research-Practitioner Partnership: Vermont's Universal Prekindergarten System

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The Actionable Evidence Initiative

Led by Project Evident with funding from the Bill & Melinda Gates Foundation, the Actionable Evidence Initiative seeks to understand and remove barriers to building evidence that is equitable, useful, credible, and relevant for practitioners as they aim to improve the outcomes of students who are Black, Latino/a/x, or experiencing poverty. Please visit <https://www.projectevident.org/actionable-evidence> to learn more, join our network, and find partners interested in working together on actionable evidence solutions.

Actionable Evidence in Education Cases

This case is one in a series commissioned by the Actionable Evidence Initiative in 2020 and 2021. (Cases are published on the Project Evident [website](#).) The series illustrates how researchers, evaluators, practitioners, funders, and policymakers across the country are exemplifying principles of the Actionable Evidence framework. It profiles a range of settings, actors, learning questions, methods, and products, unified by a commitment to practitioner-centered, timely, practical, equitable, and inclusive evidence building. Each case describes the origins, development, and results of a research or evaluation project, along with the authors' reflections on their experiences. Our hope is that these cases will provide both inspiration and practical guidance for those interested in generating and using evidence that leads to better and more equitable outcomes for youth and communities.

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Actionable Evidence in Education: A Researcher-Practitioner Partnership: Vermont's Universal Prekindergarten System

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and Wendy Geller, Ph.D., Vermont Agency of Education**

Executive Summary

This case study highlights a researcher-practitioner partnership aimed at informing state policy decisions through actionable research evidence based on a collaborative research process. Specifically, it describes the Vermont Universal PreK Research Partnership, a collaboration of Education Development Center (EDC), the Vermont Agency of Education (AOE), the Vermont Agency of Human Services (AHS), and Building Bright Futures (BBF), which is funded through the Institute of Education Sciences' Regional Educational Laboratory Northeast and Islands at EDC. The primary goal of the partnership is to inform Vermont policymakers as they deliberate on Act 166, the state's universal prekindergarten (preK) legislation.

Based on the research questions prioritized by the implementing state agencies during an initial scan, the partners focused their work on understanding the availability of and access to preK programs, as well as equity in access by geography and student/family characteristics. Because the program was new and data were fragmented and, in some cases, nonexistent, completing this analysis required an investment in cleaning and connecting data, as well as some new data collection. The resulting findings, shared with the agencies and with the Vermont Legislature, have informed decisions about potential modifications to the statewide preK program. Throughout the process, the partners worked closely together to ensure that the research addressed decision-makers' questions about the policy while also ensuring that the limitations of the data were clear.

The case study highlights the process by which the partnership's research agenda was formed and undertaken, challenges and successes in building the partnership and conducting the research, findings from the partnership's two studies to date, and reflections on how the partnership addresses each of the actionable evidence principles.

About the Project

Origins

In 2014, Vermont passed Act 166, its universal prekindergarten (preK) legislation, following a series of bills that provided evidence of the need to implement a universal model. In particular, Act 186, Vermont's "Outcomes Bill," provided evidence that a large proportion of Vermont's children entered kindergarten unready, leading to the development of Act 62, a precursor to Act 166, under which districts voluntarily provided preK, and Act 159, which allowed struggling schools to include preK as part of improvement strategies (Vermont Agency of Education, 2017a, 2017b).

Act 166 dictates that all three- and four-year-olds, and five-year-olds not yet eligible for kindergarten, are entitled to ten hours per week of state-funded preK. The state-funded preK is provided by state-approved organizations through a mixed-delivery system of public and private providers. The universal preK program is co-administered by the Vermont Agency of Education (AOE) and the Agency of Human Services (AHS). Full implementation of Act 166 began during the 2016/17 school year.

Vermont's citizen legislature has been very interested in determining how Act 166 affects the students and families it is designed to serve. There is a strong shared desire to ground any changes in the best available data about the system's performance. However, the responsibilities of AOE and AHS under the law — including orchestrating the coordinated application review process for providers, connecting siloed data systems, and producing required legislative reporting products — left these agencies with little internal capacity for further analysis.

In response, the AOE and Vermont's legislators have turned to additional sources of data to inform their decision-making, including the focus of this case: studies undertaken by the Vermont Universal PreK Research Partnership through the Regional Educational Laboratory Northeast and Islands (REL-NEI) at Education Development Center (EDC). This research partnership has explored questions generated by conversations between the AOE and legislators or arising from legislative sessions, focusing primarily on issues related to equity and access across the state.

Partners

The Vermont Universal PreK Research Partnership is a place-based research alliance focused on a problem of practice specific to Vermont. The Partnership began in 2017 and is geared towards supporting AOE, AHS, and the Vermont legislature by conducting research studies and providing research technical support to address questions related to the implementation of universal preK in Vermont, as well as to inform changes to the law itself. It affords Vermont the analytic capacity to leverage extant administrative data as well as to develop, deploy, and analyze primary data to inform refinement to regulations of Act 166.

Beginning in 2016, during planning for the start of the current REL-NEI contract, EDC and AOE staff met regularly to discuss the state's most pressing needs related to early childhood

education. This initial scoping work highlighted the state's need for help evaluating implementation of the state-funded universal preK system as it came online in the 2016/17 school year. As a result, the Partnership was formed, and the first two partnership studies were designed.

The primary participants involved in the Partnership include researchers at EDC and the Deputy Secretary, Director of Data Management and Analysis, and the Early Learning Programs Manager at the AOE, who serve as the primary practitioner and data experts. Additional practitioner partners include AHS's Child Development Division (CDD) as the co-administrative body for universal preK and the Executive Director of Building Bright Futures (BBF) in an advisory capacity due to BBF's role as the state's early childhood state advisory council.

The legislature, though not a direct partner in this work, serves in a partner capacity insofar as AOE's legislative liaison and others at AOE, AHS, and BBF bring questions raised by the legislature back to EDC. EDC's role is to provide analytic horsepower, in addition to a deep understanding of the Vermont education context. Specifically, the lead EDC researcher is located in Vermont and was strategically asked to establish this partnership due to her deep knowledge of the state as well as her ability to follow local policy and education news in real time.

To date, the partnership has investigated enrollment patterns in state preK with a goal of determining whether there is evidence of a lack of access for more vulnerable student populations (e.g., students in poverty, students receiving special education services, rural students), examined the characteristics of approved preK programs, and delved into the ways that families are making use of the current model. EDC partners have presented findings to the Vermont Legislature and co-authored reports published by the Institute for Education Sciences (IES) through the REL-NEI contract. (See [Resources and Further Reading](#).)

Approach

Collaboration Process

Background and Startup

REL-NEI at EDC is one of ten Regional Educational Laboratories (RELs) funded by the Institute of Education Sciences (IES), the research arm of the U.S. Department of Education. RELs are tasked with supporting state and local education agencies in producing and using research and data to inform practice and improve student outcomes. REL contracts are administered on five-year cycles. The work conducted by EDC under the REL-NEI contract follows a researcher-practitioner partnership model, where EDC staff with content and methodological expertise lead place-based partnerships focused around problems of practice identified by education agency partners (Coburn, Penuel, & Geil, 2013).

During the first six months of the Vermont Universal PreK Research Partnership, AOE and CDD partners completed a research agenda setting process facilitated by EDC staff. During this process, they: (1) brainstormed topics and problems of practice related to implementation of

Act 166; (2) prioritized the top five topics of interest to their agencies and the legislature; (3) drafted researchable questions that addressed those topics that were subsequently further refined by EDC staff; and (4) drafted a long-term research agenda to guide the work of the partnership over the course of the 5-year REL-NEI contract (Kochanek, Lacireno-Paquet, & Carey, 2014). EDC staff used the drafted research agenda to design the activities of the partnership, including two complementary studies.

Communication

Dedicated capacity on the part of EDC made it possible to leverage the expertise of AOE and other partners. EDC led the development and design of the research studies, based on partner needs. EDC incorporated input from partners in each step of the design and operationalization processes by eliciting feedback at bimonthly meetings and through regular email communication. Throughout the Partnership, EDC and AOE partners have kept regular (e.g., several times a month) communication via email, phone calls, and video meetings. Partners have met in person periodically, but shifted exclusively to virtual meetings during the COVID-19 pandemic. As mentioned above, all partners (EDC, AOE, CDD, and BBF) meet bimonthly, with sessions facilitated by EDC staff. This structure is an important aspect of researcher-practitioner partnerships, and a key factor in this partnership's success, as EDC staff are a very effective third party between the two state agencies. In fact, EDC acted as "brokers" in helping to smooth relationships across agencies. This reduced tension and enabled work to move forward when it might otherwise have become mired in political and or interagency friction.

One particularly effective way that partners developed and strengthened their relationship was through candid conversations about the challenges the work faced, whether political or personnel-related, as well as regularly brainstorming together about how to mitigate methodological hurdles. Further, EDC's third-party status had important cachet with many decision-makers. For example, as an outside expert organization, EDC's help with the development of the preK program survey (discussed under Data below) and seconding AOE's recommendations on data improvement helped garner support for AOE's recommendations from legislators and decision makers in state government. As a third-party expert, EDC also actively helped the agencies make recommendations to the legislature based on the data and findings the partnership produced. This independence was invaluable in communicating the findings effectively as well as enabling them to be understood as the result of rigorous scientific processes and not as a product of partisan work.

As needs arose, the Partners prioritized their relationship and the work, holding additional data meetings, as well as convening sessions to review reports and products before publication. At every step, the partners planned together, often discussing work that could take place over a much longer term (e.g., five or more years into the future). This was a seminal way the partnership grew into the effective collaboration it is today. Challenges were and are recognized, planned around, and actively mitigated together as a team, while long-term goals are shared, shaped, and endeavored towards as part of a co-created, coherent

research strategy designed to support empirically-couched adjustments (or prevent solely anecdotally-based ones) to Vermont's policies surrounding universal preK.

Research Design and Implementation

Research Questions

For the studies presented here, the focus was on documenting initial program implementation through careful descriptive analysis. This was particularly important because the legislature wanted to answer basic descriptive questions that highlighted how implementation was rolling out. In particular, they wanted to understand the degree to which the program was being implemented equitably across the state. These considerations resulted in five research questions:

1. To what extent are children with different characteristics enrolled in public school preK programs, private preK programs, and programs at each STARS quality rating¹?
2. To what extent are preK children enrolled in a program within the boundaries of their local education agency?
3. After other characteristics are controlled for, which characteristics of preK children are associated with the likelihood of being enrolled in:
 - a. A public school rather than a private preK program?
 - b. A five-star program rather than a three- or four-star program?
 - c. A program within rather than outside the boundaries of a child's local education agency?
4. How do characteristics related to program availability, program quality, and family choice differ between public school and private programs?
5. How do characteristics related to program availability, program quality, and family choice differ by local education agency population size and by poverty level?

Data

The first study addressed research questions 1-3 using student and preK program data provided by the AOE for the 2016/17 school year. The second study addressed research questions 4 and 5 using preK program data from the AOE for the 2017/18 school year. To allow for the examination of more detailed preK program data than were available in the state's data warehouse, EDC researchers helped AOE develop the Vermont Act 166 Prequalified Program Survey 2018-2019, a survey sent to all approved preK programs during spring 2019. That survey was conducted because the questions the state wanted to address were limited by the existing data available on programs, administering the survey to programs was of minimal lift, and the information gained through this small data collection yielded a

¹ Vermont's early childhood quality rating and improvement system is the STep Ahead Recognition System (STARS). In order to become an approved preK program, providers need to have at least a 4- or 5-star rating or a 3-star rating with a plan to reach 4-stars (on a 5-star scale).

considerable amount of additional insight regarding program availability in the state. While the partnership generally addressed questions only answerable with preexisting data, this survey effort was undertaken because the capacity existed to do so; larger data collection efforts have remained outside the scope of the partnership, although through potential future grants EDC and AOE hope to engage in more of these kinds of primary data collection activities.

Analysis

The first study used descriptive statistics and logistic regression. EDC researchers developed tables and graphs that highlighted the characteristics of children enrolled in different program types. The descriptive analyses were complemented with the results of the logistic regression analyses, which spoke to the strength and statistical significance of predictive relationships between characteristics of children and the preK programs in which they enrolled. This study was also able to make use of programs' geographic information to examine, on a cursory level, potential availability of programs in different areas of the state.

The second study used descriptive statistics. For this study, tables and graphs presented program characteristics by program type (private or public school), local education agency (LEA) population size, and LEA poverty level. Another set of tables was produced specifically for legislators summarizing program characteristics by county. This level of analysis was of particular interest to state legislators as it allowed them to examine the characteristics of the preK programs available to their constituents.

Dissemination

Throughout the work and in consultation with state agency partners, EDC determined appropriate analytic approaches with input from review processes available through the REL-NEI contract and partners. Any analyses considered were examined for methodological appropriateness, given available data, and with an eye to readability and utility for partners and legislators. For example, simple graphs like the one in [Figure 1](#) allowed legislators and agency staff to quickly understand where children were enrolling in preK and to see that the ability of families to enroll their children in private or public school programs and within or outside of their local education agency was an important aspect of the law to maintain.

All products underwent a rigorous peer review process by independent contractors and the REL-NEI funder, IES.

Resources

As mentioned, the activities described in this case study were conducted as part of the REL-NEI contract held by EDC and supported by IES. This meant that there was no monetary cost to the state agencies or legislature in engaging in this work. And while the resources necessary to conduct any one study under the REL-NEI contract vary slightly, the partnership activities and studies described above included:

- Considerable time (approximately 15-20% FTE each across 2 years) for 2-3 researchers at EDC to write proposals for the work; manage and clean data; conduct analyses; write reports; respond to technical working group, peer-review, and partner feedback; and disseminate findings.
- State agency staff time for meetings; establishing data sharing agreements; providing data to EDC; reviewing reports; and dissemination. Time commitments for agency staff accounted for roughly 5-10 hours per month per staff member.

Challenges and Responses

Challenge 1: Data Sharing

One way the partnership built trust together early on was through the process of establishing the initial [data sharing agreement](#) that would allow EDC to access state data.

Due to a new rule overseen by another state agency, it took months of hard work by AOE to get the initial data sharing agreement/memorandum of understanding (MOU) in place so that the partnership's work could begin in earnest. Throughout the process, AOE remained committed to the partnership as the long-term prospects of value-added analytic capacity EDC brought to the table were critical for continually evaluating how universal preK was working in Vermont and guiding needed improvements. During that early data governance work, EDC remained flexible and understanding of the elements that were beyond AOE's control, even though it meant pushing back deliverable deadlines with the REL-NEI contract funder. The ability of both partners to navigate this early challenge was important in creating the foundation for the partnership. Once in place, the MOU enabled EDC to help AOE with data processing and to co-conduct the analyses.

Challenge 2: Data Integration

Because Vermont's universal preK system is co-administered by AOE and AHS, examining the implementation of the model required integrating formerly siloed data and developing standards for managing, maintaining, and using those data together. For example, program quality rating data and data about other private preK program characteristics are housed at AHS and must be linked to AOE data for the purpose of associating preK students with their preK program of attendance as well as housing all data together in the state's longitudinal data system. Linking was especially challenging because the databases lacked primary keys for organization-level data that were needed to match and link across datasets vertically and horizontally (i.e., across data sets containing various student data or organization data, as well as appropriately nesting data from students within the organizations at which they received services).

As a result, AOE had to take a strong leadership role to establish master organization-level records, databases, matching logic, and data quality processes required for approval of preK programs applying for eligibility to receive public preK dollars under Act 166. AOE also had to develop data management standards and training protocols for approved preK programs to support good record creation and management that would support linkages across data

housed at AHS and AOE. Absent a strong data management system, it would have been impossible to conduct the type of research and monitoring of Act 166 done under this partnership.

Challenge 3: Data Quality

The initial lack of organization-level primary keys as well as non-uniform data standards contributed to other major challenges for the analytic work. One of these was extreme difficulty in matching records across data sets, as noted above, and another was high rates of missing data for variables in the analytic datasets. These challenges were artifacts of two state-level organizations being expected to start co-administering a complex social program on a very tight timeline. This required the development and operationalization of intricate business processes and means for data collection, storage, and use with no material support for standing up those data and technical systems. Further, there were no additional resources allocated to provide the needed training for field partners to understand their role in records management and submission of data to state bodies. Many private preK providers struggled with the concept of required data collections, resulting in much missingness in their submissions.

This challenge led to concrete, targeted data quality improvement efforts from both state data and program staff geared towards addressing the largest gaps. Those efforts were activities like increased number and frequency of user trainings on the preK assessment and platform, Teaching Strategies GOLD, as well as the kindergarten readiness assessment, the Ready 4 Kindergarten! Survey (R4K!S). There was a concerted communication campaign that included increased outreach through email, newsletters, technical assistance outreach, and a targeted effort to partner with AHS staff to improve the ability to match organization data across data sets (e.g., assignment and stewardship of unique program identifiers [primary keys] at AOE).

Once the monitoring process for maintenance of approval status was implemented in the 2017/18 school year, a check for submission of all required data was initiated as part of programs maintaining eligibility. This step in the monitoring process greatly improved compliance across private and publicly operated universal preK programs with respect to required data submission.

Through the partnership, EDC assisted AOE staff in carrying out the painstaking work of cleaning datasets, including identifying programs whose names differed from one dataset to another to try to facilitate linkages. Even with this much-needed support, there remained a high incidence of records that could not be matched across organization-level datasets as well as missing student-level data that was non-random.

Because of this missingness among the student level data, it was necessary to refocus the second research study so that it only required program-level data. The partners adjusted their plans and provided robust descriptive statistics as well as some light correlational work as opposed to attempting more complex analyses, which would have required a more complete dataset.

This was a good thing in the end as the descriptive statistics were powerful information for decision makers and policymakers alike. Results will be discussed below but suffice it to say that the challenges experienced when turning administrative data into analysis-ready data sets are not small or simple. The partners navigated these shortcomings by always keeping good science at the forefront of their effort. A mindfulness of the strengths and limitations of the data set, along with transparency about those strengths and limitations in all reporting, ultimately supported the partners in being able to stand firmly behind the findings and use them well in discussions with legislators.

Challenge 4: State Personnel's Time

The demands for operational innovation from AOE and AHS left scarce time for AOE staff to conduct analysis beyond what was required for federal reporting. This was a primary driver for forming the partnership. While AOE had personnel capable of designing and conducting rigorous analytic work, having the time to do that work was another thing entirely. The limitations on AOE staff time meant that having asynchronous means of communication was critical so that they could fit the partnership work in between their prioritized daily tasks. Practices included effective email communication to manage work, shared documents in cloud environments for easy co-drafting, flexible scheduling practices to accommodate unplanned work the AOE team had to adjust their days to absorb, etc.

EDC partners were consistently thoughtful and accommodating when it came to state staff availability (or lack thereof) for in-person (or virtual during the pandemic) meetings. Making room for additional phone calls, taking careful minutes and distributing them after meetings, and following up when decisions were needed all became hallmarks of EDC's commitment to the partnership while state staff weathered the challenges of implementation while building technical and process solutions on extremely limited timeframes.

Challenge 5: Timeliness of Research Findings

The work of the partnership has been primarily focused on informing policymakers as they consider possible changes to Act 166. This has meant that lawmakers have wanted to hear testimony during the legislative sessions. For example, during the 2019 legislative session, the House and Senate Education Committees and the House Human Services Committee all wanted to hear testimony on the results of the first study conducted through the partnership.

Because the partners felt this information was imperative for the conversation the policymakers were having, EDC gained special permission from IES to share the preliminary findings at a joint session of the committees, thus allowing the data to be used as evidence in deliberations during the 2019 legislative session. (The study was published in January 2020, 8-9 months after the request for a presentation.) This showed flexibility on the part of IES as well as EDC because the study was conducted under the REL-NEI contract with the federal government, and the timeline for publication under these contracts is long due to an extensive peer review process and required vetting by multiple levels of REL-NEI and IES leadership.

Changes to Act 166 have been an ongoing conversation and process. Although legislative activity was stalled during the last legislative session due to COVID-19, in December 2020 AOE indicated that it was important that the findings from the second study be available to policymakers before or during the 2021 session. This would allow those findings to be part of the considerations from the start, rather than “noise” that was introduced to the conversation after it had been ongoing. To allow this to happen, EDC once again shifted course and gained permission to publish the report as a different type of product so that it could be released several months earlier than planned and reach policymakers as quickly as possible. The issue of mismatched timelines between researchers, policymakers, and practitioners is not unique to this work; however, the added layer of federal oversight throughout the publication process meant extra creativity was needed in order to provide findings in a timely way.

Results

At this stage, the primary need has been for careful, detailed descriptive analyses that legislators and others can easily interpret. This work has been an invaluable means to convey information on implementation and participation in the current universal preK model. To date, our key findings have been:

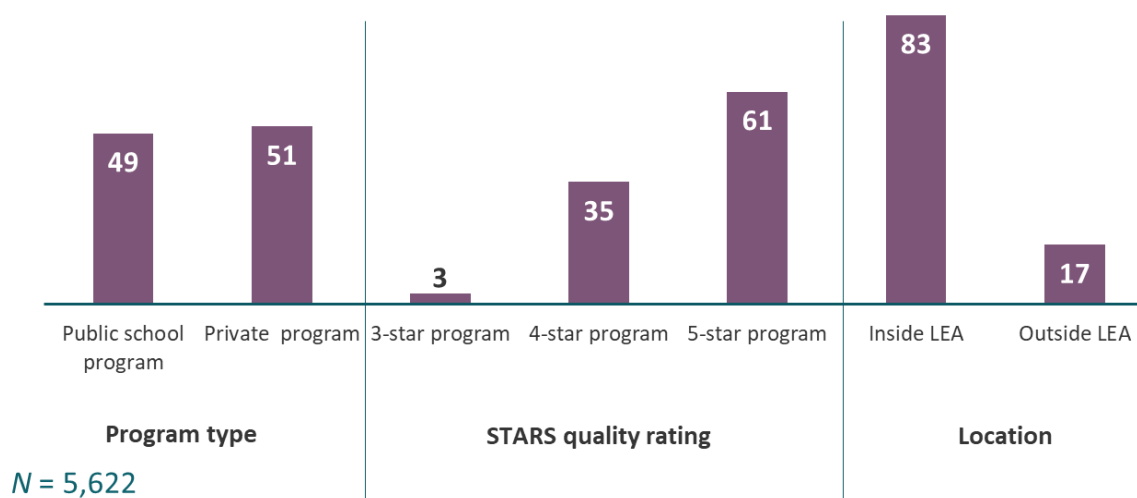
- **The study affirmed that families were using the options made available by the program’s mixed delivery design.** In the first year of Vermont’s implementation of a universal preK program (2016/17), families enrolled children in preK at similar rates in public school programs (49 percent) and private programs (51 percent). This result confirms that families were enrolling their children in both types of programs, which aligns with the mixed-delivery design in the legislation and suggests that Vermont may want to retain the mixed-delivery aspect of the legislation if it wishes to retain these options for families. Future research could examine parental choice and the degree to which families prefer one program type over the other and why.
- **High-needs preK children are more likely than other preK children to be served in higher-quality preK programs.** PreK children with an individualized education program (IEP) or who are eligible for the national school lunch program were more likely to be enrolled in public school programs and in programs with higher quality ratings (5 vs. 3 or 4 STARS) than their counterparts.
- **Families are taking advantage of the ability to enroll their children in preK programs outside their local education agency (LEA) of residence.** Overall, 17 percent of children were enrolled in a preK program outside the boundaries of their LEA. PreK children with fewer prequalified preK programs within the boundaries of their LEA were more likely to be enrolled in public school programs and programs outside their LEA, as well as in lower-quality programs. Additionally, some less-populated areas had only one approved program within the LEA’s geographic boundaries, raising questions about availability of preK programs in more rural areas of the state. This suggests that a non-trivial share of families benefited from the flexibility offered in the current legislation, particularly families residing in areas with fewer prequalified or high-quality

programs. Future research could examine the implications for rural families more closely by collecting data on the number of preK slots available in a given locality compared to the number of children eligible, also taking into consideration geography and issues of transportation.

- **Families in rural areas have fewer private preK programs available to them than families in more populated areas.** In addition, our study found that private preK programs were open more hours per day and weeks per year than public school preK programs. This finding, coupled with the finding that rural areas had more public school preK programs and fewer private preK programs, raises questions about how to meet the afterschool and childcare needs of children during hours when public school preK programs are not available. If families need childcare beyond the allotted 10 hours of publicly-funded preK, a child who attends a public school program and/or has working parents may need to transition more often among program settings over the course of the day. But private programs that operate for more than the allotted 10 hours per week of publicly-funded preK could provide additional childcare at the same location and during the summer months, thereby reducing the need for children with working parents to transition to multiple programs throughout the day or year.
- **PreK capacity may be limited in low-income communities.** While LEAs serving communities with high poverty levels had higher percentages of preK programs designed to serve low-income families (i.e., Head Start programs and programs that accepted state child care subsidies), they also had a higher percentage of programs that were at capacity. Although it is encouraging that there were higher percentages of programs aimed at serving low-income populations in the areas with the highest need, the findings suggest that the availability of these programs might need to be expanded.

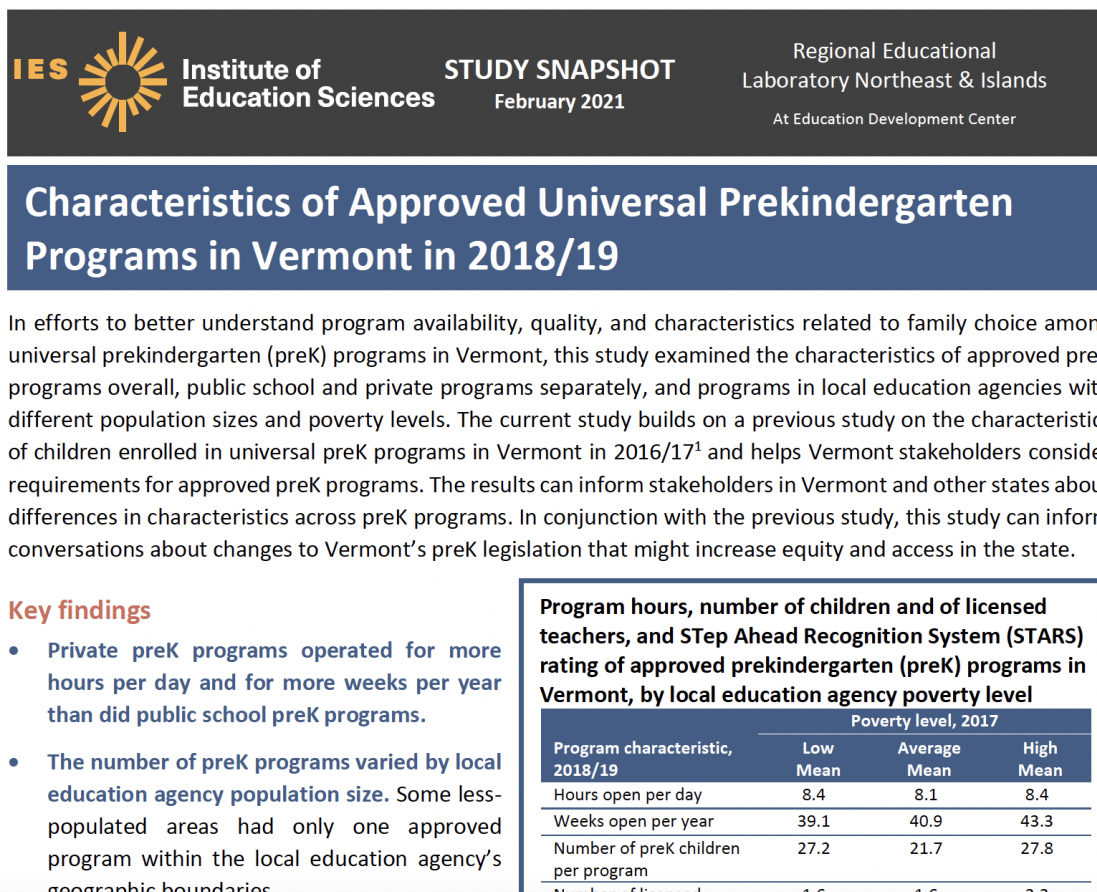
Results of the two studies were presented to AOE and other partners through graphs and tables, such as those shown here as Figures 1 and 2. Likewise, bar graphs were used to present findings during testimony to the Vermont legislature. As mentioned above, we found that these simple visuals allowed stakeholders to see the magnitude of the findings and even assisted us in describing the slightly more complex logistic regression findings. In talking about the findings from the logistic regression, we spoke about the likelihood of enrollment of one group versus another and presented odds ratios because we felt that these allowed for the most intuitive interpretation of logistic regression output.

Figure 1. Graphs showing the percentage of children enrolled in Vermont prekindergarten (preK) programs in 2016/17 allowed legislators and agency staff to easily interpret findings.



This evidence supported the importance of several current features of the law with respect to families' access to preK programs. This included some features that were being considered for removal or alteration (e.g., the ability of families to send their children to preK programs outside their LEA boundaries). Additionally, the findings suggested that, while advocacy groups pointed to concerns over special education students and other vulnerable students not being adequately served, these groups of students were being served disproportionately in the highest quality programs. To tie our findings to the anecdotes provided by advocates, and generally heard and used by legislators, we acknowledged the importance of the concerns raised by these groups and related them to the findings of our studies.

Figure 2. One-page study snapshots allowed multiple stakeholder audiences to understand key take-aways from studies without reading the full reports and appendices.



As the committees deliberated changes to Act 166 in 2020, they added the findings from the Partnership’s first REL-NEI study to the growing body of evidence they were considering. In an interview for an article on EDC’s website, Vermont Representative Kate Webb stated, “It is my intention to use EDC’s research to help drive a more productive conversation with stakeholders in 2020... Emerging brain research, school readiness, social-emotional learning, and the needs of working families tell us it is incumbent upon us to do so” (Granofsky, 2019).

Portability, STARS rating requirements, and the mixed-delivery aspects of the law were all retained in the 2019 legislative session, informed by the partnership’s research. While this attention to study findings was encouraging, it remains to be seen exactly how this will play out as the legislature is planning to make small changes to the legislation over time, the proposed changes did not make it all the way through the process prior to the close of the 2019 session, and COVID concerns derailed any deliberations in 2020 and 2021.

For AOE, study findings have been critical to situating any discussion of adjusting Act 166 firmly within the data and analysis available. This has helped to steady what can often be

heated legislative conversations with a sound grounding in the scientific method. This work has been integral to AOE's push to use data to inform practice as well as policy, especially because it has been conducted with a deeply respected third-party organization such as EDC. The findings have also informed important programmatic efforts around training field staff in the importance of record keeping and required data reporting, involving those staff sometimes for the first time in creating a culture of data quality and use, a marked advancement in this area from years past.

What's Next

EDC and AOE are dedicated to continuing and expanding this partnership by pursuing funding for additional research activities. As the REL-NEI contract is nearing completion, and because the REL-NEI funding mechanism limits the flexibility of the work, EDC and AOE, in partnership with BBF and AHS, have submitted two grant proposals to further the work of the partnership. This requires significant investment from both organizations. In addition, EDC has found ways to leverage other federal work by collaborating with the Region 1 Comprehensive Center at the American Institutes for Research. Funded by the U.S. Department of Education, the [Region 1 Comprehensive Center](#) developed [GIS maps of preK programs](#) across the state, which allow AOE to examine drive times to preK programs in different areas of the state and to effectively communicate with legislators who naturally gravitate to these kinds of data displays.

EDC and AOE have also discussed possible funding sources to further build out data infrastructure and the culture of data collection and use among preK providers. These activities will be essential in order for partners to examine the actual supply and demand of state-funded preK. (As of now, there are no absolute counts of preK slots available to students nor absolute counts of children eligible for preK prior to the time a cohort enters kindergarten.) Expanding data collection to include elements such as the amount of time children spend in any early learning program (preK and other child care arrangements) and to include aspects of how parents make decisions about where to send their children would allow the state to examine the impact of preK on student kindergarten and later outcomes. Without these and other data, estimates of impact would be suspect as there would be a multitude of competing explanations for any effects discovered through statistical modeling.

Alignment with Actionable Evidence Principles

Principle	In This Case...
Centers on Community Needs and Voices <i>Addresses the context, perspectives, priorities and assets of students and families, along with the challenges they face</i>	<p>This partnership investigates one of the most important early childhood education laws Vermont has passed in a decade, with special focus on exploring opportunities and barriers related to access to high-quality preK for historically marginalized groups such as those who are economically disadvantaged and students with special education needs.</p>
Prioritizes Practitioner Learning and Decision-making <i>Answers questions that are highly relevant to policy and practice, and that help practitioners prioritize decisions in service of students and families</i>	<p>The partnership was formed around a practitioner-identified need: the need to evaluate universal preK legislation in the state. Every step in the process of developing and prioritizing research questions was grounded in the ideas generated by the practitioner partners within the state agencies who were charged with implementing universal preK and informed by their conversations with the House and Senate Education and Human Services committees. Findings were reviewed with partners and implications were co-drafted and vetted with stakeholders in order to ensure their relevance and applicability.</p>
Enables Timely Improvements <i>Allows practitioners to make evidence-informed decisions in a timely manner</i>	<p>When the timeline of the research reports to be published through the REL-NEI contract did not fit the quick turnaround expectation and need of the legislature, EDC was able to work with the funder to gain approval to present findings to the state legislature in a timely manner. All products of the partnership have been shared with and presented to the Vermont legislature, sparking much discussion and providing evidence to inform decisions about potential changes to Act 166.</p>
Credible and Transparent <i>Uses high-quality data and analysis, aligning methods with practitioner questions, timeline and context</i>	<p>The data undergirding this work come from the most comprehensive administrative sets available in the state of Vermont. They were carefully cleaned and tested for representativeness before use, and the analytic plans were adjusted when high rates of missing data jeopardized the integrity of the originally planned analysis. The partnership has stayed true to its commitment to empirical and methodological excellence by always examining and communicating clearly what analysis the data can credibly support.</p>

<p>Responsive to Operational Context of Practitioners <i>Reflects the context in which practitioners operate, including organizational settings, relationships and resources, and political and policy environment</i></p>	<p>The lead researcher at EDC is located in Vermont and actively follows conversations within the legislature as well as advocacy groups. This allowed the EDC team to gain a deep understanding of the relationships, resources, and political and policy context of the state. Furthermore, the agency partners provided candid and deep knowledge related to the history of relationships, data stewardship, and programming and legislation that informed the questions addressed and how findings were presented.</p>
<p>Accessible and User-Centered <i>Clearly communicates research design, analysis, and findings to facilitate practitioner understanding and use</i></p>	<p>The partners worked closely together to ensure accessibility to lay readers when it came to products the partnership yielded, as well as diverse, broad sharing of the materials via several communications channels. For example, easy-to-interpret bar graphs were the primary mode of conveying descriptive findings to policymakers, and logistic regression results were discussed in terms of odds ratios and the likelihood of enrollment of one group versus another, as this interpretation of those findings is most intuitive. Dissemination channels included website posting, regular newsletters to stakeholders, presentations to the Vermont legislature, a webinar, and sharing on social media platforms.</p>
<p>Builds Practitioner Capacity for R&D <i>Provides practitioners with data, products, tools and trainings to own and advance their evidence agenda</i></p>	<p>Through the development of the research agenda and accompanying logic model, the team built the capacity of AOE and AHS, and even legislators, to envision next steps in the evaluation of their universal preK program. By engaging in deep partnership work and creating a strong working relationship with AOE, EDC has built the capacity of the state to find additional resources to evaluate preK by collaboratively submitting several research grant proposals. Not only this, but by building out the analytic data sets and environments to conduct this work, the AOE is carefully stewarding ready-to-use datasets for future analytic efforts. This has saved countless hours for state staff and EDC partners as they implement the research agenda's longitudinal studies and stands to pay dividends for future longitudinal work around preK.</p>
<p>Attends to Systemic and Structural Conditions <i>Considers systems, policies, practices, cultural norms, and community conditions that drive inequity, including those related to poverty and racism</i></p>	<p>At the heart of Act 166 is a commitment to equitable access to high-quality preK programs for all Vermont's children. The primary focus of the Partnership was to examine the ways that Vermont's universal preK implementation was serving students and families, especially those from historically marginalized backgrounds and/or rural locations and those for whom access may be limited due to transportation or caregiver work schedules.</p>

Reflections and Conclusion

By authentically collaborating during each step of the research process, the partners in the Vermont Universal PreK Research Partnership have been able to conduct empirically sound research that is actionable. This takes time and dedication to respecting what each partner brings to the table as well as a deep desire to engage in the work together.

While the Vermont AOE team is technically sophisticated, it lacked time to conduct the analytic work required for an in-depth examination of the implementation and effects of Act 166. It needed a partner with research expertise that could dedicate time to this effort under its strategic guidance. This was a role EDC was well-equipped to play. The partnership with EDC added other value as well. As an outside actor, EDC was able to broker relationships across state agencies and reduce tensions, enabling work to move forward when it might otherwise have become mired in political and/or interagency turmoil.

Moreover, having a third-party research partner helped the agencies make recommendations to the legislature based on the data and findings the partnership produced. EDC's independence was crucial in communicating the findings effectively as well as enabling the findings to be understood as the result of rigorous scientific processes and not as a result of partisan work. This was especially important as suggested changes or recommendations to continue particular aspects of Act 166 could have been seen as aligned with one agency or another's agenda, rather than truly being informed by the findings, had EDC not been an external entity. Therefore, this model is particularly useful in situations where policy recommendations are being made and multiple stakeholder groups are involved.

The table below highlights key aspects of this partnership.

Table 1. Key Partnership Features

Partner Qualities	<ul style="list-style-type: none">• Commitment to an extended relationship that allows for long-term analytic thinking; that is, thinking beyond just what is needed to respond to a specific request and keeping an eye towards building evidence over time• Co-production of all products, with EDC taking the lead on development with input through meetings and reviews of reports by partners• Playing to one another's strengths and capacities• Strong analytic background of both parties• A research partner (EDC) with the time to focus on this kind of work as well as facilitation skills and cachet as an independent third-party expert• A practitioner partner (AOE) that is clear about its objectives and able to guide the research work, while trusting EDC to execute key components• Perseverance to see through data governance/data sharing challenges• Ability to produce multiple types of products (e.g., legislative presentations, IES reports, newsletters)
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Broader Conditions that Enabled Success

- The Vermont legislature has an appetite for data; that is, policymakers want data and research to help inform their decisions in addition to testimony by advocacy groups
- Through the REL-NEI contract, funding was specifically dedicated to building the partnership, in addition to supporting “typical” research activities. This funding was federal (through IES) rather than from state agencies, and so built the financial capacity of the agencies to engage in and use research.

Our experience also prompts suggestions for partners interested in working together to build actionable evidence in similar contexts:

Guidance for Researchers

- Be patient with state partners. A lot of work is pushed through few employees, unplanned work can sideline a project, and bureaucracy can cause long delays.
- Offer to do the work that the state partners need done, not the work you want to do.
- Co-create and co-write. Don’t plan on only producing journal/peer-reviewed publications. Make the products that state partners need made, not those that will pad your CV.
- Understand that data privacy and security are real concerns that have to be addressed.
- Understand that your findings will impact real people. Be careful in every step you take.
- Be conscious of the political context. This impacts your state partners in a real way.

Guidance for Practitioners

- Be open with research partners about the challenges to doing this kind of work well, including challenges with the data, the political will of policymakers and agency leadership, and the interpersonal and interagency idiosyncrasies that may affect the work.
- Know your data, what they can do, and what they can’t do. Be clear about that information with researchers. This shapes what kind of analysis they are capable of supporting.
- Understand your organization’s data governance and know how you’re going to navigate it to make sure the work can happen at all.

- Play the long game. Commit to longstanding partnerships, not one-and-done projects, so you can make most efficient use of your time (an inelastic resource), your energy, and your political capital.
- Build your analytic datasets with view to long-term use (i.e., reduce, reuse, recycle).

Guidance for Funders

- Provide funding for partnership activities such as logic model development, regular meetings, and other relationship-building endeavors.
- State agencies often have a hard time accepting money. Give the money to the research organization as the granting body. This is generally an easier route to accomplishing the work.
- Plan to fund long-term projects. Not a lot of work can happen in one year.

While thoughtful evidence building in a complex policy and political context is not easy, it has the potential for meaningful impact. As we have seen — and hope to continue to see — in Vermont, trusting and complementary research-practice partnerships can inform decisions that improve the lives of thousands (in some cases millions) of families.

Resources and Further Reading

Find out more about the Vermont Universal PreK Research Partnership here:

<https://ies.ed.gov/ncee/edlabs/regions/northeast/UniversalPreK>

The Partnership's first study, *Enrollment Rates of Children in Universal Prekindergarten Programs in Vermont in 2016/17*, can be found here:

<https://ies.ed.gov/ncee/edlabs/projects/project.asp?projectID=4570>

The Partnership's second study, *Characteristics of Approved Universal Prekindergarten Programs in Vermont in 2018/19*, can be found here:

<https://ies.ed.gov/ncee/edlabs/projects/project.asp?projectID=4654>

To find out more about Vermont's universal preK policy, Act 166, visit:

<https://education.vermont.gov/student-support/early-education/universal-prekindergarten-act-166>

EDC also conducted a legislatively mandated evaluation of Vermont's universal preK program through a contract with AOE; the final report submitted to the legislature can be found here:

<https://education.vermont.gov/sites/aoe/files/documents/edu-legislative-report-act-11-prek-evaluation-final-report.pdf>

The Region 1 Comprehensive Center at the American Institutes for Research, funded by the U.S. Department of Education, provided support to AOE in the development of a map of universal preK programs that shows where programs are located across the state, characteristics of the programs and the communities in which they are located, and, importantly, drive times to preK programs. The map can be found here:

<https://education.vermont.gov/content/vermont-prekindergarten-programs-attribute-map>

About the Authors

Clare Waterman Irwin, Ph.D., is a highly experienced researcher and evaluator who leads studies that guide education leaders and policymakers in improving outcomes for students. She brings extensive expertise in measurement, quantitative and qualitative research methods, policy analysis, mixed methods evaluations, research-practitioner partnerships, and technical assistance. Her research focuses on identifying strategies to improve early childhood education.

Irwin leads the Vermont Universal PreK Research Partnership and Early Childhood Workforce Development Research Alliance for REL Northeast & Islands at EDC. She is co-director of Partnership for Early Education Research (PEER) and has led several state contracts.

Irwin is the lead author of *Survey Methods for Educators: Collaborative Survey Development* and regularly publishes her findings in peer-reviewed journals. Before joining EDC, she served as a research specialist for Providence Public School District.

Irwin holds a BA in Philosophy from University of Colorado Boulder and an MEd in Human Development; MS in Quantitative Methods; and PhD in Policy Research, Evaluation, and Measurement from University of Pennsylvania's Graduate School of Education. She was an IES Predoctoral Training Fellow from 2007 to 2011.

Wendy Geller, Ph.D. is the first Director of the newly formed (2018) Data Management & Analysis Division. Wendy serves alongside her Work Family of Data Scientists as a centralized resource to the Vermont Agency of Education. Her crew collects, stewards, and leverages the institution's critical data assets to create and share data products that enable empirically-based practice and policy decision-making. She and her Division lead, partner with external bodies, and execute on the analytic activities of the institution as well as plan, develop, and manage the data governance program and the business side of the DataOps continuum.

Wendy's PhD (2011) is in sociology from the National University of Ireland Maynooth (www.nuim.ie) where she was a doctoral fellow at the National Institute for Regional and Spatial Analysis (www.nuim.ie/nirsa). Her dissertation findings highlighted shifting demographics in education arenas and labor markets internationally, specific education orientations occurring across cultures, and presented thoughts on the social and spatial forces surrounding rural community viability.

A native Vermonter, she graduated from St. Michael's College in 2005 (BA, Sociology), and is a product of Harwood Union High School (class of 2001). Since leaving academia, she has focused on data architecture, data visualization, and DataOps generally. She is dedicated to creating the cultural, infrastructural, and operational conditions needed to care for and use data sustainably so as to provide value-added analyses in the public sector. She serves at AOE because she believes in harnessing science in service to the public good.

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Case Keywords

preK | universal prekindergarten | rural | low-income | policy design | administrative data | surveys | research-practice partnerships | state government agency | state legislature | external evaluator | equity | program access