Prekindergarten Education Study: Final Report

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REPORT

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Report to the House Committees on Education and on Human Services and the Senate Committees on Education and on Health and Welfare

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VERMONT
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Summary of the Study

In October, 2018, the Vermont Agency of Education (AOE), in consultation with the Agency of Human Services (AHS), contracted with Education Development Center, Inc. (EDC) to conduct a study of Prekindergarten (PreK) education in Vermont. The purpose of the PreK study, as dictated by Act 11, section E.500.7, is to provide Vermont with information regarding how to more effectively and efficiently provide PreK education. Once complete, the PreK study will address

- whether the current delivery and funding models are working effectively to provide PreK education services and, if not, the issues with the current models and recommendations to enhance the quality and effectiveness of these models;
- how Vermont families make early care and education arrangements for their children under six years of age, including what factors may constrain parental choices;
- how well the PreK system is operating to provide PreK education to all eligible Vermont children and how to provide equitable access to PreK education for children from economically deprived backgrounds;
- how to identify ways that the PreK education system may create undesirable outcomes for PreK students, their parents or guardians, or providers of PreK education services or child care services and steps to mitigate them; and
- how to simplify regulatory oversight and administration of PreK education.

Act 11 mandated that the PreK study include an interim report, to be provided to the House Committees on Education and on Human Services and the Senate Committees on Education and on Health and Welfare regarding the status of the study in March 2019. Likewise, AOE was to provide a final report to the same committees in July 2019.

Key findings

The full report details the study approach, analysis methods, and full set of findings. For ease, we provide the key findings from both qualitative and quantitative analyses together here.

Mixed Delivery

- Interview data suggests that public and private programs are generally working together effectively to share information and resources to support PreK education. While strong, cross-setting collaborative relationships appear to be common, they are not universal—systems to promote relationships between public and private programs seem to vary by region and are stronger in some locations than in others. Several programs called for greater efforts to learn from and systematically scale up some of the local innovations that have led to strong public-private partnerships.
- Qualitative findings from program interviews suggest that public PreK programs have a marked advantage in hiring AOE ECE/ECSE licensed PreK teachers. Both public and private programs perceived that public programs tend to draw higher quality teachers than do private programs, due to their ability to offer substantially higher salaries,

benefits and working conditions. In contrast, private programs struggle to attract AOE ECE/ECSE licensed educators. This finding aligns with predictions from early childhood education researchers, who have warned that, over time, such disparities in wages and environments might result in a concentration of the highest quality PreK classrooms in public schools.

- Many PreK programs emphasized the importance of aligning teacher qualifications with the financial resources and compensation available in each setting. These participants often expressed strong agreement with the idea of maintaining high standards for PreK teachers but also believed the realities of the labor market and available wages need to be considered when setting qualifications for PreK teachers.
- Data show that children enrolled in a mix of program types, supporting the mixed-delivery system of publicly-funded PreK in Vermont.
- The majority of children enrolled in 5-star programs, and over 90 percent of children enrolled in 4- or 5-star programs. This suggests that the majority of children enrolled in publicly-funded PreK are enrolled in the highest-quality programs, as rated by Vermont's quality rating system.

Funding and Contracting

- Interview data suggests that the current system of local contracting has increased administrative demands for PreK programs and their staff. The lack of universal processes and paperwork forms contributes to this burden, especially for private programs. In response to the inefficiencies created by districts' assorted paperwork requirements, many programs—both public and private—recommended Vermont develop and implement universal invoicing forms, systems for tracking attendance and payment schedules.
- Despite programs' request for greater consistency in invoicing and contracting across districts, interviewees expressed mixed opinions about the possibility of moving to state-level contracting. While many acknowledged that it would likely be less time-consuming for programs if the state managed contracting, some programs are concerned about the state's capacity to provide timely, personalized support. Interviewees suggested that any shift to state-level contracting should be accompanied by agency-level points of contact who could dedicate sufficient time to communicating with programs, checking paperwork submissions for accuracy and providing prompt response to inquiries.

Equity

- Programs identified limited transportation resources and registration requirements as possible barriers to PreK access. Some also predicted that, absent an increase in AOE licensed ECE/ECSE educators who seek work with private centers and family child care homes some private programs may not be able to offer universal PreK, thereby reducing enrollment capacity.
- Interviewees shared concerns about equitable access to universal PreK for students with special needs. While Act 166 was designed to offer parents flexibility in choosing from

among any prequalified program in the state, parents of children with special needs who want to ensure their child receives individualized education program support may be limited to their local district's program.

- Children with individualized education programs and those eligible for free or reduced-price lunch enroll in high-quality programs and public school programs at higher rates than their counterparts. This suggests that vulnerable children have access to high-quality PreK through the current system of publicly-funded PreK in Vermont.
- The majority of kindergarteners in 2017/18 enrolled in publicly-funded PreK in 2016/17 (74 percent). This suggests that Vermont's PreK system is providing early education access to most of its population of young children through Act 166.
- Kindergarten children with individualized education programs were more likely to have enrolled in publicly-funded PreK the year before kindergarten. This suggests that special education children have access to publicly-funded PreK in Vermont.
- Kindergarten children identified as English learners were less likely to have enrolled in publicly-funded PreK the year before kindergarten. This suggests that English learners may not have access to PreK at similar rates as their peers or that outreach to families of English learners could be increased to increase their PreK enrollment rates.
- Children eligible for free or reduced-price lunch had, on average, fewer prequalified PreK programs within the geographic boundaries of their supervisory union (SU). This suggests that having access to PreK programs outside of their SU may increase equity for these children.
- Children attending 3-star programs had, on average, fewer PreK programs within their SU. This suggests that children may be enrolling in lower-quality programs when higher-quality programs are not close to their homes.
- While most children were enrolled within the geographic boundaries of their SU, children with individualized education programs and those eligible for free or reduced-price lunch were more likely to do so. This suggests that these children may not or may not be able to take advantage of the portability of Act 166 to the same degree as their peers.

Regulatory Oversight and Administration

- The vast majority of public school programs have found it redundant and inefficient to ensure that their PreK programs comply with two sets of regulations—those required by the public school system and the state's Child Care Licensing Regulations. Regulatory oversight might be simplified by developing a separate set of regulations that would apply only to public PreK programs and by streamlining reporting requirements.
- Some public PreK providers expressed a need for more robust monitoring and accountability systems. These programs seemed surprised by the lack of on-the-ground accountability and recommended the state increase the rigor of oversight by incorporating site visits to prequalified programs and requiring documentation of alignment between the PreK curriculum and Vermont's Early Learning Standards (VELS). Such oversight would likely require additional state-level staff and resources to support increase monitoring capacity.

- In general, programs' suggestions regarding joint vs. single agency administration were mixed, although several public programs favored single agency administration through AOE. Among private programs, some felt it was important to retain the different perspectives and strengths that each agency brings to Act 166 implementation. Others believed the goal of simplification could best be achieved through single agency oversight, with several suggesting AHS as the lead agency.

Parent Feedback and Choice

- Parents consider many factors when choosing a PreK program for their child; factors that parents rated as most important were program safety, followed by having a warm and nurturing environment, teacher education or qualifications, curriculum, program philosophy and cost.
- The vast majority (97%) of parents reported that their child was currently attending the program that was their top choice, and on average, parents rated the process of finding a publicly-funded PreK program as easy.
- No parents indicated that their child's placement at their current PreK program was a barrier to receiving special education services; furthermore, children eligible for special education services (that is, those with individualized education programs) did not travel significantly farther to their PreK program compared to ineligible children.
- When asked what they would do if publicly-funded PreK were not available, about a third of parents reported that this would not affect their early education arrangements, another third would send their child to a different program or for fewer hours, and another third would not send their child to an early education or child care program at all. This alternative of not sending a child to any early education program was significantly more common for households with a full-time caregiver (50%), and for low- and mid-income families (48% and 41%, respectively). This suggests that for some children, access to Vermont's publicly-funded PreK is the only exposure they have to high-quality early learning environments prior to kindergarten entry and, more importantly, they may go without any early education without Act 166.
- Overall, parents reported that they had very positive feelings about Vermont's publicly-funded universal PreK system and that they were very satisfied with the quality of education that their children were receiving through their PreK program.

Study Methodology

The PreK study was conducted using a mix of qualitative and quantitative data collection and analysis approaches. Specifically, interviews were conducted with state- and program-level stakeholders and then coded and analyzed for themes. In addition, a comprehensive review was conducted to pull out relevant findings from studies conducted elsewhere related to PreK and early childhood education. Both the state-level stakeholder interviews and literature review were discussed in the interim report submitted in March 2019. A summary of the findings from the literature review is provided later in this report as well. Quantitative exploration included an online survey of families attending the PreK programs that were selected for inclusion in the

interviews and descriptive and correlational analyses conducted using secondary data provided by AOE through a data sharing agreement.

Program Interviews: Sampling and Analysis

PreK program interviews were conducted in order to examine topics related to the PreK delivery and funding models, equity, unintended undesirable outcomes, and regulatory oversight and administration. Our primary goal in sampling programs to participate in the interviews was to ensure that each county was roughly equally represented. Secondarily, we wanted to include roughly equal numbers of public and private programs and roughly equal numbers of lower-quality (rating of 3 or 4 stars in Vermont's STep Ahead Recognition System, also known as STARS) and higher-quality (rating of 5 stars) programs. Finally, we wanted to include some family programs. See Table 1 for an overview of our sampling frame and the programs sampled to participate in interviews.

Table 1. Overview of sampling frame and sample for PreK program interviews.

County	Blocking Groups				*Total Programs*	*Total Sampled*	*Total Interviewed*
	Private (*n*=221)		Public (*n*=132)				
	3/4 stars	5 stars	3/4 stars	5 stars			
Addison	5	11	4	4	24	2	2
Bennington	9	8	2	3	22	2	2
Caledonia	4	6	3	7	20	2	2
Chittenden	29	36	1	15	81	3	3
Essex	0	2	1	1	4	2	2
Franklin	5	0	8	7	20	2	1
Grand Isle	0	3	2	0	5	2	2
Lamoille	3	3	2	4	12	2	2
Orange	8	5	2	4	19	2	2
Orleans	2	6	6	3	17	2	1
Rutland	5	3	7	11	26	2	2
Washington	8	6	10	7	31	2	2
Windham	10	11	3	6	30	2	2
Windsor	12	10	6	3	31	3	3
Total Providers within Blocking Group	100	110	57	75	342		
Total Cells Selected for Random Sampling (shaded in gray)	8	8	7	7		30	
Total Interviewed	7	7	6	8			28

With a minimum goal of conducting 30 program interviews, we planned to include at least two programs from each of the 14 counties, with an additional two interviews from large counties. Within each county, we first classified each program into one of four blocking groups: private lower quality, private higher quality, public lower quality and public higher quality[1]. This resulted in a total of 56 potential cells from which to randomly sample one program (14 counties x 4 blocking groups). For each county, we selected two of the blocking groups to be represented. We selected one public blocking group and one private blocking group based on which was most representative of the private and public programs in that county or which had the greatest number of programs. From these two groups within each county, one program was selected at random to be sampled. For example, Windsor County had 12 private lower-quality programs registered, 10 private higher-quality programs, 6 public lower-quality programs, and 3 public higher-quality programs. For this county, we randomly selected a program from the private lower-quality group (because 12 > 10) and the public lower-quality group (because 6 > 3). If a county had an equal number of higher- and lower-quality programs within the private or public category, a cell was selected in order to balance the overall sample.

This resulted in a sample of two PreK programs from each county and seven PreK programs from each of the four blocking groups. To reach a total of 30 sampled PreK programs, we randomly sampled an additional private lower-quality program from Chittenden County and an additional private higher-quality program from Windsor because these were the largest unrepresented cells, with 29 and 10 programs, respectively. To conduct random sampling, we used a random number generator to sample one PreK program from each of the cells selected for random sampling (shaded in gray in table 1). This resulted in a final sample of 30 PreK programs, with a minimum of two and a maximum of three in each county, and eight private lower-quality programs, eight private higher-quality programs, seven public lower-quality programs and seven public higher-quality programs.

Finally, we checked to see if there was sufficient representation of family-based programs (representing 11% of approved PreK programs) and Head Start programs (representing 12% of approved PreK programs). Initial random sampling resulted in three family-based programs (10% of the sample) and four Head Start programs (13% of the sample). In order to represent family-based programs within the sample proportionately, we randomly switched one non-family-based program for a family-based program in the same blocking group and county. This resulted in a sample of four family-based programs out of 30 (13% of the sample) and four Head Start programs (13% of the sample).

In anticipation that some sampled programs would not be able or willing to participate, we selected two comparable PreK programs to serve as "replacements." For each sampled program in the primary sample, we selected replacements by randomly choosing among programs in the same county, with the same private/public status, the same (or closest) STep Ahead Recognition System (STARS) quality rating score, the same family-based or non-family-based status, and the same Head Start or non-Head Start status. We were able to select one replacement program for all 30 programs in the primary sample and two replacements for 27 originally sampled

programs. (We were not able to select a second replacement for both sampled programs in Essex County and one in Grand Isle County because there were too few approved PreK programs.)

We first attempted to recruit the originally sampled programs through phone and email contact. If a program declined to participate or we did not receive a response after three attempts to contact, we moved on to a replacement PreK program. Of the initial sample of 30 programs, 20 responded and participated in an interview. To compensate for non-response in the original sample, 10 additional programs were identified through two additional rounds of replacement sampling. Of these 10, eight participated in an interview, resulting in a final sample of 28 PreK programs. The sample was evenly divided between public and private programs and included at least one program from every county.

We developed semi-structured interview protocols to guide interviews with the program staff most knowledgeable of the program's PreK program. Questions were developed based on the evaluation questions, information gleaned from previous interviews with state-level stakeholders and our review of the literature. All interviews were conducted over the phone and transcribed for further analysis.

To analyze interviews, we developed qualitative analysis procedures to guide our analysis with the MAXQDA software. We created a coding scheme to capture discussion of important topics and perspectives from the interview data. The codebook contained a list of 12 codes and 32 subcodes. The codes consisted of topics such as equity and funding, experiences such as challenge and change, and power quotes to illustrate salient points or examples. Code definitions helped to support inter-coder reliability.

Parent Surveys: Sampling and Analysis

In order to understand how parents make PreK arrangements for their children, the 28 PreK programs participating in interviews were asked to distribute surveys to parents of all children receiving publicly-funded PreK services at their program. We received a total of 107 survey responses, with 99 responses representing 21 of the originally sampled programs. For two of the sampled programs, the primary contact person was responsible for overseeing multiple programs and so distributed the survey to all their programs (even those not sampled for interviews); this led to us receiving eight responses from these additional programs. We retained these responses for analyses with the assumption that the program characteristics of the additional programs were very similar to those of the originally sampled programs. Parents were given the option to respond to an online survey or fill out a paper-and-pencil survey with a postage-paid envelope; 87% of the 107 survey respondents completed the online version of the survey.

Responses represented a range of PreK program types (see Table 2). Although we intentionally sampled a number of family child care programs for interviews that was proportionate to the number of family programs in the state (approximately 11%), only 4% of the parent survey responses represented these programs. Descriptive statistics (frequencies, means) were

conducted on the survey items most relevant to how parents made choices about the PreK program in which they enrolled their child.

Table 2. Percent of survey respondents with children enrolled in each program type.

Program Characteristic	Percent of Survey Respondents
Public	51%
Private	49%
Head Start	27%
Family child care home	4%
3 stars	4%
4 stars	42%
5 stars	54%

Secondary Data Analysis: Sample and Analysis

EDC conducted descriptive (frequencies, cross-tabulations, means) and correlational (logistic regression and multilevel regression) analyses using child-level data provided by AOE for children enrolled in PreK and kindergarten in the 2017/18 school year. (Similar analyses using 2016/17 school year data were already conducted by the Regional Educational Laboratory Northeast and Islands and presented to the House and Senate Education Committees in April 2019; published report forthcoming) Frequencies and cross-tabulations were also conducted for PreK program-level data provided by AOE for the 2016/17 and 2017/18 school years. The PreK program data provided for the 2017/18 school year differed across a couple of different data pulls; to ensure consistency, the EDC team used the PreK program data provided in February 2019 and only included programs in the summary of program characteristics if the data file identified the program as prequalified.

Analyses were conducted with the aim of addressing six key research questions:

1. In kindergarten, do children who attended publicly-funded PreK differ systematically from those who did not attend Vermont's publicly-funded PreK?
2. What does the landscape of prequalified PreK programs look like across the state? By region and supervisory union; 3-, 4- and 5-star PreK programs; and public and private programs?
3. What are the geographic characteristics of PreK programs in which children are enrolled, including: (a) What is the average number of prequalified programs in a child's supervisory union of residence? What percentage of the children in the sample do not have a prequalified program in their supervisory union of residence? And, (b) What are the percentages of children who are attending programs outside the geographic boundaries of their supervisory union compared to inside the boundaries of their supervisory union?
4. What are the characteristics of children enrolled in public vs. private programs and those enrolled in PreK programs with a STARS quality rating level of 3-, 4- or 5-stars?

5. Which child characteristics are associated with the likelihood that a child is enrolled in different program types, including: (a) a public vs. private PreK program; (b) a PreK program within their supervisory union (SU) of residence vs. outside their SU of residence; and (c) a PreK program that is rated at 3 or 4 stars vs. a 5-star PreK program?
6. Do Teaching Strategies GOLD (TS GOLD) assessment scores vary by PreK program characteristic (that is, public vs. private; 3-, 4- or 5-star rating; or within supervisory union of residence vs. outside supervisory union of residence), controlling for child characteristics?

Research question 1 was addressed using logistic regression to examine the likelihood, for kindergarteners in the 2017/18 school year, of having enrolled in publicly-funded PreK in 2016/17 depending on different child characteristics. The model controlled for a child's age in kindergarten, sex, race, individualized education program status and free or reduced-price lunch eligibility status. Research questions 2 to 4 were addressed using descriptive analyses (frequencies, cross-tabulations, means). To address research question 5 and understand whether the likelihood of a child enrolling in PreK programs of different types, locations and quality ratings was associated with different child characteristics, logistic regressions were conducted. Specifically, three logistic regression models were run controlling for child age, sex, race, individualized education program status and free or reduced-price lunch eligibility status. Research question 6 was addressed using a hierarchical linear model that clustered children within their PreK program of enrollment and controlled for child age, sex, race, individualized education program status and free or reduced-price lunch eligibility status.

The sample for this study includes 6,775 children who were residents of Vermont and enrolled in 342 state prequalified PreK programs in the 2017/18 school year. PreK children were excluded from the sample if AOE could not match them to the PreK program in which they were enrolled or to their district of residence through the online assessment system. In the sample, 53 percent of the children were male; 32 percent were eligible for free or reduced-price lunch; 90 percent were White; and as of September 1, 2017, 45 percent of the children were 3-year-olds, 53 percent were 4-year-olds and 2 percent were 5-year-olds. Additionally, less than 1 percent were two years old and a handful of children were six years old (due to the small number of 6-year-olds, they were grouped with 5-year-olds in Table 3 below).

Table 3. Statistical analysis sample, 2017/18.

Child Characteristics	*N*	%
Age as of 9/1/2017:		
2 years	38	0.6
3 years	3,027	44.7
4 years	3,602	53.2
5+ years	108	1.5
Boys	3,610	53.3

Girls	3,165	46.7
White	6,123	90.4
Non-white	652	9.6
Not eligible for free or reduced-price lunch	4,644	68.5
Eligible for free or reduced-price lunch	2,131	31.5
No individualized education program	5,812	85.8
Individualized education program	963	14.2
Total	6,775	100.0

Study Findings

Mixed Delivery

Cross-sector collaboration

Interviews with public and private programs generally suggested that many PreK programs are working together effectively across settings to share information and resources to support PreK education. Several of the programs we spoke with confirmed that they interact with partner programs by attending joint professional development meetings, sharing student data or coordinating resources for students with special needs. In many cases, public districts initiated and led these efforts, with the goal of providing support for private partner programs and successful transitions to kindergarten. One public program, however, provided an example of a private PreK program taking the lead on professional development, with staff at the private center developing and leading shared professional development sessions for PreK staff.

Other notable examples of strong collaborative relationships between public and private programs include the following:

Same Page Initiative. A teacher at a private PreK program praised this local program, which provides opportunities for PreK teachers to observe kindergarten classrooms and vice versa—kindergarten teachers observe PreK classrooms. The teacher commended the initiative for encouraging teachers to communicate, share resources and develop a shared understanding of the experience of teaching PreK vs. kindergarten. She remarked that the program, "…just builds this connection between the kindergarten teachers and the PreK teachers, and it has been amazing."

Unqualified Partnership Agreements. In at least one region of Vermont, districts and unqualified private programs can enter into a contract in which the district supports the private program in meeting the teacher qualifications required to offer universal PreK. In practice, such contracts enable AOE ECE/ECSE licensed educators employed by the district to fulfill Act 166's requirement that an AOE ECE/ECSE licensed educator be present during the private program's PreK hours. The PreK teachers who discussed this model described it as "critical" for building capacity in the region and ensuring access for all 3- and-4--year-olds by enabling more programs to participate in Act 166. Further,

interviewees pointed out that this system offers the advantage of allowing non-public programs that lose their AOE ECE/ECSE licensed educator partway through the school year to continue offering PreK by relying on the district's mentor teachers.

Targeted student supports. Although not an official initiative, multiple programs described working together across settings to assess students' needs and provide appropriate supports. For example, one public school provided coaching for private PreK programs to promote positive student behavior. Staff from another public program described conducting observations and screenings of PreK students in private settings to identify students who may need additional support.

Private PreK programs also discussed the valuable role of regional PreK coordinators in promoting cross-sector communication. Regional coordinators—typically employed by public school districts or supervisory unions—serve as a resource for both public and private PreK programs. Comments from private programs suggest that the coordinators serve as an important source of information and guidance. Several private programs mentioned that regional PreK coordinators are the first person they turn to with questions about Act 166 or universal PreK. Interviewees spoke highly of their interactions with regional coordinators, describing them as "very supportive," "well versed on everything, and "super helpful and resourceful." One participant went on describe regional coordinators as similar to an "advocate" for early education who helps ensure that important PreK topics don't end up on the "back burner."

The above examples indicate that structures and initiatives to promote collaboration between public and private PreK programs exist in many parts of Vermont. They are not, however, universally implemented across the state. In other words, systems to promote cross-sector relationships seem to vary by region and are stronger in some locations than in others. For example, a couple of private programs said they did not have any interaction with a regional PreK coordinator, including one participant who wasn't aware such a role existed. Further, public programs varied in the support they provide to private programs. Levels of interaction ranged from almost none to public schools that provide private programs with an AOE ECE/ECSE licensed educator if needed. This finding aligns with information from state-level stakeholder interviews, in which some stakeholders called for greater efforts to learn from and systematically scale up some of the local innovations that have led to strong public-private partnerships. Overall, interview findings suggest that the nature and quality of interactions between public and private programs depends to some extent on public districts' decisions to deploy resources and staff to support private PreK programs. While we did not probe in-depth into the reasons for such variation, influential factors may include availability of funding, geography/program proximity or districts' focus on promoting a smooth transition to kindergarten. For instance, one public program whose district offers behavior-related coaching to private programs explained that "it's an important link to make with our community" because many off-site PreK students will eventually become within-district kindergarten students.

While both public and private programs tended to speak positively of their cross-sector interactions with other PreK programs, a small number of interviews surfaced concerns about the current mixed-delivery model. In particular, registered family child care home programs expressed apprehension that they would be excluded from the delivery model in favor of public programs, either by law or through competition. One interviewee worried that private programs, which only receive state-funded tuition payments for 10 weekly hours of PreK, would not be able to compete with an increasing number of public programs that offer more than 10 hours of PreK per week at no extra charge. These programs discussed their support for maintaining choice in the universal PreK program, in which families can select a program that best meets their needs. As one family child care home provider said, "…families need choices and it needs to [fit] with their life and their lifestyle and their philosophy. It shouldn't be so stringent that PreK is the same thing everywhere." State-level stakeholders tended to agree with this sentiment, with many interviewees noting that the mixed-delivery model allows for parent choice, which enables children to attend programs best suited to their needs and that reduce the number of transitions children and families must manage in a single day.

On the other hand, a few public programs did not always express confidence in private PreK programs. Such comments match those made by state-level stakeholders, who mentioned that pockets of cross-sector criticism and mistrust exist, including among those who prefer that public PreK funds be available to public programs only. Interviewees cited concerns about quality in partner programs, which they attributed to different sets of standards for private programs and a perceived lack of support staff in centers who can support private PreK teachers with curriculum, instruction and assessment. One public program shared the perspective that PreK should primarily be delivered through the public schools, similar to K–12 education:

> *I would say that if public schools are offering the 10-hour week….then PreK should not be privatized… If the public schools are providing that education, then the money, that should be the option for the parents… I'm not for privatizing education so I wouldn't be for privatizing preschool any more than any other grade.*

Teacher compensation by setting

In the interim report, we noted that early childhood education researchers have cautioned against mixed-delivery systems in which there are significant compensation differences by setting:

> "In particular, early childhood education experts have warned about the implications of disparities in salary and benefits between public school educators and private school educators (Ackerman et al., 2009; Barnett & Kasmin, 2017; Chaudry, 2017; Phillips, Austin, & Whitebook, 2016). PreK teachers who work for public schools typically receive substantially higher salaries and better benefits than PreK teachers who work for private

centers. In theory, this puts public schools in a better position to attract and retain the best and most experienced teachers… (Ackerman et al., 2009; Chaudry, 2017)."

Findings from interviews suggest that Vermont is not immune to this problem. Almost every private PreK program said they struggle to hire and retain an AOE licensed early childhood educator with the appropriate credentials, or early childhood special educator, to meet the prequalification standards of being present in the facility for 10 hours a week in private centers or 3 hours of mentoring per week in family child care homes. Interviewees attributed the challenge of finding an AOE ECE/ECSE licensed educator to a combination of fewer individuals entering the field of early childhood education and the typically lower levels of compensation available for teachers in private settings. Programs explained that, as a result, AOE ECE/ECSE licensed educators prefer to work in the public schools where they usually receive a higher salary and better benefits. Other factors, such as shorter workdays, dedicated planning time and reduced summer obligations, also make public settings more attractive workplaces than many private centers. Consequently, many private PreK programs find their AOE ECE/ECSE licensed educators leaving for public school positions as soon as possible, resulting in turnover and the need to repeat the hiring process. Those in rural or geographically isolated areas suggested that their location compounds the challenge of finding AOE ECE/ECSE licensed educators, due to fewer candidates who live locally or are willing to commute long distances.

Notably, several public programs acknowledged that public PreK programs tend to have the upper hand when it comes to hiring and retaining AOE ECE/ECSE licensed educators. These interviewees suspected that their ability to offer higher levels of compensation allows them to attract the most qualified PreK teachers, to the possible detriment of private programs. In general, public programs did not report challenges with recruiting or retaining PreK teachers.

Interview data suggested that some Registered Family Child Care Homes also have encountered challenges in hiring an AOE ECE/ECSE licensed educator to meet the prequalification requirement of three weekly hours of "hands-on active training and supervision" (Vermont Agency of Education & Vermont Agency of Human Services, 2018). We spoke with one family home provider who had to end participation in Act 166 because the program was unable to find an AOE ECE/ECSE licensed educator to replace its outgoing mentor. Like some private centers, this provider explained that it can be especially difficult for programs in rural or remote locations to hire an AOE ECE/ECSE licensed educator. Another family home provider described the search to hire an AOE ECE/ECSE licensed mentor teacher as "a nightmare" in which there were limited resources to support programs in identifying and contacting licensed teachers. For example, this interviewee said she was unaware of any type of clearinghouse or official list of those willing to work as a mentor and instead had to rely on personal networks. Further, the challenge of finding a mentor teacher can lead family home programs to hire the first person available, even if the mentor doesn't seem like a strong fit for the program's philosophy. See Box 1 for a summary of program perspectives on the effect of compensation disparity on hiring and retaining licensed PreK teachers.

For many programs in both public and private settings, the unique context and compensation levels in each type of PreK setting emerged as a key consideration in their assessment of Act 166's teacher standards. We asked programs if they believed the current standards for prequalification are appropriate and whether the standards should be permitted to vary by setting. In response, several interviewees from both public and private programs underscored the importance of applying standards that match the financial resources available in each setting. These participants often expressed strong agreement with the idea of maintaining high standards for PreK teachers but also believed the realities of the labor market and available wages need to be taken into account. In particular, some PreK programs predicted that many family home programs would no longer be able to maintain voluntary[1] participation in universal PreK—or even risk going out of business—if they were required to have an AOE EC/ECSE licensed educator on staff for 10 hours per week. In contrast, very few state-level stakeholders discussed compensation disparity as a factor to consider when determining teacher standards.

[1] Note that participation in Act 166 Universal PreKindergarten is voluntary, not mandatory, for private programs.

Box. 1. Program Perspectives: The effect of compensation disparity on hiring and retaining licensed PreK teachers

Private PreK Programs

- *That has been exponentially difficult to find qualified candidates in our area…. It's not very often that you do find someone with a bachelor's degree in the early childhood field or child development realm that is living within this area that would be interested in teaching preschool, especially for the pay that is offered on top of having a whole college degree that comes along with those student loans.*
- *What I'm finding is that when people are qualified, they're holding out for the school position. And, honestly, the best ones go to the schools. So, I do think that the quality that is left is not as good. I mean, they're still good, and they're still qualified. But, they're usually more inexperienced or they're on a provisional [license]….So it is a constant challenge.*
- *We did just get a second licensed teacher, but she was very clear. She's here but she's not planning on staying here because it's child care and we can't pay enough to have real licensed teachers on staff.*
- *What we're seeing is that the licensed teachers are leaving for jobs in the public schools where they can make even more… it has been challenging to find licensed teachers.*
- *Part of the problem is that while we're expecting teachers to be licensed, the pay scale is not commensurate with those expectations like it is in the public schools.*

Public PreK Programs

- *If I can go to the school district and start out at, let's just say, $45,000 or something as a first-year teacher, but I'm going to go and work at a local sort of child care, preschool program and make $12 an hour, let's say, that is a huge income disparity, so you're going to get those quality people at the higher paying job.*
- *Working in a public school is more desirable than working in a center. I worked at a center before. That's the problem, is that it's completely different worlds for a licensed teacher to work in the center and to work in a public school. It's much more desirable to be here in a public school.*
- *Public PreK programs have become really attractive, and I think we are destroying the applicant pools in private PreK programs. Because we have more resources, we put them right on the teacher's salary, we pay more.*
- *We collect the most qualified teachers in our region and oftentimes away from the private centers…. The pay differential in a public school means they're going to come to us if given the opportunity.*
- *So, it's hard for some [private PreK] programs to really be sustainable because you train a teacher and then they take all the resources of the training that you've given them and they might end up in a public school.*

In addition to discussing economic considerations, some programs, like some state-level stakeholders, expressed skepticism of the claim that a licensed teacher is essential to ensuring a high-quality PreK classroom. While this opinion was somewhat more prevalent among private programs, a few public programs agreed that PreK programs can provide children appropriate learning experiences even without a licensed teacher. Many of these interviewees shared examples of non-licensed employees or colleagues whose early childhood teaching practices, in their estimation, met or even exceeded those of licensed peers. Some felt that a teacher's ability to implement developmentally appropriate practices depended more on years of experience in the field or early childhood education (ECE)-specific training, rather than attainment of a bachelor's degree. Others pointed out that the specific courses required for AOE ECE/ECSE licensure in early childhood education don't always translate to improved classroom teaching at the PreK level. For example, ECE/ECSE licensure might require course work that is useful for teaching second or third grade, but that doesn't readily apply to PreK classrooms. As such, programs said that even ECE-licensed teachers can be unprepared for PreK if they attended teacher preparation programs that emphasized instruction for higher grade levels. Program perspectives on teacher licensure included the following examples:

> *I have been in some programs in [the county] where I live where, even some home programs, where the educators are not educated maybe in that field, maybe they have a different degree, or they don't have a degree at all, and they're still really great programs. They're still producing programs that are high quality and interactive and stimulating for preschoolers.. – Public PreK program*

Finally, several interviewees from both public and private programs suggested that Act 166's PreK standards should be the same across all types of settings. Such comments mirrored those we heard from several state-level stakeholders, who were concerned that variation in teacher standards across settings could lead to inequitable experiences for PreK students. Interviewees who shared this viewpoint believed that maintaining consistent teacher standards would ensure similar levels of quality regardless of the type of program. Some felt that they expenditure of public funds through Act 166 requires the state to apply the same standards to ensure that taxpayer money isn't being spent to support ineffective programs. The most common concern about consistent teacher standards involved the requirements for private centers, which require that an AOE ECE/ECSE licensed educator only be "physically present on site" as opposed to leading classroom instruction during the 10 hours of PreK (Vermont Agency of Education, 2019). These interviewees believed it was important for the AOE ECE/ECSE licensed educator to be providing direct instruction. Some were particularly troubled by large private centers, which might have only one AOE ECE/ECSE licensed educator on site for multiple PreK classrooms. Providers questioned how much support and guidance the AOE ECE/ECSE licensed educator could offer if they had to shift focus between four or five different classrooms within a 10-hour timeframe. To prevent such situations, one interviewee suggested the state offer financial incentives for private centers that maintain a low AOE ECE/ECSE licensed-educator-to-PreK-child ratio.

Funding and Contracting

Local contracting

Under Act 166, private PreK programs receive tuition payments for PreK children directly from the public school districts in order to offset tuition for families. Private programs send invoices and attendance records to their partner districts on a regular schedule (e.g., monthly, quarterly), while public schools are responsible for distributing state-funded tuition payments for each child residing in the district who opts to enroll at a private PreK program. Interview data suggests that this system of local contracting has increased administrative demands for preK programs and their staff.

In interviews, we asked programs in what ways they are involved with the administration of PreK funding. Generally, public programs described having departments or offices that oversee invoicing. Public school interviewees who are directly involved with PreK funding described the process as "very time intensive for the school districts" and "a lot of work" for the staff involved with payments and contracting.

Private PreK programs also discussed the administrative burden of complying with the different invoicing and attendance processes used by different districts. As explained by interviewees, partner districts tend to vary in invoicing paperwork, tuition payment schedules, systems for tracking attendance and registration processes. Private programs that partner with multiple districts (as did almost all in our interview sample, including one that contracts with seven districts) found it time-consuming to "jump back and forth" between each district's unique processes and paperwork.

> *But there's no universal invoice that's used…. The other thing with invoicing is that [the public schools] are all on different time schedules. So, some of them will do four times a year. Some of them do three times a year…. [I]f it was more universal, I think it would be easier for everybody to understand, and it wouldn't be a different method for a different school district like it is with me. So, I have to get to know how each of them do it…. And every school district has their own, you know, some of it I send to the PreK coordinators. Some of it I send to a school secretary. Some I have to send directly to the accountant. So, it depends on what their system is. I never assume anything now. When I develop a new relationship, I'm like, "Okay. These are the questions that I ask you. Who do I need to send it to every month? Do you want it monthly? Do you want it weekly? What do you want?"…. Everything is very, very different.*

In response to the inefficiencies created by districts' assorted paperwork requirements, many programs—both public and private—recommended Vermont develop and implement universal invoicing forms, systems for tracking attendance and payment schedules. Several private programs also expressed frustration with the need to re-document a child's eligibility for PreK when a PreK child moves between districts. These programs also recommended the development of a state-level database in which PreK children's state residency status could be confirmed, alleviating the need for PreK children enrolled in private centers to re-register upon moving to a new district within the state. A few counties and supervisory unions have recognized the complications caused by variation in contracting across districts and have taken initiative to implement systems to promote greater consistency. In one county, for example, an

interviewee described how public and private programs came together to develop a common agreement with payment dates and requirements of the collaborative agreement. They went on to explain, "They've developed Google folders where people can drop in required information so that they're not sending it to multiple districts; we can all access the same thing."

State-level contracting

Despite programs' request for greater consistency in invoicing and contracting across districts, interviewees expressed mixed opinions about the possibility of moving to state-level contracting. This is somewhat in contrast to findings from interviews with state-level stakeholders, in which several participants recommended that Vermont centralize contracting and payments at the state level. Many private programs acknowledged that it would be more efficient to submit one invoice and attendance record per billing cycle instead of several. Likewise, public programs that oversee PreK funding said it would free up time to have the state manage contracting. However, programs that have established strong lines of communication with their partner districts were concerned about the state's capacity to provide the same level of personalized support and responsiveness to questions as staff in partner districts[2]. These interviewees stressed that any shift to state-level contracting should be accompanied by agency-level points of contact who could dedicate sufficient time to communicating with programs, checking paperwork submissions for accuracy and providing prompt response to inquiries. Some programs also worried that opportunities to strengthen cross-sector relationships, such as joint professional development, might become less frequent under state-level contracting. Examples of programs' perspectives on state-level contracting include:

> *That depends how [the state] sets it up…. It would depend on how they process all the data, how frequently they made the payments, how they reconciled any differences as kids came and left programs, and how they were able to keep up with that information. School districts have been really helpful [with contracting], because we're dealing with a smaller community; whereas, they would be dealing with everyone. I don't know if they would be able to answer all of our questions. – Private PreK program*

> *In terms of if the funding went statewide, I think our partners would suffer because when there's a problem, they wouldn't have a direct line to fix it… We also give them preventative technical support and make sure that we're double checking their work. We use that as our lens to make sure that our children who have attendance issues starting in PreK go through the… process and*

[2] Note that public and private preK programs are permitted to engage in cross-sector support and collaboration, even if they do not maintain contractual agreements involving the PreK funding/tuition payments.

get support, so we would kind of lose that lens. So I think it would be, as much as it's a lot of work, it benefits the children and the partners to have the local billing. – Public PreK program

Echoing these comments, most private PreK programs said they have had a positive experience interacting with public school districts to receive PreK tuition payments. Private providers used phrases such as "very supportive", "really great to work with" and "a great resource" when talking about the process of contracting with partner public schools. A couple programs, however, reported that they do not always receive consistent, timely payments from at least one of their partner districts. One program said "it's like pulling teeth to actually get payment [from some districts]," while another said her program never knows when tuition payments will arrive from a particular district.

Competition for funding

Finally, analyses of interview data indicated that some providers perceive a sense of competition for PreK students and the funds that accompany their enrollment. In some cases, this has had the positive effect of motivating providers to improve their programs. For example, one public program decided to offer a full-day program in an effort to increase enrollment. At the same time, a few public programs implied that it would be financially detrimental if too many within-district children attended out-of-district programs. For example, one public school program explained, "Our budget is super small, and if we are sending many $3,000 checks to other agencies, that could potentially be a good-sized liability for us." Another public program shared the perception that, "In addition to funding [our own PreK programs], we then have to take some of the [average daily membership] (ADM) money and send it to private programs." In general, these public programs conveyed the sense that PreK tuition payments amounted to giving the district's money away to other non-district programs. While this may not accurately reflect the way the funding formula works, it is a perception held by some.

Parent choice

Sample descriptives

The vast majority of parent survey respondents were mothers (84.5%), with the rest of the respondents including some fathers (12.6%), some grandparents (1.9%) and 1 "other guardian." For the purposes of this report, we will refer to all respondents as parents. The majority of parents had only one child participating in universal PreK (88.5%), while 11.5% had two or more children participating; for the sake of consistency, parents were asked to refer to their oldest participating child as they responded to questions.

At the time of survey administration, children of participating parents ranged in age from approximately 41 months (3 years, 5 months) to 70 months (5 years, 10 months), with an average approximate age of 56 months (4 years, 8 months; standard deviation (SD) = 7.4). Children of participating parents attended the PreK program for a range of hours per week, from 9 to 43, with an average of 21.7 hours (SD = 11.3). Twenty-four percent of children also attended another early education or child care program for 1 to 40 hours (mean = 17.5, SD = 12.1).

Demographic information for parents participating in the survey is presented in Table 4 below. Participating parents represented a range of income levels and education levels. The majority of parents represented two-parent households. In the vast majority of households, at least one parent was full- or part-time employed, or currently seeking work (96%). In a sizeable minority of households (22%) one parent was a full-time caregiver. The vast majority of parents reported being White, non-Hispanic (97%). This is fairly consistent with recent census data, which indicates that 93% of Vermont residents are White, Non-Hispanic (U.S. Census Bureau, 2017). All families reported speaking English in the home, while a small percentage spoke some Spanish or other languages as well (including American Sign Language).

Table 4. Demographics of Parent Survey Respondents.

Parent Characteristics	%
Income	
$0-45,000	31
$45,000-90,000	35
$90,000+	34
Highest Parental Education	
Graduate or professional degree	32
Bachelor's degree	27
Associate degree	5
Some college credit but no degree	13
High school diploma or GED	18
Some high school but no diploma	4
Marital Status	
Married or partnered	74
Single	17
Separated, divorced or widowed	9
Employment	
At least one parent employed/seeking work	96
Full-time caregiver in household	22
No full-time caregiver in household	78
Race/ethnicity	
White, Non-Hispanic	97
White, Hispanic	2
More than one race, Non-Hispanic	1
Languages Spoken in the Home	
English	100
Spanish	2
Other	2

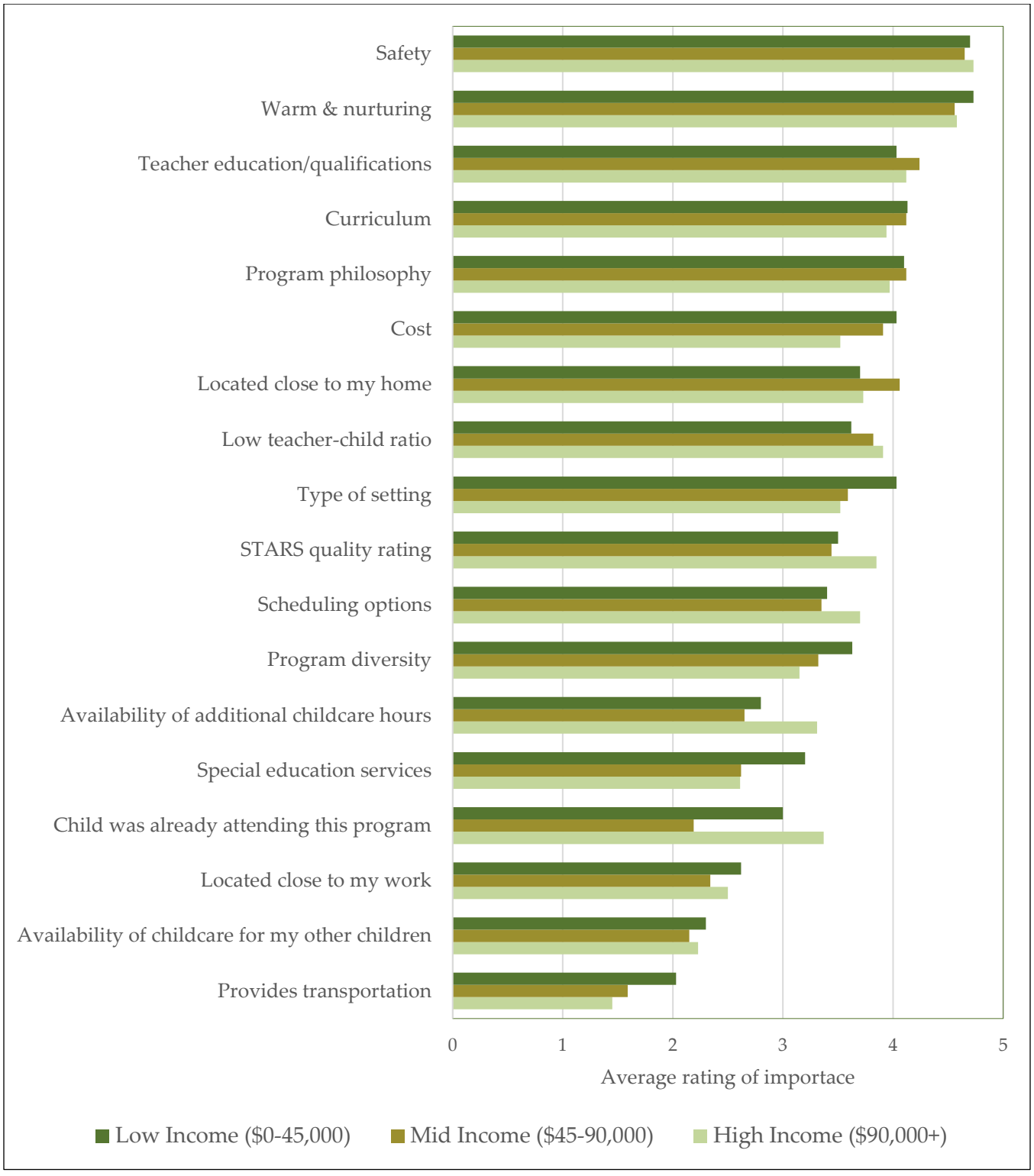
Program choice

To understand the various factors that parents consider when choosing a publicly-funded PreK program for their child, we asked parents to rate a list of possible factors on a scale of 1 to 5,

with 1 meaning "not at all important" and 5 meaning "extremely important", based on how important each one was in their decision on their child's current program. Average ratings for each factor are displayed in the graph below. Overall, results indicate that parents substantially consider many factors when choosing a PreK program. Twelve out of 18 factors were rated, on average, as being "moderately important", "very important" or "extremely important". Across parents, factors that were rated as most important were program safety, followed by having a warm and nurturing environment, teacher education or qualifications, curriculum, program philosophy and cost. Average parent ratings for low- ($0-45,000), mid- ($45,000-90,000) and high-income ($90,000+) households are presented below (Figure 1). Parents also wrote in additional considerations not included in the survey, such as provision of food or a nutrition program, provision of safe outdoor time, provision of enrichment activities (e.g. gardening, music and arts) and being located in the local elementary school where siblings attend and the child will later attend. The factor that was rated, on average, as being least important was provision of transportation. This is likely no highly considered as a distinguishing factor as parents chose a program because few programs provide this service; only 7% of parents reported that their child rode a school bus to and/or from their PreK program.

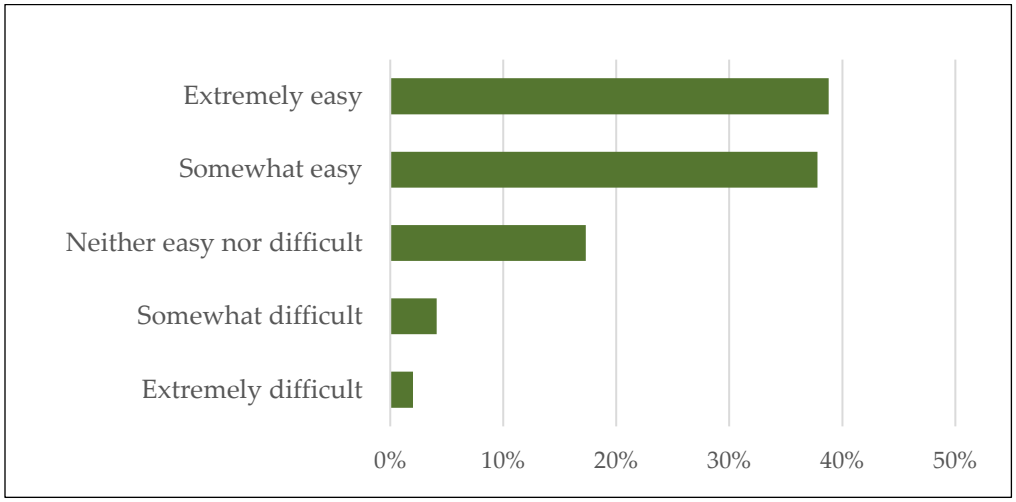
Parents reported that they heard about publicly-funded PreK in a variety of ways: 35% from their local school or district, 26% from friends or family, 26% from their child's current program, 6% from the AOE or AHS websites, 3% from a media article and 3% from other sources. When choosing a program, most parents reported that they did not consider many programs before making their choice. The majority of parents (61%) considered only their child's current program or one other program, 34% considered 2 to 3 other programs, and only 5% considered 4 or more programs. The overwhelming majority (97%) reported that their child was currently attending the program that was their top choice. For the few parents whose children were not attending their top choice, they reported that their preferred options had better teacher qualifications, curriculum, or program philosophy, but explained that they chose their current program because of lower cost, closer distance to home and greater opportunities for socialization. However, because only three parents reported their children were not attending their top choice, these responses may not be representative.

Figure 1. Responses from parent survey item "What did you consider when selecting a publicly-funded PreK program for your child?"



Overall, parents reported that their search for a publicly-funded PreK program was easy. The majority of parents reported that it was either "somewhat easy" or "extremely easy" (77%), and only 6% reported that it was "somewhat difficult" or "extremely difficult" (Figure 2).

Figure 2. Parent Ease of Finding a Publicly-Funded PreK Program.



Although parents, on average, considered a PreK program's distance from their home to be a relatively important factor in choosing a program (between "moderately important" and "extremely important" for 88%), parents reported a range of distances from their home to their child's PreK program. The majority (62%) said their child travels 0 to 5 miles from home; 25% travel 5.5 to 10 miles from home, 9% travel 10.5 to 20 miles from home, and 4% travel more than 20 miles from home.

Twenty-nine percent of parents reported that their child was eligible for special education services. Among these parents with eligible children, 62% were receiving special education services at their current PreK program and 39% were not. In other words, 29% of the overall sample was eligible for special education services and 16.5% of the overall sample were actually receiving these services. For eligible children not receiving services (12.4% of the overall sample), parents were asked to explain why; the majority indicated that their child did not need special education services at this time. No parents indicated that their child's placement at their current PreK program was a barrier to receiving special education services. Among survey respondents, exactly half of the children eligible for special education services attend public programs and half attend private programs. Analysis of variance (ANOVA) indicated that parents with children eligible for special education services do not travel significantly farther to their child's PreK program (for children eligible for special education services, mean = 7.8 miles, SD = 10.7; for children not eligible, mean = 5.9 miles, SD = 6.1; $F(1,93) = 1.15$, $p = .286$).

In order to understand how the universal PreK program affects parents' choices related to early childhood education and care, we asked parents to imagine that Vermont did not provide publicly-funded PreK this year and consider how that would have changed their decisions. Parents reported a range of responses. While a sizeable group reported that this would not affect their choice of early education program or the number of hours their child attends (30%), an even larger group reported that they would not have sent their child to an early education or child care program at all (34%) if the state was not providing publicly-funded PreK. Some parents also said they would have sent their child to a different program (16%) or to the same program for fewer hours (13%). A handful of parents wrote in other scenarios (7%), including they would have made sacrifices to their careers in order to stay home, potentially not been able to find an affordable program, relied on family for child care needs or homeschooled.

Parents' responses to what they would have done without publicly=funded PreK varied notably based on factors related to employment and income. Specifically, we examined these responses across households with and without a full-time caregiver present and across households with low ($0–45,000), mid ($45,000–90,000) and high ($90,000+) income (Figures 3, 4, and 5). Fifty percent of parents in households with a full-time caregiver reported that they would not have sent their child to an early education or child care program without publicly-funded PreK, compared to 30% of parents in households without a full-time caregiver (marginally significant difference, chi-square = 3.09, p = .079). Both mid-income and low-income parents were significantly more likely than high-income parents to indicate that they would not have sent their child to an early education or child care program without public funding (Mid vs. High, chi-square = 5.27, p = .022; Low vs. High, chi-square = 7.97, p = .005). There was no statistically significant difference between mid- and low-income parents in this choice.

Figure 3. Overall parent responses "What would you have done without publicly-funded PreK?"

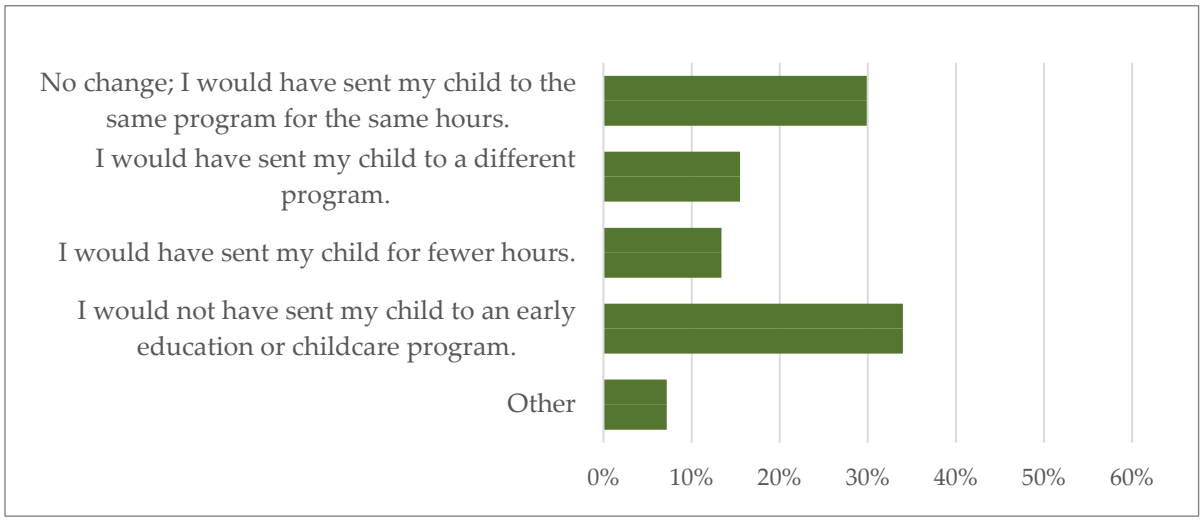


Figure 4. Parent responses to "What would you have done without publicly-funded PreK?" by whether there was a full-time caregiver in their household.

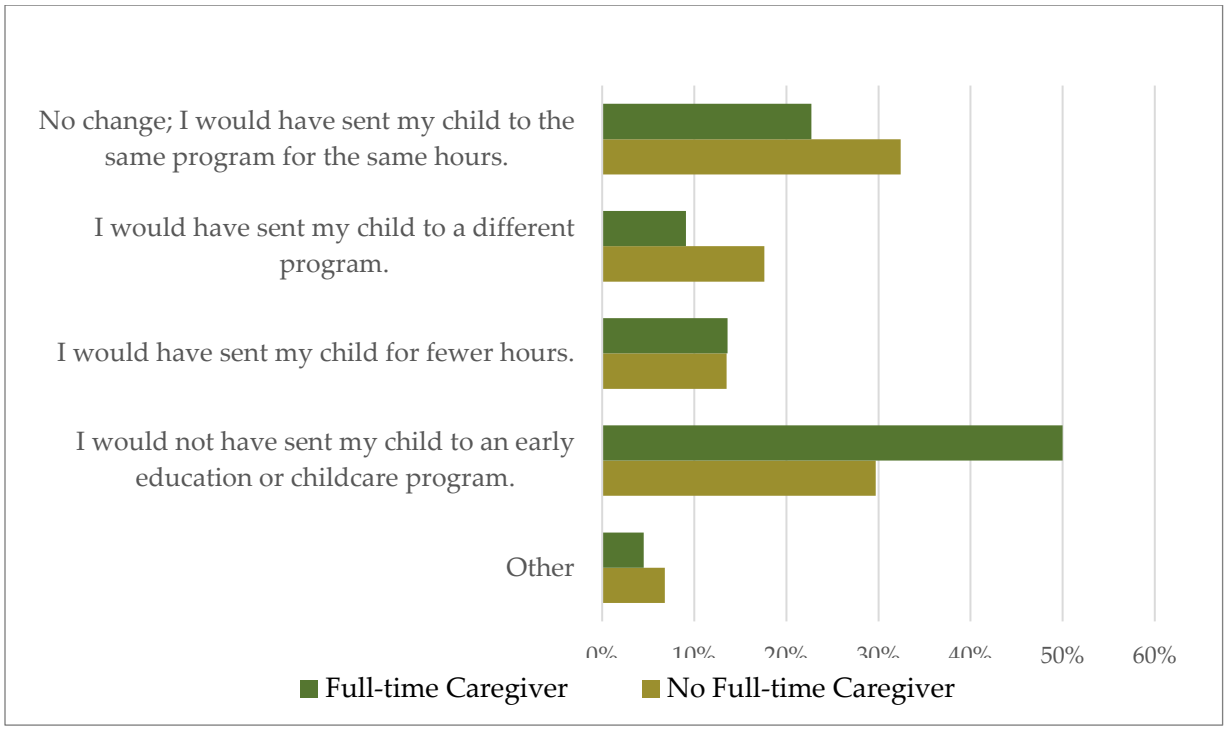
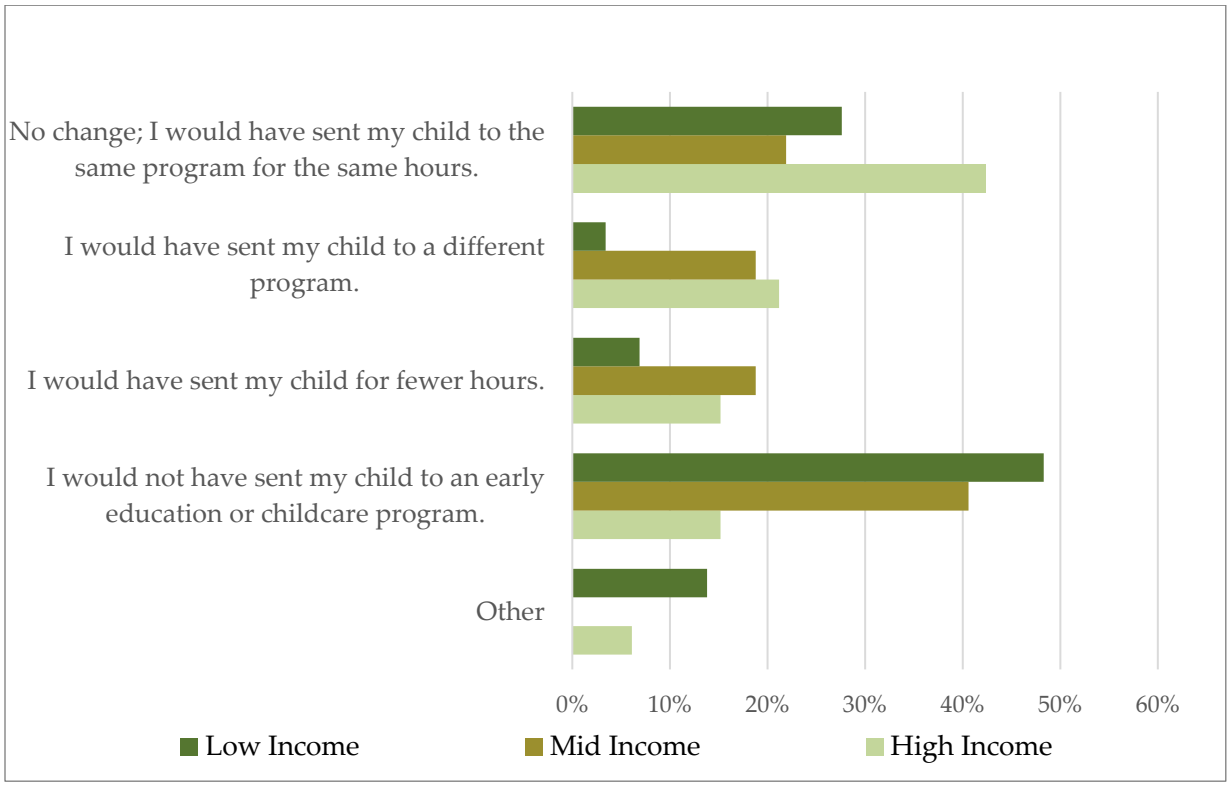


Figure 5. Parent responses to "What would you have done without publicly-funded PreK?" by household income.



Overall, parents reported very positive feelings about Vermont's publicly-funded universal PreK system, with 81% reporting that they felt "very positive", 11% "somewhat positive", 6% "neutral" and only 1% "somewhat negative" and 1% "very negative". Parents were also very

satisfied with the quality of education that their children were receiving through their PreK program, with 91% reporting "very satisfied", 7% reporting "somewhat satisfied" and only 1% reporting somewhat dissatisfied and 1% reporting "very dissatisfied". These ratings did not differ based on the program's type (public or private), the program's STARS rating, or the parents' household income.

Equity

Statistical analysis findings

The descriptive and correlational analyses of secondary data provided by AOE were conducted in order to understand the enrollment patterns of children in publicly-funded PreK in Vermont. Arguably, understanding enrollment patterns is a first step in gaining an understanding of the degree to which the universal PreK program is reaching all of Vermont's children equitably; though, of course, it does not tell the entire story. Below, we highlight the key findings from analyses conducted to address the six research questions described earlier in the report. Because there were so few private family-based programs, they were combined with private center-based programs for all statistical analyses, except where otherwise noted.

1. In kindergarten, do children who attended publicly-funded PreK differ systematically from those who did not attend Vermont's publicly-funded PreK?

Overall, we found that 74 percent of the 5,744 kindergartners in the 2017/18 school year attended publicly-funded PreK in 2016/17. While most subgroups of kindergartners seemed to have similar rates of enrollment in PreK in 2016/17 (see Figure 6), logistic regression analyses indicated that children who had an individualized education program in kindergarten (e.g., identified as needing special education services) were statistically significantly ***more*** likely to have attend publicly-funded PreK in 2016/17 (83 percent). Conversely, children who were identified as English learners in kindergarten were statistically significantly ***less*** likely to have attend publicly-funded PreK in 2016/17 (67 percent).

Figure 6. Percentage of 2017/18 kindergartners who attended publicly-funded prekindergarten in 2016/17.

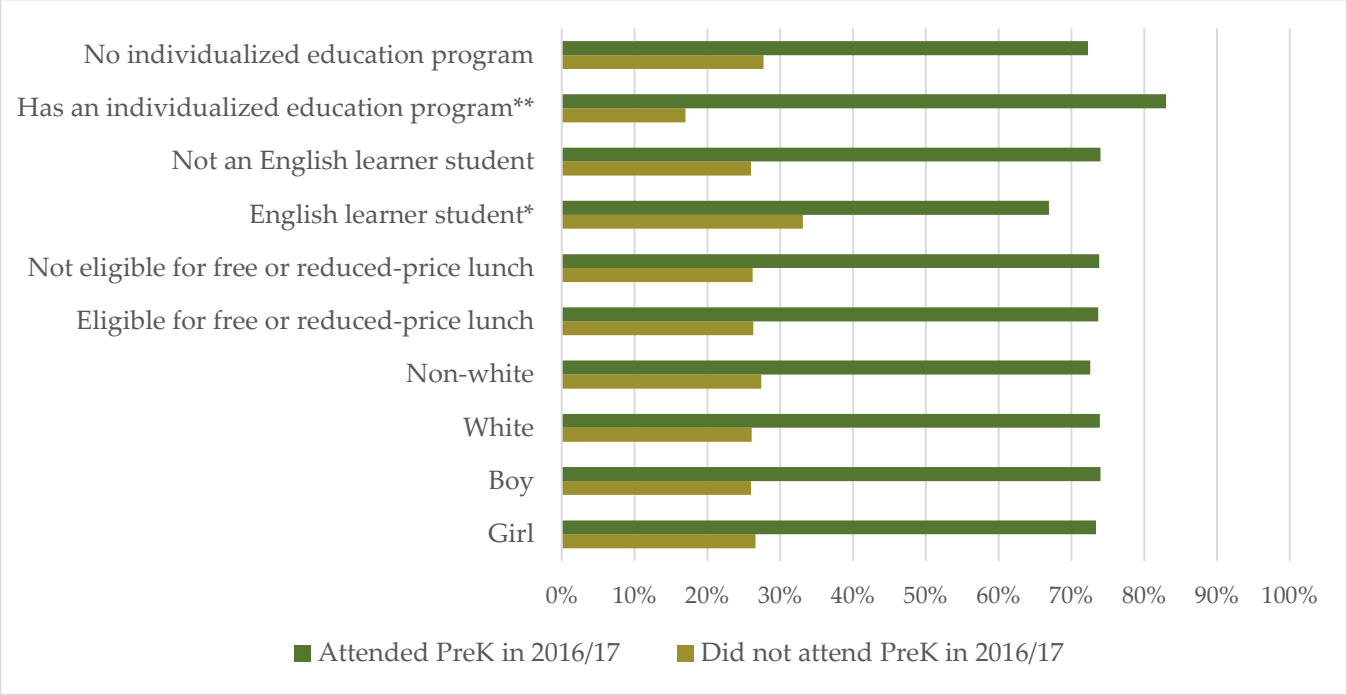


Figure 6 note. Logistic regressions were conducted to identify if the likelihood of a student having been enrolled in PreK in 2016/17 was associated with each of the characteristics reported in this figure. The two characteristics with asterisks—having an individualized education program and being an English learner student in kindergarten—were statistically significantly associated with previous enrollment in PreK. * $p < .05$. ** $p < .001$. The total sample of children in kindergarten in 2017/18 that were included in the analysis sample was 5,744. There were 2,750 girls, 2,994 boys, 5,167 White students, 577 non-White students, 2,406 students eligible for free or reduced-price lunch, 3,338 students not eligible for free or reduced-price lunch, 175 English learner students, 5,569 non-English learner students, 784 students with individualized education programs (i.e., identified as needing special education services) and 4,960 students without individualized education programs.

2. What does the landscape of preapproved PreK programs look like across the state? By region and supervisory union; 3-, 4- and 5-star PreK programs; and, public and private programs?

The data presented in Table 5 and in Tables A.1, A.2, A.3 and A.4 in Appendix A show that the majority of PreK programs in the state are private center-based programs. In addition, the majority of programs are 5-star or 4-star programs, with very few being 3-star PreK programs. Due to their length, the tables showing the number and percentage of programs by type and quality rating by county and also by supervisory union are provided in Appendix A.

Table 5. PreK program characteristics for 2016/17 and 2017/18 school year.

Program Type and Quality	School Year			
	2016/17		2017/18	
	N	%	*N*	%
Type				
Public	138	36.0	132	38.6
Private – Center	202	52.7	179	52.3
Private –Home	43	11.2	31	9.1
STARS Rating				
3 stars	36	9.4	25	7.3
4 stars	154	40.2	132	38.6
5 stars	193	50.4	185	54.1
Total	383	100.0	342	100.0

3. What are the geographic characteristics of PreK programs in which children are enrolled, including: (a) What is the average number of prequalified programs in a child's supervisory union of residence? What percentage of the children in the sample do not have a prequalified program in their supervisory union of residence? And, (b) What are the percentages of children who are attending programs outside the geographic boundaries of their supervisory union compared to inside the boundaries of their supervisory union?

For the study sample of children enrolled in PreK, the average number or PreK programs in a child's supervisory union (SU) of residence was 9.7, with the minimum number being 0 and the maximum being 23. Table 6 highlights possible differences in the average number of PreK programs within a child's SU based on child characteristics. For example, non-White children (M = 13.0) seem to have had, on average, a higher number of PreK programs within their SU of residence and children eligible for free or reduced-price lunch (M = 8.8) seem to have had, on average, a smaller number of PreK programs within their SU of residence. Twenty-nine children, or 0.4% of the sample, did not have a PreK program within their SU of residence; additionally, there were no PreK programs in Essex North SU.

Table 6. Average number of PreK programs in a child's supervisory union of residence by child characteristics, 2017/18.

Child Characteristic	Mean	Standard Deviation	*N*
White	9.4	6.0	6,123
Non-White	13.0	7.2	652
Free or reduced-price lunch eligible	8.8	5.6	2,131
Not free or reduced-price lunch eligible	10.2	6.1	4,644
Individualized education program	9.2	6.2	963
No individualized education program	9.8	6.2	5,812
Overall	9.7	6.2	6,775

Table 7 shows that children enrolled in a public PreK program in 2017/18 seem to have, on average, fewer PreK programs within their SU of residence ($M = 7.8$), while those enrolled in private PreK programs seem to have, on average, more PreK programs within their SU of residence ($M = 11.4$).

Table 7. Average number of PreK programs in a child's supervisory union of residence by characteristics of their PreK program of enrollment, 2017/18.

Program of Enrollment	Mean	Standard Deviation	*N*
Inside residence SU	9.9	6.2	5,635
Outside residence SU	9.1	6.1	1,140
Public program	7.8	5.4	3,060
Private program	11.4	6.3	3,715
STARS Rating			
3 stars	8.4	4.9	421
4 stars	9.8	5.7	2,467
5 stars	9.8	6.6	3,887
Overall	9.7	6.2	6,775

While the majority of children enrolled in PreK enrolled in a program within their SU (83 percent), almost 17 percent enrolled in a PreK program outside of their SU (see Figure 7). Furthermore, the majority of children are enrolled in PreK programs that are 5 stars (57 percent), and 55 percent of children are enrolled in private PreK programs.

Figure 7. Percent of children enrolled in PreK programs, by program type, STARS quality rating and location for 2017/18.

Figure 7 note. *N* = 6,775. Private programs included private child care centers and family child care homes.

4. What are the characteristics of children enrolled in public vs. private programs and those enrolled in PreK programs with a STARS quality rating level of 3-, 4-, or 5-stars?

The majority of children enrolled in PreK who had an individualized education program and the majority of children eligible for free or reduced-price lunch were enrolled in public PreK programs. Conversely, higher percentages of children enrolled in PreK who did not have an individualized education program or were not not eligible for free or reduced-price lunch were enrolled in private PreK programs (see Figure 8). It is important to note that free or reduced-price lunch eligibility may be underreported in PreK in general and especially in private PreK programs, where there is little incentive for parents to complete eligibility paperwork and systems for collecting such data may not be in place. This may have implications for the enrollment rates we see related to free or reduced-price lunch eligibility. PreK children of different ages had similar rates of enrollment in public and private PreK programs (see Figure 9).

Figure 8. Percentage of PreK children enrolled in private and public PreK programs, by individualized education program status and free or reduced-price lunch eligibility, 2017/18.

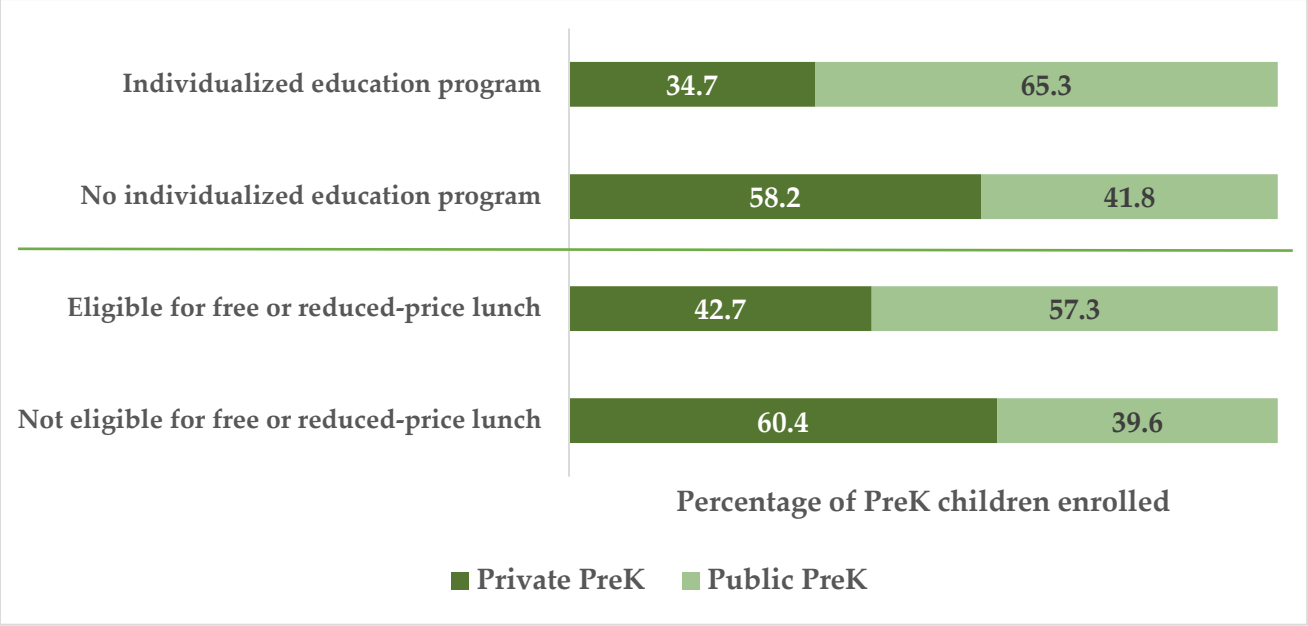


Figure 8 note. There were 6,775 children in the sample. There were 963 children with individualized education programs and 5,812 without individualized education programs. There were 2,131 children eligible for free or reduced-price lunch and 4,644 children not eligible for free or reduced-price lunch. Public school PreK programs included programs that were both inside and outside the geographic boundaries of a child's SU of residence. Private programs included private child care centers as well as family child care homes.

Figure 9. Percentage of PreK children enrolled in private and public PreK programs by age, 2017/18.

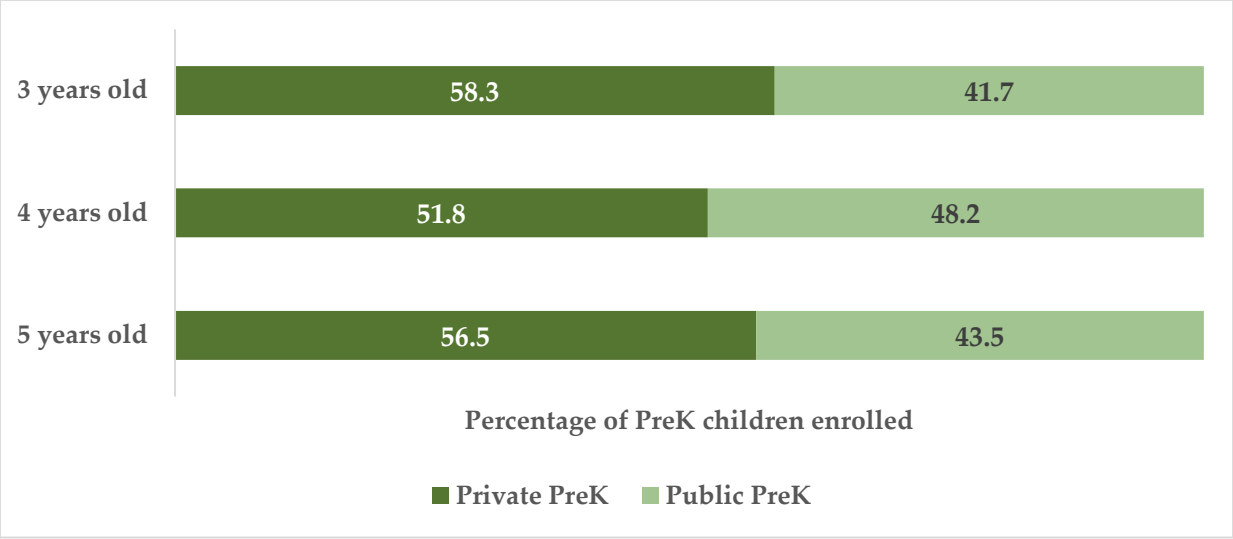


Figure 9 note. There were 6,775 children in the sample. There were a small number of 2-year-olds and 6-year-olds in the sample, because of age eligibility requirements; these children were included in the numbers for 3-year-olds and 5-year-olds, respectively. There were 3,065 3-year-olds, 3,602 4-year-olds and 108 5-yea- olds. Public school PreK programs included programs that were both inside and outside the geographic boundaries of a child's SU of residence. Private programs included private child care centers as well as family childcare homes.

While all children enrolled in PreK enrolled in 5-star programs at the highest rates, children with individualized education programs and those eligible for free or reduced-price lunch

enrolled in 5-star programs at even higher rates than their peers did (see Figure 10). Children across age groups enrolled in 3-, 4- and 5-star programs at similar rates (see Figure 11).

Figure 10. Percentage of PreK children enrolled in 3-, 4- and 5-star PreK programs, by individualized education program status and free or reduced-price lunch eligibility, 2017/18.

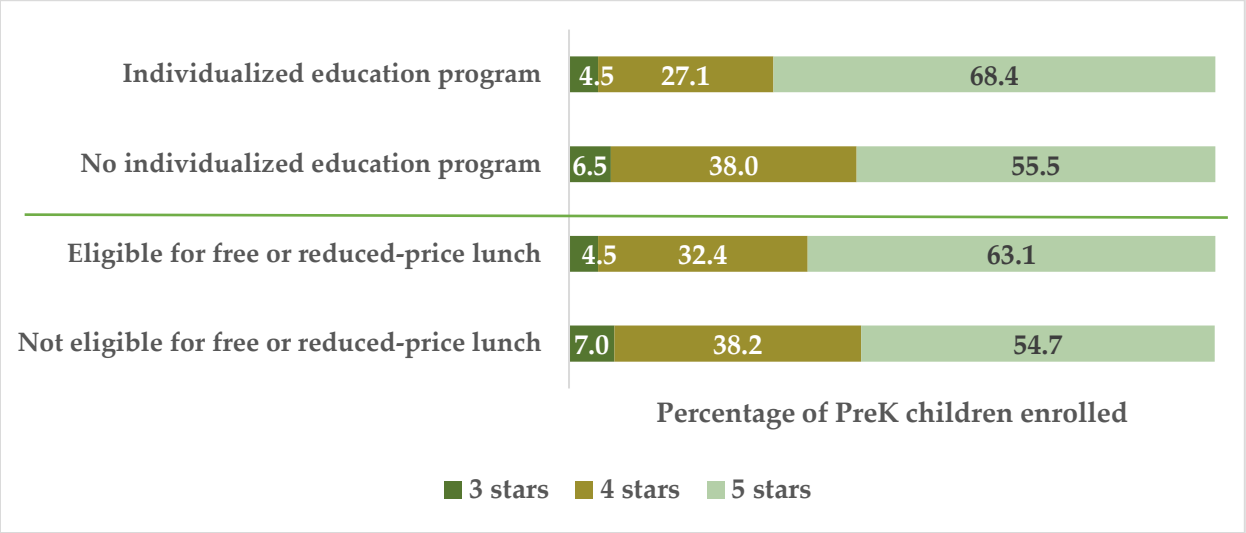


Figure 10 note. There were 6,775 children in the sample. There were 963 children with individualized education programs and 5,812 without individualized education programs. There were 2,131 children eligible for free or reduced-price lunch and 4,644 children not eligible for free or reduced-price lunch.

Figure 11. Percentage of PreK children enrolled in 3-, 4- and 5-star PreK programs by age, 2017/18.

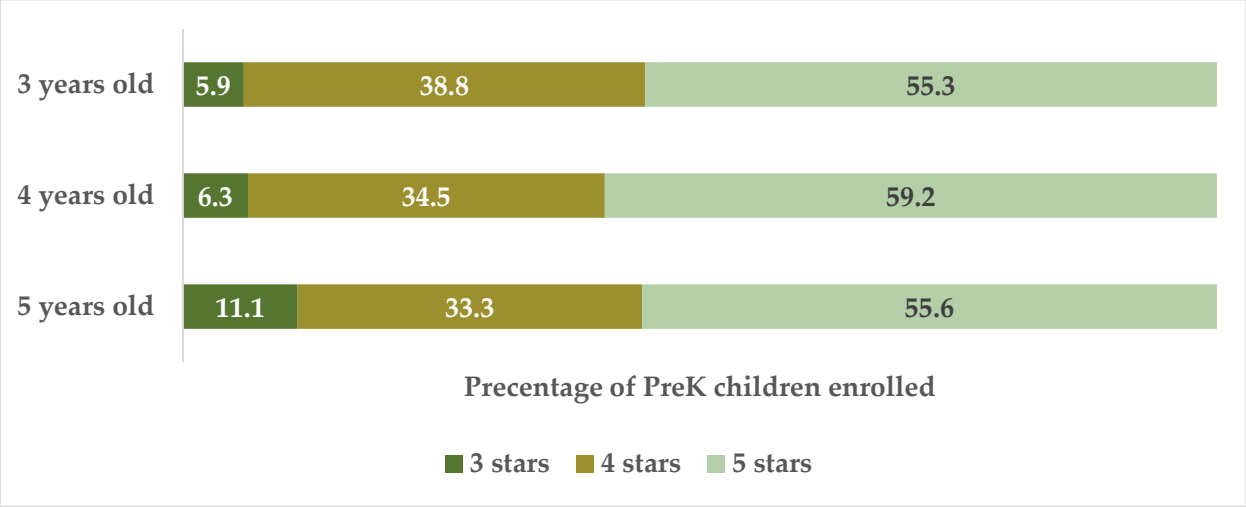


Figure 11 note. There were 6,775 children in the sample. There were a small number of 2 year olds and 6 year olds in the sample, because of age eligibility requirements, these children were included in the numbers for 3 year olds and 5 year olds, respectively. There were 3,065 3 year olds, 3,602 4 year olds, and 108 5 year olds.

The majority of PreK children enrolled in PreK programs located within the geographic boundaries of their SU of residence. However, children with individualized education programs and those eligible for free or reduced-price lunch did so at higher rates (see Figure 12). Children of different ages enrolled in programs inside of their SU at similar rates (see Figure 13).

Figure 12. Percentage of PreK children enrolled inside and outside the geographic boundaries of their SU, by individualized education program status and free or reduced-price lunch eligibility, 2017/18.

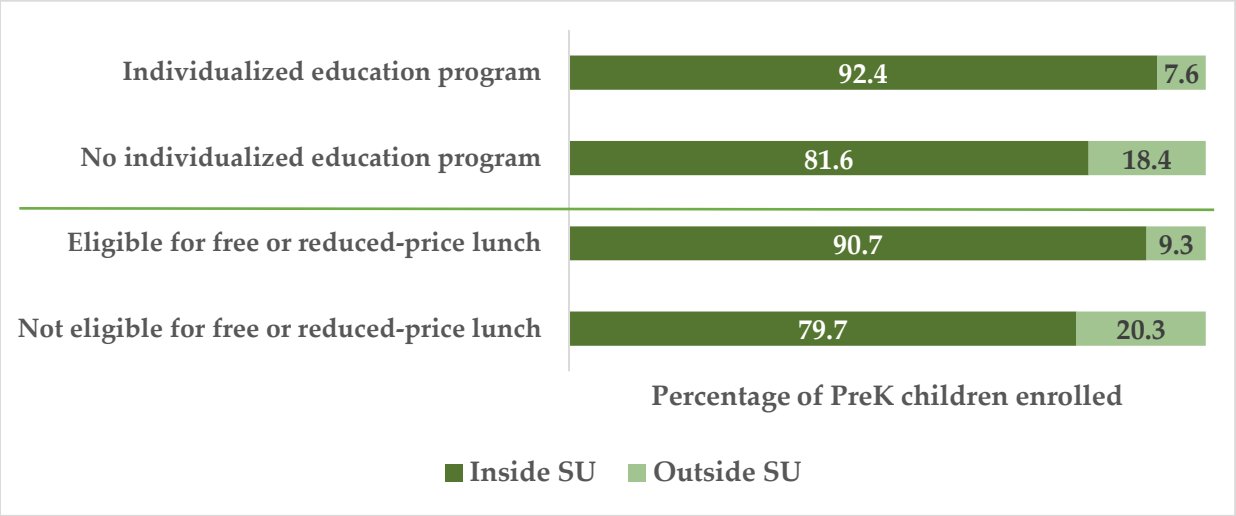


Figure 12 note. There were 6,775 children in the sample. There were 963 children with individualized education programs and 5,812 without individualized education programs. There were 2,131 children eligible for free or reduced-price lunch and 4,644 children not eligible for free or reduced-price lunch. PreK programs considered inside a supervisory union (SU) are those PreK programs (both public and private) located geographically inside a child's SU, and programs considered outside an SU are those programs (both public and private) located geographically outside a child's SU.

Figure 13. Percentage of PreK children enrolled inside and outside the geographic boundaries of their SU by age, 2017/18.

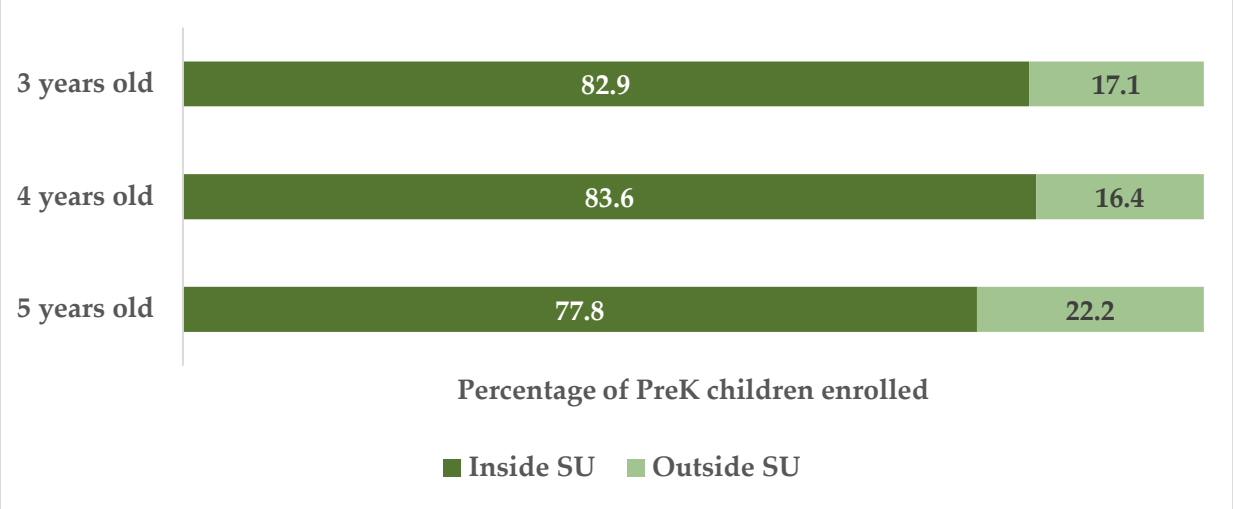


Figure 13 note. There were 6,775 children in the sample. There were a small number of 2-year-olds and 6-year-olds in the sample, because of age eligibility requirements; these children were included in the numbers for 3-year-olds and 5-year-olds, respectively. There were 3,065 3-year-olds, 3,602 4-year-olds and 108 5-year-olds. PreK programs considered inside a supervisory union (SU) are those PreK programs (both public and private) located geographically inside a child's SU and programs considered outside an SU are those programs (both public and private) located geographically outside a child's SU.

5. Which child characteristics are associated with the likelihood that a child is enrolled in different program types, including: (a) a public vs. private PreK program; (b) a PreK program within their supervisory union (SU) of residence vs. outside their SU of residence; and (c) a PreK program that is rated at 3 or 4 stars vs. a 5-star PreK program?

The figures presented in association with research question 4 show differences among children with different demographic characteristics and their enrollment rates in PreK programs in Vermont. Results of the logistic regression analyses confirmed the descriptive statistics described above and indicated that child age, individualized education program status, and free or reduced-price lunch eligibility status were statistically significantly associated with the likelihood of enrollment in: a public vs. a private PreK program; a PreK program within a child's SU vs. outside a child's SU; and a 5-star program vs. a 3- or 4-star program.

6. Do Teaching Strategies GOLD (TS GOLD) assessment scores vary by PreK program characteristic (that is, public vs. private, 3-, 4-, or 5-star rating, or within supervisory union of residence vs. outside supervisory union of residence), controlling for child characteristics?

Teaching Strategies GOLD (TS GOLD) is a formative assessment that is required to be administered in all PreK programs in Vermont. TS GOLD is administered in the fall and spring each year. Teachers rate children on several content areas that are considered indicative of school readiness: social emotional, physical, language, cognitive, literacy and mathematics. Our analyses found that none of the program-level characteristics (that is, public vs. private; having a 3-, 4- or 5-star quality rating; or being located within or outside a child's SU) were associated with child scores on the TS GOLD assessment. Assessments that are used for formative purposes, and especially those scored by teachers, are not generally appropriate for comparing students across classrooms or for making high-stakes decisions. This is because training teachers to consistently score children is generally not done to fidelity, and variation in assessment scores can be heavily associated with teacher-level factors rather than children's actual knowledge and skills (Waterman, McDermott, Fantuzzo, & Gadsden, 2012). For this reason, the lack of association found based on quality rating, for example, should not be taken as an indication that program quality is not important for increasing child outcomes. (See the literature review for studies that examine the association between program quality and child outcomes using more appropriate measures).

PreK program perspectives on equity

Asked about changes in enrollment patterns that might be associated with Act 166, public program generally reported that the law did not change the characteristics of the children or families served at their program. Some public programs noticed an uptick in overall PreK enrollment. In one case, a program said more children with disabilities were enrolling. In response to the same question, a few private programs said they noticed a small increase in the number of children who opted to enroll for only 10 hours of publicly-funded PreK education. These children, the interviewees theorized, would probably not participate in any type early childhood education program absent Act 166 funding. Programs offered observations such as:

I do have families that are currently enrolled in my classrooms right now who do only utilize that 10 hours, because it is very costly to enroll in any sort of early childhood education environment… [B]ut they are able to utilize those 10 free hours. So I think that has been beneficial.

I've noticed the change which has just been in this past year… more families are using those 10 funded hours and not using the extended care that we offer…. there are more of them that are doing that, which I think is great because it's obviously getting out there.

While these comments suggest that Act 166 may be increasing access to PreK education for some children, programs also discussed possible barriers to enrollment for other children. These factors included transportation, registration requirements and teacher qualifications.

Both public and private PreK education programs pointed to transportation as an obstacle for some children to accessing the 10 hours of publicly-funded PreK. Parents who work full-time often don't have the flexibility in their schedules to leave work partway through the day to transport their child from PreK to another child care setting. Further, low-income families may not have reliable access to transportation to bring their child to and from PreK. For example, one interviewee asked, "How is the parent in poverty who already has a voucher for housing going to even get their child to that program when they don't even have a car and they can't afford the gas?" In general, programs suggested that universal PreK may be more accessible for families who can afford to pay for additional hours beyond the 10 publicly-funded hours than for families with fewer financial resources. In interviews with public programs—some of which do provide bus transportation for PreK students—interviewees explained that some bus companies won't allow PreK-aged children to ride the bus due to potential liability. Similar to state-level stakeholders, program interviewees suggested that expanding the PreK program to include more than 10 hours per week could make it easier for parents with full-time employment to transport their children to PreK.

A few private providers identified complex registration processes as another barrier to PreK access. Interviewees explained that the requirement for families to provide proof of residency, identification and/or notarization can be overly burdensome, potentially deterring some families from enrolling in PreK. One interviewee pointed out that producing such documentation can be especially challenging for families who are transient or homeless. Another noted that some districts have shifted to online registration, which may be an obstacle for families with limited Internet access.

Some public programs described gaps in services for children with disabilities. These interviewees explained that children who attend a PreK education program outside of their residential district boundaries may not receive the individualized education program (IEP) services for which they are eligible. While Act 166 was designed to offer parents flexibility in choosing from among any prequalified program in the state, parents of children with special needs who want to ensure their child receives IEP support may be limited to their local district's program. Unlike families whose children do not have special needs, caregivers of children with special needs may face unique trade-offs between convenience and availability of special education support when selecting a PreK education program. One interviewee shared her

experience with children who were unable to receive special education services because they enrolled at a program outside of their district boundaries:

> *We had children from different districts who were utilizing our Act 166 program but they couldn't get the services that they needed unless the parent could transport them because they were out of district…. In that case, I don't see it as universal, you know? Act 166 said we want you to be able to attend any PreK because of convenience, we're willing to pay for your child to go to any PreK, but if you have services or an IEP and things like that, it's now your job as the parent to figure out how to make those services work and I don't think that's fair to put on our parents.*

At the same time, some public PreK programs shared the impression that parents of children with disabilities tend to choose public PreK programs because of the special education services available in public settings. Public programs highlighted how they offer special education services that private programs do not: "My program's children have access to, for example, an early childhood special educator, and they have access to speech and language pathologists and all of that. The private programs don't have those abilities." Public programs noted, however, that this places an imbalance of students with IEPs within public PreK settings. In general, districts talked about challenges serving children with special needs: "I guess we struggle with the amount of children referrals [for special education services] we receive in our district, and, you know, our outreach is far and wide and it can be taxing."

Finally, some private programs expressed concern about the impact of teacher qualification standards on PreK access. As discussed earlier in this report, private centers and family child care homes often struggle to hire or contract with AOE ECE/ECSE licensed educators to fulfill the teacher standards required to participate in universal PreK. Absent an increase in AOE licensed ECE/ECSE educators who seek work with private centers and family child care homes, interviewees worried that some private programs may not be able to offer universal PreK, thereby reducing PreK enrollment capacity. Indeed, we spoke with one interviewee who stopped offering universal PreK due to their inability to replace an AOE ECE/ECSE licensed educator. Some programs noted that programs in rural areas are especially likely to have trouble attracting AOE ECE/ECSE licensed educators, a challenge that could prevent children living in geographically isolated areas from accessing universal PreK.

Regulatory Oversight and Administration

Challenges associated with the current model of oversight and administration

Duplicative regulations for public school programs

In general, qualitative data from interviews with PreK programs suggests that the regulations associated with Act 166 have created more challenges for public PreK programs than for private PreK programs. The vast majority of public school programs have found it redundant and inefficient to ensure that its PreK programs comply with two sets of regulations—those required by the public school system and the state's Child Care Licensing Regulations. Overall,

interviewees conveyed the sense that established compliance and safety systems in public settings were "not honored in the PreK realm." Public school programs described how they often find themselves repeating the same task, such as providing proof of fire drills, twice in order to satisfy the requirements of both AOE and AHS. In other cases, regulations from different sources have contradicted each other, leaving programs unsure how to proceed.

Duplication in background checks, including the fingerprinting process, has been particularly burdensome for public programs. Interviewees explained that any staff member who works with PreK students has to complete two sets of background checks and fingerprints—one to comply with typical public school district procedures and one to satisfy the AHS Child Development Division (CDD) licensing requirements. Beyond requiring extra time and money, double background checks have had other negative implications for public PreK programs. Some programs said it creates complications when a substitute needs to fill in for the lead or assistant PreK teacher, as PreK classrooms can only use substitutes who have completed the CDD background check. As a result, it can be more difficult for schools to find qualified PreK substitutes. Another PreK teacher described how, unlike other elementary school teachers, she does not have planning periods because she cannot leave her students alone with the school's music or physical education teachers, who have not completed the CDD background check process.

In addition to finding duplicative background checks and fingerprinting burdensome, public PreK programs found it onerous to navigate child care licensing regulations in light of existing school systems and structures. For example, interviewees discussed how CDD regulations related to factors such as the playground, bathroom facilities and medicine storage "don't necessarily mesh well or easily" with public schools. Discrepancies in regulations were described as burdensome and took time away from program leaders that they could be using to supervise instruction. Additionally, programs described being unable to make certain changes, in order to comply with CDD regulations, as a result of certain components of public schools being out of their domain. For example, one interviewee said, "I do know that some things for public schools are different than for private programs, like there's some things that I don't have a lot of control over, like facilities, or things like the playground, or even some safety practices..."

For some public PreK teachers, uncertainty about how to handle complex CDD regulations is compounded by administrators who are not always aware of the licensing requirements. These teachers described needing to communicate Act 166 regulations to principals and assistant principals. One teacher said, "I don't know that the administrators are aware of [the differences in regulations]… [M]aybe the administration needs to have training or some type of looking into that because I don't think that they're as familiar with the regulations as they should be."

Act 166 communication and information

Both public and private programs discussed occasional challenges with state-level communications regarding universal PreK. Overall, interviewees conveyed the sense that there is room for improvement in the clarity and user-friendliness in the flow of information regarding Act 166. Programs explained that messaging from the state can be confusing at times, resulting in PreK programs interpreting guidance in different ways. A couple of interviewees

said it would be helpful for AOE to implement a communication system similar to AHS's Licensor on Duty/Regional Licensor structure. This system includes a telephone line and email address dedicated to fielding questions from child care programs, as well as a regional licensor who serves as a "go to" point of contact for programs within a region. Public and private programs described this system as "one of the benefits to the AHS model" and "super helpful". Another interviewee explained that it has been challenging to find information about Act 166 and universal PreK. This person described having to "hunt and peck and find things within the [agency websites] to try to find out what I needed to know". The interviewee went on to recommend that the state develop a comprehensive set of materials or an online module where programs could access all information related to universal PreK.

Monitoring and oversight

In interviews, some public programs (and one private program) expressed a need for more robust monitoring and accountability systems. Participants with this viewpoint characterized the current approach to monitoring quality and prequalification status as an honor system based on self-reporting. One interviewee commented, "It's saying that you're assuring everything is done but it's not an actual site visitor review." These programs seemed surprised by the lack of on-the-ground accountability and recommended the state increase the rigor of oversight by incorporating site visits to prequalified programs and requiring documentation of alignment between the PreK curriculum and Vermont's Early Learning Standards (VELS). It is important to note that such oversight would likely require significant additional staff and support at the state level.

Public programs also expressed some confusion and requested clarification about what role, if any, public schools should play in monitoring the private PreK programs with whom they contract. Interview data suggested that some public districts have taken a more active role than others in monitoring the quality and prequalification status of partner programs. This finding implies that public schools' monitoring responsibilities are not entirely clear. One interviewee explained that some of the ambiguity might stem from the content of the contracts established between public schools and private programs, which must include "a provision that the prequalified provider shall maintain its status as a prequalified PreKindergarten education program" (Vermont Agency of Education, 2019). As such, public schools may feel it is their duty to ensure private program are fulfilling contractual obligations related to prequalification status. As one interviewee described:

> *The tricky piece is when we have this partnership agreement and it says, for example, you need to do such and such and such, and then when the programs don't do it. There have been instances where they haven't done it, and I've reported it to the [state], but then it's back on, well, it's up to you and your partnership agreement what you choose to do…. No one is really going in and telling them, doing anything when they don't do it. As someone who is not really a supervisor of [the partner programs], it's hard for me to do that, even though we have this contract…. I think there needs to be a monitoring system where if they don't do it, that's coming from someone other than me as the person that does the partnership agreement.*

Teaching Strategies GOLD

Prequalified PreK programs are required to complete the Teaching Strategies GOLD (TS GOLD) checkpoint assessments twice each year for all PreK students—once in the fall and once in the spring. The TS GOLD is a teacher observation measure that assesses child progress over the course of the year. Programs expressed mixed viewpoints regarding the value and utility of TS GOLD, with many interviewees identifying both pros and cons to the assessment. Some programs find the resulting data to be useful for informing instruction, communicating with parents and identifying children who need extra support. Others acknowledged these benefits, but questioned the substantial amount of time required to administer the assessment and enter data.

Several programs described TS GOLD as a useful tool for teachers. These programs said they "always love having the information" and explained that the assessment helps teachers be aware of the different learning domains during instruction. Programs described using the assessment to understand how much growth children have made and to identify challenges with students with special needs Teachers also described using the assessment to drive curriculum because it helps identify areas in which children need more practice or differentiation. As one interviewee said, "So, we use it in a variety of ways but really it's more so a formative assessment tool for our classroom teachers to help them design curriculum." Further, programs discussed utilizing TS GOLD data to guide conversations with parents. Interviewees explained that the data provides evidence that allows them to share information with parents about their child's development.

Other programs critiqued TS GOLD, describing it as a complicated tool that takes too much time to complete. While several interviewees said they understood the importance of TS GOLD and generally thought it was a sufficient assessment, they added that it was time consuming, had too many categories to complete and was overwhelming. Private programs, in particular, expressed frustration that some kindergarten programs don't seem to use or review the TS GOLD data collected during PreK. These interviewees were under the impression that part of the purpose of the TS GOLD assessments was to provide kindergarten teachers with helpful information about incoming students, and they were discouraged at the lack of use. As one interviewee said, "I just hope that it's not just going into a file that's never looked at again because it is time consuming for the teachers to input all this data and information."

Some programs did not think that TS GOLD assessments were accurate, in part due to the assessment's reliance on teacher-reported ratings. These interviewees explained that the assessment could only be used effectively if teachers receive enough training to ensure inter-rater reliability. Another questioned the lack of evidence some teachers provide for scores, explaining, "There's tremendous variation in what [teachers] put in for evidence…. I really question the validity of the rating for many of the children because there's not enough evidence to back it up."

PreK program perspectives on the role of state-level agencies

About half of the private PreK programs we interviewed were aware that both AOE and AHS jointly administered the universal PreK program. Among those who did not know about joint administration, most assumed that AOE was the sole administrator. In contrast, nearly all public programs knew that the PreK program was overseen by both AOE and AHS. In general,

programs' suggestions regarding joint vs. single agency administration were somewhat different than those expressed by state-level stakeholders. Among state-level interviewees, many, but not all, supported the idea of administering Act 166 through a single agency. Programs' opinions were somewhat more mixed, albeit with several public programs favoring single agency administration through AOE.

Of the private PreK programs who were familiar with joint oversight, there was no clear consensus regarding whether it would be preferable to continue with joint administration or shift to single agency administration. Some programs felt that it was important to retain the different perspectives and strengths that each agency brings to Act 166 implementation. Others believed the goal of simplification could best be achieved through single agency oversight. Private programs that suggested administering Act 166 under one agency felt that AHS was best suited for such a role. These programs pointed out that AHS brings valuable experience with early childhood education environments and with the family's role in supporting child outcomes:

> *AHS is more capable and conversant and informed about how important it is to provide support to the entire family along with educating the child in order to promote the best possible outcomes for that child.*

Like private PreK programs, public programs were not unanimous in their recommendations for agency oversight of Act 166. Many public programs, however, suggested that AOE should be the agency to oversee administration. Public programs offered several reasons for preferring AOE oversight. Some interviewees pointed out that AOE "understands how public schools are run" and would thus avoid implementing PreK in a way that conflicted with existing public school systems. One public PreK program interviewee reasoned that if the goal of universal PreK is to prepare students for kindergarten entry, then it makes sense to house PreK in the same agency responsible for kindergarten. Another one hoped that administering PreK under AOE would help to professionalize the field of early childhood education by systematically connecting PreK with K–12:

> *I would probably choose to have everything be with the Agency of Education. The reason for that is because I think historically early education is so separate from, let's say, K through 12 education, yet they're so linked that I think if it was all one organization, it would be easier to align them and hold them together in a way that early education would be thought of as a professional field and a field where really important work is happening.*

A smaller number of public PreK programs were less confident about shifting PreK administration solely to AOE. One interviewee questioned whether either agency's staffing capacity would be sufficient to administer PreK alone. A couple programs also expressed concern that, without AHS involvement, universal PreK could lack emphasis on social development and developmentally appropriate practices.

Some public programs suggested that Vermont consider dividing Act 166 oversight by setting, with the AOE responsible for public programs and AHS responsible for private programs.

Interviewees with this viewpoint believed it would be more efficient for each agency to focus on implementing PreK in the setting(s) with which it is most familiar. In particular, public programs thought that redundancy in background checks and other regulations would be limited under AOE oversight.

Summary of Literature Review from the Interim Report

Prekindergarten Delivery Models

Our literature review did not identify any peer-reviewed research comparing child outcomes within state-funded PreK programs based on delivery system. However, a longitudinal evaluation commissioned by the state of Georgia to study its universal PreK program did explore the relationship between setting type and outcomes among participating children (Peisner-Feinberg, Schaaf, Hildebrandt, & Pan, 2015; Peisner-Feinberg, Garwood, & Mokrova, 2016; Peisner-Feinberg, Mokrova, & Anderson, 2017). In all three years, a similar pattern appeared in which children who attended PreK in public settings made greater academic gains than children who attended PreK in private settings. By the end of first grade, though, there were no statistically significant differences in academic or behavioral outcomes between the two groups.

Within the peer-reviewed literature, researchers have drawn on nationally representative datasets to examine associations between setting type and child outcomes for early childhood education programs in general, as opposed to publicly-funded PreK specifically. In general, these correlational studies based on analyses of large-scale datasets from the National Center for Education Statistics' Early Childhood Longitudinal Studies have found that private, center-based care has the strongest association with academic outcomes (Bassok, Fitzpatrick, Greenberg, & Loeb, 2016; Bassok, Gibbs, & Latham, 2018; Coley, Votruba-Drzal, Collins, & Cook, 2016). Findings from these studies countered the researchers' hypotheses that children in public settings and/or Head Start would demonstrate the strongest outcomes. Why might this be? Researchers noted that although they attempted to control for student-level socioeconomic status, higher-income students may have been overrepresented in private-center preschools. The authors also pointed out that low-income children enrolled in private centers could benefit from being in classrooms with higher-income peers—a influence commonly referred to as "peer effects" (Bassok et al., 2018; Coley at al., 2016).

Beyond child outcomes, other factors that might influence a state's decisions about PreK delivery include practical considerations, such as capacity and concerns about equity and quality (Ackerman, Barnett, Hawkinson, Brown, & McGonigle, 2009; Weiland, 2018). Mixed-delivery systems can increase PreK enrollment capacity, in addition to expanding the range of options available to parents and families. As a result, parents can select a setting that best meets their needs in terms of convenience or preferred educational approach (Ackerman et al., 2009).

On the other hand, concerns exist that mixed delivery of PreK might result in a "two-tiered system" in which the experiences of children and staff vary inequitably by setting (Weiland, 2018). In particular, early childhood education experts have warned about the implications of disparities in salary and benefits between public school educators and private school educators (Ackerman et al., 2009; Barnett & Kasmin, 2017; Chaudry, 2017; Phillips, Austin, & Whitebook, 2016). PreK teachers who work for public schools typically receive substantially higher salaries

and better benefits than PreK teachers who work for private centers. In theory, this puts public schools in a better position to attract and retain the best and most experienced teachers, potentially resulting in higher quality instruction in public schools (Ackerman et al., 2009; Chaudry, 2017).

Prekindergarten Funding Models

Although the amount of funding allocated for PreK will tend to impact access and program quality, the choice of a specific funding model is unlikely to have a direct effect on child outcomes (Hustedt & Barnett, 2011). Of greater importance is that the funding source is stable and capable of providing sufficient funding to meet the program's goals. In general, experts have pointed to K–12 funding formulas—the approach used by Vermont—as the best option to provide consistent and adequate financial support for PreK programs (Barnett & Kasmin, 2018; Boylan & White, 2010; Hustedt & Barnett, 2011). Other methods of funding PreK—such as relying on legislative appropriations from the state general revenue or depending solely on lottery funds—tend to be less predictable and consistent. Total funding amounts are more likely to vary based on changing political and economic climates, raising the possibility of underfunding PreK (Stone, 2008).

While not without disadvantages, K–12 funding formulas offer several important benefits for funding PreK. In a comparison of states that apply K–12 funding formulas with those that do not, Barnett and Kasmin (2018) found that states that fund PreK through the K–12 formula typically had higher amounts of funding and greater levels of enrollment. In addition, overall funding tended to be more stable from year to year. Funding PreK through the state K–12 funding formula is not a foolproof approach, however. While states with a funding formula are more likely to provide adequate and equitable amounts of funds to support PreK, these outcomes are not guaranteed (Barnett & Kasmin, 2018). Absent a state-specific cost analysis, states run the risk of over- or under-funding PreK. As a result, some observers have recommended that states conduct cost studies that account for the discrete components of providing high-quality PreK that meets individual students' needs, as delivered in different settings (Barnett & Kasmin, 2016; Boylan & White, 2010). As with adequacy, the use of a K–12 formula to fund PreK does not automatically guarantee an equitable distribution of funds either. If the state formula used to fund K–12 results in an inequitable distribution of funds at the K–12 level, the same is likely to happen for PreK (Barnett & Kasmin, 2016).

Pay for Success is another potential option for funding PreK. Also referred to as Social Impact Bonds, Pay for Success is a relatively new method for funding preventative programs, such as early childhood education. In a Pay for Success model, a non-governmental organization delivers the designated service, with funding provided by an external investor. If the organization delivering the service meets specific outcomes or targets, the investor is repaid for both the invested principal and a predetermined rate of return. If the service provider does not meet the specified goals, the government does not provide payment and the investor loses the capital it invested (Costa, 2014). Pay for Success programs are typically used to fund the delivery of preventative programs, based on the assumption that it costs government less to avert social or educational problems than to correct such problems once they've occurred (Temple & Reynolds, 2015). Pay for Success is a fairly recent innovation that has only been applied in a limited number of early childhood contexts. In early childhood education, the main

examples to date are located in Chicago and Salt Lake City, Utah, which have used Pay for Success models to expand existing programs (Temple & Reynolds, 2015). As such, it is challenging to predict whether a Pay for Success model would be effective in Vermont. The model has received increased attention in recent years, and it may be worth further exploration due to the possible benefits mentioned above.

Prekindergarten Access and Dosage

Universal vs. targeted programs

While theoretical and values-based arguments can easily be made in favor of both universal and targeted programs, few studies have attempted to directly compare the outcomes for children who attend universal PreK programs with outcomes for children who attend targeted programs. Within this limited slice of the literature, findings are mixed. Studies have documented improved school readiness skills among children attending both universal and targeted PreK programs. Research suggests that children from a range of family income levels can benefit from PreK participation, but low-income children tend to benefit more (Gormley, 2017).

Full-day vs. half-day programs

In studies comparing the impact of full-day PreK programs to half-day programs, findings have been inconclusive. Some studies have found a positive relationship between full-day programs and child outcomes (Atteberry, Bassok, & Wong, 2018; Reynolds et al., 2014) while others have suggested there may be little difference in effects associated with full-day vs. part-day programs (Howes, et al., 2008; Leow & Wen, 2017. Some research suggests that the effects of full-day care may differ based on children's demographics. A broader study of center-based care using data from the Early Childhood Longitudinal Study found that outcomes associated with full-day vs. part-day care varied by income level (Loeb, Bridges, Bassok, Fuller, & Rumberger, 2007). Attending center-based care for 30 or more hours per week was related to higher pre-reading and math skills at kindergarten for low- and middle-income children but not high-income children.

One vs. two years

Most of the research on this issue suggests that children who attend preschool or center-based care for two years make greater academic gains—at least in the short term—compared to children who only attend for one year (Fuller, Bein, Bridges, Kim, & Rabe-Hesketh, 2017; Domitrovich et al., 2013; Lee, 2011; Loeb, Bridges, Bassok, Fuller, & Rumberger, 2007; Skibbe, Connor, Morrison, & Jewkes, 2011; Wen, Leow, Hahs-Vaughn, Korfmacher, & Marcus, 2012). In half of these studies, participating children were either low-income or Head Start participants, suggesting that disadvantaged children may reap academic benefits from attending two years of an early education program instead of one (Domitrovich et al., 2013; Lee, 2011; Wen et al., 2012). Looking across income levels, Loeb (2007) found that children from low-, middle- and high-income families who entered center-based care at age 2 or 3 demonstrated stronger pre-reading and math skills at the start of kindergarten than did children who began center-based care at earlier or later ages.

Prekindergarten Quality

PreK program characteristics that are theorized to promote quality are typically divided into two categories: structural quality and process quality (Burchinal, 2018; Weiland, 2016). Structural quality refers to "those features of quality that can be changed by structuring the setting differently or putting different requirements in place" (Yoshikawa, et al., 2013). In practice, structural quality is typically gauged through measures of class sizes, child-teacher ratios and educator qualifications. Process quality, on the other hand, primarily refers to the nature of children's interactions with their teachers and other children in the classroom (Weiland, 2016; Yoshikawa et al., 2013). Although structural quality features of PreK programs are easier to regulate and measure (Farran, 2017), experts have increasingly come to view them as necessary but not sufficient conditions for ensuring PreK quality (Burchinal, 2018; Pianta, Downer, & Hamre, 2016; Weiland, 2016). Instead, research suggests that efforts to improve process quality—especially through instructional supports such as providing feedback and scaffolding learning activities—are more likely to benefit children's school readiness skills.

The interim report's overview of structural quality included a summary of research exploring the association between early childhood education teachers' education/credentials and child outcomes. We noted that this body of research does not offer a consistent pattern of findings that would lend strong support to the assertion of a positive association between teacher qualifications and outcomes for PreK children. Readers of the interim report, and authors of many of the cited studies, expressed surprise that the research has not documented a reliable association between teachers' attainment of a bachelor's degree and gains for children enrolled in such classrooms. Some researchers have suggested that, regardless of the true association between teacher education and classroom quality, there may be other valid reasons to require lead PreK teachers to hold a bachelor's degree. Setting the BA as a minimum standard could help to professionalize the field of early childhood education, thereby raising societal awareness and expectations for PreK to the same level as K–12 education. (Early et al., 2006; Mashburn et al., 2008). In theory, early childhood educators may also be more likely to remain in the field after investing time and resources in a related postsecondary degree (Early et al., 2006).

To capture the complexity of research findings on the relationship between early childhood educators' education and measures of classroom quality and child outcomes, we summarized the main findings from key studies in the literature (see Table 8). Overall, the existing research does not uniformly suggest that PreK teacher education is unimportant or that it is a guarantee of high-quality classrooms. While the association between teacher education and child outcomes is not as strong as many would hypothesize, some studies have documented notable exceptions. For example, research by Early et al. (2006) documented a relationship between PreK teachers' attainment of a bachelor's degree and improved math skills among PreK students. Further, a recent study suggests that "having at least some specialized training in ECE seems to be very important for observed classroom quality," especially for teachers with only a high school diploma or GED (Lin & Magnuson, 2018). As such, states might consider how these findings can inform unique concerns or policy goals. For instance, a state with limited funds to expend on ECE professional development might opt to concentrate resources on training for PreK teachers with limited ECE-specific coursework. Similarly, a state with particular concerns about the math skills of entering kindergarten students might choose to require all PreK teachers to hold a bachelor's degree.

It is also important to consider the contextual factors that might help explain these findings, in addition to limitations to the way teacher education is measured in some studies. Likewise, it is important to state that teacher quality is important and remains a critical factor in early childhood education. Below we summarize researchers' hypotheses as to why analyses do not suggest a stronger connection between teacher qualifications and child outcomes:

Quality of teacher preparation programs. Postsecondary programs may not sufficiently equip early childhood education teachers with the strategies needed to boost children's cognitive outcomes (Early, 2007; Lin & Magnuson, 2018). Lin & Magnuson (2018), note that courses in early childhood education tend to focus on child development, teacher-child relationships and classroom management, with less emphasis on the actual work of implementing a curriculum and providing scaffolded learning activities. In other words, higher education courses may not be providing pre-service teachers with the skill set they need to provide effective instruction.

Limited differences in the ECE-specific courses required for a BA vs. an AA (associate degree). Some studies did not detect a difference in child outcomes or classroom quality between teachers with a BA vs. an AA, or between teachers with and without a BA. One possible explanation for such findings is that the additional coursework required for a bachelor's degree may not add value to early childhood educators' effectiveness above and beyond that required for an AA (Lin & Magnuson, 2018). For example, if the extra courses needed for a BA primarily consist of electives or general education requirements, then such classes may not contribute to the eventual classroom practices of BA-educated teachers. Thus, both BA and AA-educated teachers would receive a similar set of knowledge and skills through core early childhood education coursework.

Unsupportive or under-resourced classrooms. Another potential explanation centers around the workplace conditions and environment in which early childhood educators work. Specifically, high-quality teachers may be limited in the extent to which they can apply best practices for classroom instruction if they do not have critical supports or materials (Early, 2007; Lin & Magnuson, 2018). For instance, if planning time is limited or if curricular supplies are unavailable, teachers may not be able to execute effective instruction. As a result, limitations of the environment outweigh any advantages that might be conferred by additional levels of education.

Labor market conditions. The market for early childhood educators may be such that PreK classrooms attract the highest quality teachers without a BA and the lowest quality teachers with a BA, thus weakening the contrast between both groups (Early, 2007). This scenario is plausible if, at the time of data collection in some studies, public PreK classrooms paid more than similar positions in private centers, but less than K–3 teaching positions in public schools. Further, Early et al. (2007) note that administrators may prefer to place their highest quality early childhood teachers in grades that must complete high-stakes tests, which are usually not administered at the PreK level.

Measurement limitations. Some studies operationalized teacher education as a dichotomous variable—for example BA vs. non-BA, or CDA vs. non-CDA. While seemingly straightforward, this type of categorization can mask the true level of variability in teachers' education and training (Lin & Magnuson, 2018; Mashburn et al., 2008). For example, a

comparison of teachers with and without a BA might fail to detect meaningful differences between a teacher with an AA in early childhood education and a teacher with only a high school degree. Such blunt comparisons do not allow for a more nuanced understanding of the relationship between teacher qualifications and child outcomes.

Analysis limitations. To date, most research on the relationship between early childhood educators' qualifications and child outcomes has analyzed the data under the assumption that a direct pathway exists between teacher qualifications and academic gains—that is, that teacher qualifications lead directly to gains in student achievement. Some researchers, however, have suggested that the relationship between teacher qualifications and child outcomes should be characterized as an indirect pathway (Mashburn et al., 2008)—whereby teacher qualifications affect change in classroom quality, for example, which then leads gains in student achievement. The possibility of an indirect pathway has not been widely studied and is likely an area for future exploration.

It is important to reiterate that teacher quality is important and remains a critical factor in early childhood education. At the same time, stakeholders should be wary of conflating level of education with quality. As the researchers from one study note, "Teachers' education and teacher quality are two separate albeit related constructs" (Early et al., 2007). As such, simply requiring teachers to meet a specific education threshold is unlikely to translate into an automatic guarantee of high-quality classrooms. Instead, teacher quality is likely influenced by a range of (harder to measure) factors, including teachers' beliefs and attitudes, the quality of teacher preparation programs and workplace environments, (Early et al., 2007; Lin & Magnuson, 2018).

Table 8. Summary of findings from studies regarding the relationship between early childhood education teachers' education and classroom quality/child outcomes.

	Summary of Key Findings	Association with Observed Classroom Quality		Association with Child Outcomes (e.g., academic, language, social skills)	
		Difference	No difference	Difference	No difference
Lin & Magnuson, 2018	"Results from [analyses] suggest few associations between teachers' education level, ECE credits, or level on the professional career ladder and observed classroom quality. The key exception is that teachers who do not have any postsecondary education and training in ECE are in classrooms of significantly lower quality compared with teachers who have a college degree. Results from [analyses] indicate that teachers' education does not predict children's early academic skills."	**HS/GED with no ECE training vs. HS/GED or above with at least some ECE credits/training**: "Teachers with only a HS/GED degree, particularly those without any credit-based ECE training, were significantly less likely to be in high-quality classrooms." "Having teachers with at least some ECE-related training is an important predictor of classroom quality."	**Some college vs. BA; AA vs. BA**: "Teachers with just some college or an AA were not in classrooms of lower quality than teachers with a BA degree or higher."	None detected	**All education or credentials**: "Teachers' education and ECE training, regardless of how they were specified, were not associated with children's reading, math, or literacy skills."
Howes et al., 2008	"Gains [in academic outcomes] were not related to characteristics of the child or program (i.e., ratio, teacher qualifications, and program length and location)"	N/A (classroom quality not included as a measure)	N/A (classroom quality not included as a measure)	None detected	**BA vs. no BA**: "No evidence emerged indicated that gains during the PreK year were related to…whether the teacher had a BA."
Mashburn et al., 2008	"Findings indicate that despite their relevance to discussions of program development and quality, none of the minimum standards recommended by NIEER [including those related to teacher education]…were consistently associated with measures of academic, language, and social development during pre-K, among a	N/A (classroom quality not included as a measure)	N/A (classroom quality not included as a measure)	**BA vs. no BA**: BA positively associated with children's development of social competence.	**BA vs. no BA**: No association between BA attainment and children's development of language or academic skills.

	Summary of Key Findings	Association with Observed Classroom Quality		Association with Child Outcomes (e.g., academic, language, social skills)	
		Difference	No difference	Difference	No difference
	large sample of 4-year-old children who attended state funded programs."				**ECE/CD training**[3] **vs. no ECE/CD training**: No association between ECE/CD training and children's development of language or academic skills.
Early et al., 2007	In this study, researchers analyzed the data resulting from seven studies of early childhood education programs. Due to the number of analyses, we are unable to include every sub-finding in the table. The authors summarize their overall findings as follows: "Using seven recent, major studies of classroom-based educational programs for 4-year-olds, these analyses, taken together, do not provide convincing evidence of an association between teachers' education or major and either classroom quality of children's academic gains. Most of the analyses yielded null findings."				
Early et al. 2006	"Consistent with findings in the K–12 literature, this study finds few associations between any of the measures of education,	**More than a BA vs. AA**: "Teachers with more than a bachelor's had higher Teaching	**Years of Education:** No significant association between years of	**Years of Education:** "Children whose teachers had more years of education gained	"Other analyses were largely null."

[3] ECE/CD training defined in the study as: "Lead teacher has received specialized training in ECE, such as licensure/endorsement in the PreK area, or a degree or credential in early childhood, such as a CDA."

	Summary of Key Findings	Association with Observed Classroom Quality		Association with Child Outcomes (e.g., academic, language, social skills)	
		Difference	No difference	Difference	No difference
	major, or credentials and classroom quality or children's outcomes. Teachers' education, regardless of how it is operationalized, is linked to gains in children's math skills across the PreK year, and the CDA credential is linked to children's gains in basic skills; however, education, training, and credentialing are not consistently related to classroom quality or other academic gains for children."	and Interaction scores than teachers with an associate's degree."	education and classroom quality indicators. **BA vs. no BA:** "No differences in quality were found when comparing teachers with and without a bachelor's degree." **CDA vs. no CDA among those with a high school diploma only or with an AA in a field other than ECE**: No significant association between CDA attainment and classroom quality indicators.	significantly more in math skills over the PreK year. **BA vs. AA**: "Children whose teachers had a bachelor's degree gained more in math skills over the PreK year than children whose teachers had an associate's or no postsecondary degree." **BA or higher vs. less than a BA**: "Children whose teachers had a bachelor's degree or higher made significantly greater gains [in math]" **CDA vs. no CDA among those with a high school diploma only or with an AA in a field other than ECE:** CDA attainment associated with gains in rhyming and in identifying letters, numbers and colors.	

Prekindergarten Administration

The PreK administrative model adopted by each state is likely to depend on its unique political context, governance structure, resources and administrative history. As a result, there is no one-size-fits-all "best practice model," so each state needs to carefully consider the most appropriate structure for its own context (Regenstein, 2015). Regenstein (2015) suggests that states begin their consideration of a governance system by identifying their early childhood goals and intended outcomes. Goals and outcomes can then be used to guide the selection of a model. Common governance goals include coordination, alignment, sustainability, efficiency and accountability.

Regenstein (2015) outlines core questions states should ask as they contemplate potential changes to early childhood administrative models. These include the following: (1) Should early childhood programs be consolidated into a single agency?(2) If consolidation is deemed the best option, is it better to consolidate into an existing agency or create a new agency? And (3) If consolidation into an existing agency is preferable, which agency should be responsible?

Regarding the first question—whether to consolidate at all—Regenstein (2015) details several advantages to consolidating early childhood programs. Specifically, consolidation has the potential to facilitate coordination between services, strengthen communication and streamline monitoring and accountability efforts. States that opt to consolidate early childhood programs will typically move on to weigh the pros and cons of creating a new agency or consolidating within an existing agency (Regenstein, 2015). Important factors to consider include potential political influence and authority, leadership and political feasibility. Should a state choose to consolidate early childhood programs within an existing agency instead of creating a new one, the next question is where to consolidate (Regenstein, 2015).

Typically, states that take this route will decide between the department of education or the department of human services. Key considerations include the extent to which the mission and goals of each agency align with early childhood goals, the enthusiasm of each agency lead to oversee early childhood programs and the capacity of agency staff.

In addition to identifying key questions and important factors to guide decision-making about early childhood programs, Regenstein and Lipper (2013) also conducted interviews with state agency staff from three states—California, Maryland and Michigan—that successfully consolidated their early childhood initiatives. Although the sample size was small, interviewees claimed that the consolidation was worthwhile, albeit challenging and complex. Similar themes emerged from a recent case study analysis of four state PreK governance models (Wechsler et al., 2016). In their review, the authors detailed the contextual factors that led Michigan, West Virginia, Washington and North Carolina to their current PreK administrative structures. Although the four states varied in their approaches, the recommendation to coordinate the administration of birth-through-grade-3 programs emerged as one of the key lessons from the review. Specifically, the authors suggested bringing all children's services (e.g., PreK, child care, home visiting) into a single agency and implementing formal systems to promote cross-agency collaboration.

Undesirable Outcomes and Possible Solutions

Mixed Delivery

Challenge: Inequitable levels of compensation for PreK teachers may be attracting the highest quality teachers to public school settings, hindering private programs from hiring teachers of equally high quality.

Qualitative data from provider interviews suggests that public PreK programs have a marked advantage in hiring AOE ECE/ECSE licensed PreK teachers. Both public and private programs perceived that public programs tend to draw higher quality teachers than do private programs, due to their ability to offer substantially higher salaries, benefits and working conditions (e.g. shorter work days/years, embedded planning time). The emergence of this finding from program interviews is not entirely surprising, as researchers have also warned against the potential negative implications of inequitable compensation for PreK teachers (Ackerman et al., 2009; Barnett & Kasmin, 2017; Chaudry, 2017; Phillips, Austin, & Whitebook, 2016). Over time, such disparities in wages and environments might result in a concentration of the highest quality PreK classrooms in public schools, with children who attend private PreK programs receiving lower quality instruction.

Further, several private center-based and family home programs indicated that it could be challenging to find any licensed teacher to hire, let alone being able to choose the best candidate from among multiple applicants. As such, some private centers and home programs may be at risk of no longer be able to participate in Act 166 if they are unable to employ a licensed teacher.

Challenge: Opportunities for private programs to collaborate, receive cross-sector support, or participate in joint professional development vary by region.

Interview findings pointed to variation across the state in the quantity and quality of structures and initiatives to promote collaboration between public and private programs. Levels of cross-sector interaction and collaboration ranged from almost none to private programs that described receiving a range of supports from their public school partners. Overall, interview data suggests that the nature and quality of interactions between public and private programs depends to some extent on public districts' decisions to deploy resources and staff to support private PreK programs.

Possible Solution

Provide state-level professional development on priority topics. To ensure that all programs receive training on critical issues or instructional strategies, Vermont might consider developing and implementing select professional development workshops or courses. Doing so could foster consistency in programs' knowledge base and practices in core areas. For example, some programs suggested that professional learning opportunities related to the multi-tiered system of supports or childhood trauma should be available to PreK programs across the state. Currently, education on such topics seems to depend on whether individual districts or supervisory unions choose to offer related joint professional development.

Funding and Contracting

Challenge: The current system of local contracting has increased administrative demands for PreK programs and their staff.

In interviews, both public and private programs discussed the administrative burdens associated with PreK contracting. While public programs often have departments or offices that oversee invoicing, the process remains time intensive for school staff. Private programs found it particularly burdensome and inefficient to comply with the different invoicing and attendance processes used by different partner districts.

Possible Solutions

Develop, and require (or incentivize) public districts to use universal systems and forms for PreK contracting. Creating consistent PreK paperwork and administrative systems across the state would reduce the amount of time programs spend on redundant administrative tasks. The benefits would likely be especially notable for private centers that contract with multiple public partners. Further, administrative consistency has the potential to reduce errors, as programs would only need to become familiar with one system, instead of several. Interviewees specifically requested efforts to create universal forms and processes for the following: invoicing forms, systems for tracking attendance, payment schedules, contracting templates and student registration. If statewide uniformity cannot be achieved, programs implied that consistency at the regional level could also offer some relief.

Transfer responsibility for PreK invoicing to the state level. In lieu of urging districts to adopt universal contracting procedures, the state could assume responsibility for managing PreK invoicing. Doing so would almost certainly result in greater consistency in paperwork and administrative requirements by consolidating PreK contracting into a single system. Several programs, however, were cautious of state-level contacting. These interviewees stressed that any shift to state-level contracting should be accompanied by agency-level points of contact who could dedicate sufficient time to communicating with programs, checking paperwork submissions for accuracy and providing prompt response to inquiries.

Parent Choice

When asked if they had any suggestions to improve publicly-funded PreK for families in Vermont, 35 parents responded with relevant suggestions. Of these, 86% said that funding for the program should be increased. Most often, parents requested increased funding for additional hours of funded PreK. Specifically, several parents suggested increasing funding for a full school day or for after-school hours for working parents. A few parents whose children participate at their program for only the 10 PreK hours (with two 4-hour days and one 2-hour day) noted that it was a challenge to drop off and pick up their child on a 2-hour day. Several also suggested that increased funding could be used to provide transportation, particularly for those who attend with siblings at public schools or those who attend multiple programs and have working parents. Others suggested expanding the program to provide hours for younger children as well and to provide better support, pay and benefits to teachers. In relation to

access, some parents felt that greater accessibility of PreK programs was needed for low-income and rural families and that more public schools should provide programs. Some parents also made suggestions related to regulation and administration of the state's PreK program. A few noted that center-based programs should not be allowed to increase prices for PreK students; one noted that the current system made it difficult for family-based programs to survive. One parent noted a need for better communication from districts about the PreK program, and one suggested that PreK slots should be prioritized for children in nearby neighborhoods so children do not need to travel as far.

Equity

Challenge: Transporting children to and from PreK may be a barrier to participation for some parents, especially in a 10-hour-per-week program.

State-level stakeholders, along with public and private programs, identified transportation as a potential obstacle to accessing the 10 hours of PreK. Parents who work full-time often don't have the flexibility in their schedules to leave work partway through the day to transport their child from PreK to another child care setting. Further, low-income families may not have reliable access to transportation to bring their child to and from PreK.

Possible Solutions

Require/incentivize/encourage programs to consolidate their PreK hours into a smaller number of days. Consolidating PreK hours into two or three days per week may reduce the number of days parents need to arrange for transportation or leave their workplace to transport their child from PreK to another setting.

Bus transportation. If feasible, provide bus transportation for PreK students.

Challenge: Parents with children of special needs may be limited in their ability to choose from any prequalified program in the state without risking their ability to receive special education services.

Both PreK programs and state-level stakeholders shared concerns about equitable access to universal PreK for students with special needs. While Act 166 was designed to offer parents flexibility in choosing from among any prequalified program in the state, parents of children with special needs who want to ensure their child receives IEP support may be limited to their local district's program. Unlike families whose children do not have special needs, parents of children with special needs may face unique trade-offs between convenience and availability of special education support when selecting a PreK program.

Regulatory Oversight and Administration

Challenge: Public school programs find it burdensome and inefficient to comply with two sets of health and safety standards—both child care licensing regulations and existing public school standards.

The vast majority of public school programs have found it redundant and burdensome to comply with two sets of similar, yet not the same, regulations. Many public school programs questioned the necessity of applying child care regulations to public PreK programs, due to

existing health and safety standards that public schools are required to follow. Public school staff were particularly challenged by regulations related to school infrastructure and facilities, for which changes may be more complex than similar modifications to a private center or family home program. Public programs also noted that both sets of regulations occasionally contradict each other, leaving staff unsure how to proceed.

Possible Solutions

Develop a separate set of health and safety regulations that would apply only to public PreK programs. Vermont might consider modifying the existing child care regulations to create a separate set of standards designed specifically for public schools. Doing so would ensure that regulations developed with young children in mind remain in place for all PreK programs but are tailored to the different systems and processes of each setting. We understand that the state has already initiated public forums to learn more about the challenges and questions public schools have encountered in their attempts to follow child care licensing regulations.

Streamline reporting and documentation requirements for public schools. In addition to observing two sets of regulations, public PreK programs also found it inefficient to document the same compliance activities for both AOE and AHS. Providers requested the streamlining of reporting systems so that documentation of required activities would only need to be supplied once.

Challenge: Current monitoring systems may not be sufficiently robust to ensure accountability and provide programs with timely feedback and guidance.

Several state-level stakeholders and programs recommended that the state bolster its oversight and accountability systems to promote high quality across programs. Specifically, interviewees were concerned that the current approach relies too heavily on programs' self-reports of quality and not enough on monitoring visits or document review. Further, public programs expressed some uncertainty about their own role in monitoring the quality of partner programs.

Possible Solutions

Increase the frequency of site visit observations and opportunities for programs to receive feedback about their programs. We are aware that Vermont is currently working to bolster its PreK monitoring and accountability systems, including an external review of the current system. Interview findings suggest that site visits should be a critical part of any future monitoring plans. In addition to confirming that quality standards are being met, site visits might also be used to provide instructional coaching, review curricula and offer guidance as to how programs can increase or maintain their STARS rating. This would require significant additional staff and support at the state level.

Clarify expectations for the role, if any, of public programs in monitoring partner programs. Should local-level contracting continue, public PreK programs could benefit from additional guidelines regarding their role in oversight of partner programs. If

public schools are expected to assume any monitoring duties, a division of responsibilities between the local and state level should be outlined.

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Appendix A. Tables of PreK program characteristics by county and supervisory union.

Table A.1. PreK program characteristics by county, 2016/17.

County	Provider Type		STARS Rating			Total # PreK Programs
	Private	Public	3	4	5	
Addison	16	8	2	7	15	24
Bennington	19	5	3	9	12	24
Caledonia	14	10	4	6	14	24
Chittenden	74	19	7	27	59	93
Essex	2	2	0	1	3	4
Franklin	13	15	6	16	6	28
Grand Isle	3	2	0	2	3	5
Lamoille	7	8	1	5	9	15
Orange	12	7	3	8	8	19
Orleans	8	8	3	6	7	16
Rutland	10	20	1	15	14	30
Washington	15	16	2	17	12	31
Windham	23	9	1	13	18	32
Windsor	29	9	3	22	13	38
Total	245	138	36	154	193	383

Table A. 2. PreK program characteristics by county, 2017/18.

County	Provider Type		STARS Rating			Total # PreK Programs
	Private	Public	3	4	5	
Addison	16	8	2	7	15	24
Bennington	17	5	2	9	11	22
Caledonia	10	10	3	4	13	20
Chittenden	65	16	4	26	51	81
Essex	2	2	0	1	3	4
Franklin	5	15	2	11	7	20
Grand Isle	3	2	0	2	3	5
Lamoille	6	6	0	5	7	12
Orange	13	6	2	8	9	19
Orleans	8	9	2	6	9	17
Rutland	8	18	2	10	14	26
Washington	14	17	3	15	13	31
Windham	21	9	1	12	17	30
Windsor	22	9	2	16	13	31
Total	210	132	25	132	185	342

Table A.3. PreK program characteristics by supervisory union, 2016/17.

Supervisory Union	Provider Type		STARS Rating			Total # PreK Programs
	Private	Public	3	4	5	
Addison Central	7	4	1	4	6	11
Addison Northeast	5	1	0	2	4	6
Addison Northwest	2	1	0	0	3	3
Addison Rutland	2	3	1	0	4	5
Barre	3	2	0	1	4	5
Battenkill Valley	1	1	1	1	0	2
Bennington Rutland	8	3	2	2	7	11
Burlington	16	5	0	3	18	21
Caledonia Central	2	4	0	2	4	6
Caledonia North	5	3	4	0	4	8
Champlain Valley	20	3	0	9	14	23
Chittenden East	4	3	1	2	4	7
Colchester	7	1	2	4	2	8
Essex Caledonia	2	2	0	0	4	4
Essex North	0	0	0	0	0	0
Essex Westford	11	3	3	4	7	14
Franklin Northeast	0	5	0	3	2	5
Franklin Northwest	4	4	1	7	0	8
Franklin West	2	3	2	0	3	5
Grand Isle	3	2	0	2	3	5
Hartford	6	0	1	3	2	6
Harwood	5	5	1	6	3	10
Lamoille North	0	5	0	1	4	5
Lamoille South	7	2	1	3	5	9
Maple Run	7	3	3	6	1	10
Mill River	0	4	0	4	0	4
Milton	3	1	0	2	2	4
Montpelier	4	0	0	3	1	4
North Country	7	7	2	7	5	14
Norwich	2	0	0	1	1	2
Orange East	8	2	2	4	4	10
Orange North	0	2	1	0	1	2
Orange Southwest	1	1	0	1	1	2
Orleans Central	0	1	0	0	1	1
Orleans Southwest	2	3	1	2	2	5
Rivendell	1	2	0	1	2	3
Rutland Central	2	3	1	1	3	5
Rutland City	5	1	0	4	2	6
Rutland Northeast	1	5	0	3	3	6

Supervisory Union	Provider Type		STARS Rating			Total # PreK Programs
	Private	Public	3	4	5	
Rutland Southwest	1	4	0	4	1	5
South Burlington	10	2	1	3	8	12
Southwest Vermont	11	2	0	4	9	13
Springfield	8	0	0	5	3	8
St. Johnsbury	6	1	0	3	4	7
Two Rivers	3	1	0	1	3	4
Washington Central	3	5	1	6	1	8
Washington Northeast	0	2	0	0	2	2
Washington South	0	2	0	1	1	2
White River Valley	4	5	0	8	1	9
Windham Central	4	3	0	5	2	7
Windham Northeast	4	3	0	2	5	7
Windham Southeast	13	2	1	5	9	15
Windham Southwest	2	2	0	3	1	4
Windsor Central	3	2	1	3	1	5
Windsor Southeast	5	1	1	3	2	6
Winooski	3	1	0	0	4	4
Total	245	138	36	154	193	383

Table A.4. PreK program characteristics by supervisory union, 2017/18.

Supervisory Union	Provider Type		STARS Rating			Total # PreK Programs
	Private	Public	3	4	5	
Addison Central	7	4	1	4	6	11
Addison Northeast	5	1	0	2	4	6
Addison Northwest	2	1	0	0	3	3
Addison Rutland	2	3	1	0	4	5
Barre	3	2	0	1	4	5
Battenkill Valley	1	1	0	2	0	2
Bennington Rutland	8	3	2	2	7	11
Burlington	15	5	0	3	17	20
Caledonia Central	1	4	0	1	4	5
Caledonia North	5	3	3	1	4	8
Champlain Valley	18	3	0	9	12	21
Chittenden East	3	3	0	2	4	6
Colchester	6	1	2	3	2	7
Essex Caledonia	2	2	0	0	4	4
Essex North	0	0	0	0	0	0
Essex Westford	10	1	2	4	5	11
Franklin Northeast	0	5	0	2	3	5

Supervisory Union	Provider Type		STARS Rating			Total # PreK Programs
	Private	Public	3	4	5	
Franklin Northwest	1	4	0	4	1	5
Franklin West	1	3	1	0	3	4
Grand Isle	3	2	0	2	3	5
Hartford	5	0	1	2	2	5
Harwood	5	5	1	6	3	10
Lamoille North	0	3	0	1	2	3
Lamoille South	6	2	0	3	5	8
Maple Run	3	3	1	5	0	6
Mill River	0	4	0	4	0	4
Milton	3	1	0	2	2	4
Montpelier	3	1	1	1	2	4
North Country	7	8	1	7	7	15
Norwich	2	0	0	1	1	2
Orange East	9	2	1	5	5	11
Orange North	0	2	1	0	1	2
Orange Southwest	1	0	0	0	1	1
Orleans Central	0	1	0	0	1	1
Orleans Southwest	2	3	1	2	2	5
Rivendell	1	2	0	1	2	3
Rutland Central	1	3	0	1	3	4
Rutland City	4	1	1	2	2	5
Rutland Northeast	1	5	1	2	3	6
Rutland Southwest	1	2	0	2	1	3
South Burlington	9	1	0	3	7	10
Southwest Vermont	9	2	0	3	8	11
Springfield	7	0	0	4	3	7
St. Johnsbury	3	1	0	1	3	4
Two Rivers	2	1	0	0	3	3
Washington Central	3	5	1	6	1	8
Washington Northeast	0	2	0	0	2	2
Washington South	0	2	0	1	1	2
White River Valley	2	5	0	6	1	7
Windham Central	4	4	0	6	2	8
Windham Northeast	4	2	0	2	4	6
Windham Southeast	12	2	1	4	9	14
Windham Southwest	1	2	0	2	1	3
Windsor Central	3	2	1	3	1	5
Windsor Southeast	3	1	0	2	2	4
Winooski	1	1	0	0	2	2
Total	210	132	25	132	185	342