

Characteristics of Approved Universal Prekindergarten Programs in Vermont in 2018/19

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See <https://go.usa.gov/xAfQW> for the full report.

Appendix A. Literature review

Research shows that providing high-quality prekindergarten (preK) programs offers several benefits for children, including higher academic and social-emotional skills at kindergarten entry (Phillips et al., 2017; Yoshikawa et al., 2013; Zaslow et al., 2010). There are multiple state and local approaches to providing preK (Friedman-Krauss et al., 2018), which vary in terms of program quality requirements, number of hours or days provided, provider types, and other requirements (Friedman-Krauss et al. 2018). Many states have opted for a mixed-delivery system of providers. Vermont is one of only a handful of states with universal preK, offering every child an opportunity to enroll (Barnett & Gomez, 2016; Wat & Gayl, 2009). Other jurisdictions with universal programs are Florida, West Virginia, and the District of Columbia. In addition, Vermont and the District of Columbia are the only jurisdictions that offer universal access for 3- and 4-year-olds (Friedman-Krauss et al., 2018).

Findings are mixed about whether universal or targeted policies are better; some research and theory suggests that universal approaches yield the largest benefits (Barnett, 2011; Cascio, 2017). Research also suggests that early education experiences prior to kindergarten vary by child and family characteristics such as race/ethnicity, socioeconomic status, and home language (Rathbun & Zhang, 2016), with demographic characteristics associated with differential use of early education programs and program types. Creating a universal, mixed-delivery system of preK can increase 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 and preferred educational approach (Ackerman et al., 2009). However it is important to understand how the combination of various program characteristics provides a varied preK experience for children who access care within a universal mixed-delivery preK system. More research is needed to unpack the details of the characteristics of programs in each setting to understand whether one type of policy is more appropriate than another for providing preK education.

Availability and awareness of early childhood education settings and of geographic location are factors in families' decisions about whether to enroll in center-based or other nonparental early childhood education settings (Crosby et al., 2016; Miller et al., 2014; Tang et al., 2012). For example children from families with lower socioeconomic status are less likely than are children from families with higher socioeconomic status to attend center-based programs in the year before kindergarten (Rathbun & Zhang, 2016). Although Vermont's preK program is considered universal and children can attend programs anywhere in the state, the rural nature of the state means

that families living in different regions may have differential access to a program that is within a reasonable distance of their home. Recent reports on child care deserts suggest that access varies widely across different regions in the United States (Dobbins et al., 2016), with 37 percent of families in Vermont living in such a desert (Malik & Hamm, 2017). Relatedly, across the country the center-based programs attended by 3- to 5-year-old children in the poorest households were closer to home than were the center-based programs attended by children in the wealthiest households (National Survey of Early Care and Education Project Team, 2016). Research on the priorities and processes of child care decision-making suggests that the majority of low-income households consider two or fewer child care settings before making a decision (Forry et al., 2014). These results indicate that parents might be conducting a limited search for potential high-quality preK settings in their geographic area.

When creating a full-scale public program like universal preK in a mixed-delivery system, there are many factors to consider (Weiland, 2016). For example, policy choices between serving more children and ensuring that all programming is high quality can conflict (Ackerman et al., 2009; Weiland, 2018). Mixed-delivery systems expand the range of options for families while addressing the concern that some public school districts lack space in their facilities to house programs. But the mixed-delivery system can also raise concerns about inequitable experiences in different setting types. Teachers in public school settings have substantially higher salaries and benefits than do teachers in other program types, such that public schools could attract more highly educated and trained teacher staff (Ackerman et al., 2009; Chaudry, 2017), raising questions about whether children attending different setting types are receiving programs with different instructional quality. These are all challenges and considerations for Vermont as the state implements this public program statewide. By examining a multitude of program characteristics that might factor into families' decisions about enrolling their children in preK programs through Act 166, the current study builds on existing work exploring early childhood settings by highlighting the variety of program settings with different characteristics available to children and their families under the same preK policy.

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Appendix B. Methods

This appendix provides additional information about the data sources, sample, population and poverty measures, and methods.

Data sources

This study used existing data on all approved universal prekindergarten (preK) programs in the 2018/19 school year, collected by the Vermont Agency of Education. Administrative program data and data from a survey administered to preK programs in spring 2019 were obtained from the agency.

Administrative data included information on program type (public school or private), STep Ahead Recognition System (STARS) rating (three, four, or five stars), the number of years of participation in STARS, program site zip code, and the local education agency with which each town was associated.

The survey provided information on the following characteristics of program quality: National Association for the Education of Young Children (NAEYC) accreditation status; whether the program was a Head Start grantee (an indicator that the program serves primarily children from low-income households and provides additional wraparound services such as health and dental screenings and extensive parent engagement); the number of licensed preK teachers employed by the program; and whether the program used a formal preK curriculum. The survey provided information on the following structural characteristics of programs: the number of hours and weeks the program was open, whether the program accepted child care subsidies for payment, and whether the program was at capacity as of May 2019 (an indicator of program availability because programs that are at capacity are not available for families seeking a preK program for their children).

Data on the total population and the birth-to-5 population from the 2010 census (U.S. Census Bureau, 2010) and estimates of the percentage of the population below the poverty level from the American Community Survey of 2017 (U.S. Census Bureau, 2017) were linked to program data through zip codes.

Sample

This study included all 394 approved preK programs in Vermont at the time that the Vermont Agency of Education administered newly developed preK program survey in spring 2019. The total survey response rate was 87 percent, with 344 programs returning valid survey responses. Survey respondents and nonrespondents were similar in terms of program type and poverty level of the local education agency in which the program was located (table B1). Slightly lower percentages of respondents than of nonrespondents were home-based and had a four-star quality rating, and a higher percentage of respondents than of nonrespondents had a five-star quality rating, suggesting that respondents provided higher-quality care. A higher percentage of respondents were in local education agencies with a medium population size, and a slightly higher percentage of nonrespondents were in local education agencies with a small population size. Because of the high survey response rate, missing survey data were not imputed for this study.

Table B1. Comparison of program characteristics between prekindergarten program survey respondents and nonrespondents, 2018/19 (percent)

Program characteristic	Respondents (n = 344)	Nonrespondents (n = 50)	Total (N = 394)
Program type			
Public school	35.8	36.0	35.8
Private	64.2	64.0	64.2
License type			
Center-based	91.3	84.0	90.4
Home-based	8.7	16.0	9.6
Total STARS rating^a			
Three stars	3.8	2.0	3.6
Four stars	41.4	55.1	43.2
Five stars	54.7	42.9	53.2
Total population size of local education agency^b			
Small	16.9	22.0	17.5
Medium	30.8	22.0	29.7
Large	52.3	56.0	52.8
Poverty level of local education agency^c			
Low	11.0	10.0	10.9
Average	76.7	76.0	76.6
High	12.2	14.0	12.4

STARS is STep Ahead Recognition System.

a. Programs are awarded three stars if they obtain at least 9 points across the five subdomains of regulatory history, teacher qualifications and professional development, families and community, program practices, and administration; four stars if they obtain at least 12 points; and five stars if they obtain at least 15 points.

b. Population sizes were determined by the distribution of census data rather than by census designations because the census designates almost all of Vermont as rural, which would have limited the ability to look across communities with different population sizes. Local education agencies with fewer than 8,000 residents were designated as small population, local education agencies with 8,000–12,499 residents were designated as medium population, and local education agencies with 12,500 or more residents were designated as large population. The maximum number of residents within a local education agency's geographic boundaries was 38,299.

c. Local education agencies for which the percentage of population below the poverty level was one standard deviation below the overall mean for all local education agencies in the state (10.3 percent) were designated as low poverty (6 local education agencies), local education agencies for which the percentage of population below the poverty level was within one standard deviation of the overall mean were designated as average poverty (39 local education agencies), and local education agencies for which the percentage of population below the poverty level was one standard deviation above the overall mean were designated as high poverty (7 local education agencies).

Note: To simplify the table findings for the total population size of the local education agency are presented, findings are similar for the birth-to-5 local education agency population sizes.

Source: Authors' analyses based on Vermont Agency of Education survey and administrative data (2018/19).

Population and poverty measures

Population sizes were determined not by census designations but by the distribution of 2010 census data because the census designates almost all of Vermont as rural, which would have limited the ability to look across communities with different population sizes.

Local education agency overall population size. The overall population for each local education agency was calculated by adding the total population for all zip codes within that local education agency. In Vermont, local education agencies generally cover a group of towns, except in rare locations that have larger populations; therefore, it was relatively straightforward to link each zip code to one local education agency. Local education agencies with fewer than 8,000 residents were designated as small population, local education agencies with 8,000–12,499 residents were designated as medium population, and local education agencies with 12,500 or more residents were designated as large population. These cutpoints were determined by examining the distribution of the study data and setting cutpoints so that approximately one-third of the population fell within each level. The maximum number of residents within a local education agency's geographic boundaries was 38,299.

Local education agency birth-to-5 population size. The birth-to-5 population for each local education agency was calculated by adding the birth-to-5 population for all zip codes within that local education agency. Local education agencies with fewer than 420 children ages birth to 5 were designated as small population, local education agencies with 420–620 children ages birth to 5 were designated as medium population, and local education agencies with more than 620 children ages birth to 5 were designated as large population. These cut points were based on the distribution of local education agency population size in the study sample. The maximum number of children ages birth to 5 within a local education agency’s geographic boundaries was 1,748.

Local education agency poverty level. Poverty level was determined using data from the 2017 American Community Survey (U.S. Census, 2017). For each local education agency the percentage of the population living below the poverty level was averaged for all zip codes within that local education agency. Local education agencies for which the average percentage of population below the poverty level was one standard deviation below the overall mean for all local education agencies in the state (10.3 percent) were designated as low poverty, local education agencies for which the average percentage of population below the poverty level was within one standard deviation of the overall mean were designated as average poverty, and local education agencies for which the average percentage of population below the poverty level was one standard deviation above the overall mean were designated as high poverty. This approach is similar to approaches taken in other studies (for example, Battistich et al., 1995; Mohan et al., 2014) however this leaves the majority of the sample in the average poverty range.

Methodology

Frequencies, percentages, and means were calculated as appropriate. Descriptive statistics were calculated for public school and private programs separately to compare how the examined characteristics varied between the two program types. To examine characteristics by local education agency, the same descriptive statistics were used to summarize the structural, enrollment, and programmatic characteristics of programs in each local education agency and to examine program characteristics by the characteristics of the local education agencies (see table C2 in appendix C for a summary). Data on poverty, the total population, and the birth-to-5 population were used to characterize local education agencies.

When comparing findings across demographic groups, such as population size or poverty level, differences between groups that were greater than 5 percentage points and differences between group means that were larger than one standard deviation were considered meaningful—that is, likely larger than a difference that would occur by chance. Tests of statistical significance were not used because the study included the entire population of approved preK programs, and such tests are reserved for use with samples. Bivariate correlations were obtained to examine the magnitude of the association among local education agency characteristics. Finally, to address additional interests of state policymakers, tables C5–C8 in appendix C show the characteristics of preK programs by county.

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Appendix C. Supporting analyses

This appendix provides results from supporting analyses. Bivariate Pearson correlations were conducted to summarize the directionality and magnitude of the relationship between local education agency population and poverty characteristics and a local education agency's prekindergarten (preK) enrollment and number of preK programs (table C1).

Table C1. Pearson correlations between local education agency population, population below the poverty level, and prekindergarten (preK) enrollment characteristics

Local education agency characteristic	Local education agency characteristic				
	Total population, 2010	Birth-to-5 population, 2010	Average percentage of the population below the poverty level, 2017	Total number of preK children enrolled, 2018/19 ^a	Number of preK programs, 2018/19
Total population, 2010	$r = 1.0$ $N = 52$	$r = .971$ $N = 52$	$r = .031$ $N = 52$	$r = .850$ $N = 52$	$r = .766$ $N = 52$
Birth-to-5 population, 2010		$r = 1.0$ $N = 52$	$r = .014$ $N = 52$	$r = .868$ $N = 52$	$r = .766$ $N = 52$
Average percentage of the population below the poverty level, 2017			$r = 1.0$ $N = 52$	$r = -.026$ $N = 52$	$r = .008$ $N = 52$
Total number of preK children enrolled, 2018/19 ^a				$r = 1.0$ $N = 52$	$r = .869$ $N = 52$

a. Determined using survey data and reflects numbers reported by program leaders at the time of survey administration, added across all programs within a local education agency.

Note: Correlations with less than .30 magnitude are considered negligible, those between .30 and .50 are considered small, those between .50 and .70 are considered moderate, and those larger than .70 in magnitude are considered large (Hinkle et al., 2003).

Source: Authors' analyses based on Vermont Agency of Education survey and administrative data (2018/19) and U.S. Census (2010, 2017).

Population, poverty, and preK enrollment characteristics of local education agencies across Vermont are presented in table C2.

Table C2. Population and poverty characteristics and number of prekindergarten (preK) programs and enrollment of local education agencies, 2018/19

Local education agency	Total population size ^a	Birth-to-5 population size ^b	Total number of children under age 5	Poverty level ^c	Total number of preK children enrolled	Number of approved preK programs
Addison Central	Large	Medium	567	Average	204	10
Addison Northwest	Medium	Medium	458	Low	55	2
Addison Rutland	Medium	Small	410	Average	107	5
Barre	Large	Large	997	High	274	5
Battenkill Valley	Small	Small	180	Average	45	2

Local education agency	Total population size ^a	Birth-to-5 population size ^b	Total number of children under age 5	Poverty level ^c	Total number of preK children enrolled	Number of approved preK programs
Bennington Rutland	Large	Medium	602	Average	179	8
Burlington	Large	Large	1,748	High	495	21
Caledonia Central	Medium	Medium	576	Average	145	8
Central Vermont	Medium	Medium	532	Average	90	3
Champlain Valley Supervisory District	Large	Large	1,251	Average	480	22
Chittenden East	Large	Large	813	Low	271	9
Colchester	Large	Large	845	Average	173	9
Essex North	Small	Small	94	Average	12	1
Essex-Westford Supervisory District	Large	Large	1,277	Low	358	17
Franklin Northeast	Medium	Large	679	Average	207	6
Franklin Northwest	Medium	Large	712	Average	131	7
Franklin West	Small	Medium	423	Average	202	6
Grand Isle	Small	Small	319	Average	54	5
Greater Rutland County	Large	Large	1,510	Average	217	9
Hartford	Medium	Medium	546	Low	157	9
Harwood Unified Union	Large	Large	639	Average	156	8
Kingdom East Supervisory District	Large	Large	654	Average	157	11
Lamoille North	Medium	Large	707	Average	143	5
Lamoille South	Medium	Medium	531	Average	231	11
Maple Run	Large	Large	1,076	Average	232	12
Mill River Unified Union Supervisory District	Small	Small	209	Average	66	4
Milton	Large	Large	809	Low	160	4
Montpelier Roxbury	Large	Medium	620	Average	142	7
Mt Abraham Unified School District	Medium	Medium	550	Average	103	8
North Country	Large	Large	944	Average	259	18
Orange East	Medium	Medium	594	Average	76	10
Orange Southwest	Small	Small	321	Average	40	1
Orleans Central	Small	Small	376	High	54	1
Orleans Southwest	Small	Small	417	Average	63	5
Rivendell Interstate School District	Small	Small	146	High	31	3
Rutland City	Small	Small	26	Average	50	5
Rutland Northeast	Medium	Medium	531	Average	148	5
Sau 70	Small	Small	141	Low	34	2
South Burlington	Large	Large	828	Average	253	11
Southwest Vermont	Large	Large	1,270	Average	289	14
Springfield	Medium	Medium	547	High	136	8
St Johnsbury	Medium	Medium	540	Average	164	9
Two Rivers	Medium	Small	362	Average	65	4

Local education agency	Total population size ^a	Birth-to-5 population size ^b	Total number of children under age 5	Poverty level ^c	Total number of preK children enrolled	Number of approved preK programs
Washington Central	Small	Small	197	Average	125	8
White River Valley	Medium	Medium	595	Average	156	8
Windham Central	Small	Small	309	Average	108	9
Windham Northeast	Small	Small	411	High	81	7
Windham Southeast	Large	Large	1,101	Average	203	13
Windham Southwest	Small	Small	217	Average	33	3
Windsor Central	Small	Small	230	Average	54	3
Windsor Southeast	Medium	Medium	426	Average	127	9
Winooski	Small	Medium	448	High	97	4

[footnote additions OK?]

a. Local education agencies with fewer than 8,000 residents were designated as small population, local education agencies with 8,000–12,499 residents were designated as medium population, and local education agencies with 12,500 or more residents were designated as large population. The maximum number of residents within a local education agency’s geographic boundaries was 38,299.

b. Local education agencies with fewer than 420 children ages birth to 5 were designated as small population, local education agencies with 420–620 children ages birth to 5 were designated as medium population, and local education agencies with more than 620 children ages birth to 5 were designated as large population. The maximum number of children ages birth to 5 within a local education agency’s geographic boundaries was 1,748.

c. Local education agencies for which the average percentage of population below the poverty level was one standard deviation below the overall mean for all local education agencies in the state (10.3 percent) were designated as low poverty (6 local education agencies), local education agencies for which the average percentage of population below the poverty level was within one standard deviation of the overall mean were designated as average poverty (39 local education agencies), and local education agencies for which the average percentage of population below the poverty level was one standard deviation above the overall mean were designated as high poverty (7 local education agencies).

Note: Population sizes were determined by the distribution of census data rather than by census designations because the census designates almost all of Vermont as rural, which would have limited the ability to look across communities with different population sizes.

Source: Authors’ analyses based on Vermont Agency of Education survey and administrative data (2018/19) and U.S. Census (2010, 2017).

An examination of cross-tabulations of local education agency population sizes by program characteristics shows that local education agencies with a small total population had the highest percentage of programs located in public school buildings (50 percent; table C3). This result is most likely explained by the percentage of public school preK programs compared with private programs in these local education agencies: they are evenly split (see table 3 in the main report), though across the state 7 percent of private programs are located in public school buildings (see table 2 in the main report). Local education agencies with a large total population had the highest percentage of preK programs at capacity in May 2019 (52 percent).

Local education agencies with a medium total population had the lowest percentages of preK programs that had at least one mixed-age classroom (74 percent) and the lowest percentage of preK programs that were accredited by the National Association for the Education of Young Children (NAEYC; 9 percent). Local education agencies with a small total population had the lowest percentage of preK programs that were Head Start grantees (7 percent).

Table C3. Program structural and quality characteristics of prekindergarten (preK) programs in Vermont, by local education agency total population size

Program characteristic, 2018/19	Local education agency total population size, 2010 ^a					
	Small		Medium		Large	
	Percent	Number of programs	Percent	Number of programs	Percent	Number of programs
Is at preK capacity as of May 2019	43.9	57	40.6	106	52.0	179
Is located in public school	50.0	58	46.2	106	32.2	180
Accepts subsidy payments ^b	82.8	29	85.0	60	83.5	127
Has at least one mixed-age classroom	82.6	57	74.3	105	77.7	179
Is NAEYC accredited	15.5	58	8.5	106	15.6	180
Is a Head Start grantee ^b	6.9	39	10.0	60	13.4	127
Uses formal preK curriculum	87.7	57	90.5	105	88.3	179
Plans to renew approval	94.7	57	98.1	105	96.1	179

NAEYC is the National Association for the Education of Young Children.

a. Population sizes were determined by the distribution of census data rather than by census designations because the census designates almost all of Vermont as rural, which would have limited the ability to look across communities with different population sizes. Local education agencies with fewer than 8,000 residents were designated as small population, local education agencies with 8,000–12,499 residents were designated as medium population, and local education agencies with 12,500 or more residents were designated as large population. The maximum number of residents within a local education agency's geographic boundaries was 38,299.

b. Public school programs cannot accept subsidy payments for their services or be Head Start grantees.

Source: Authors' analyses based on Vermont Agency of Education survey and administrative data (2018/19) and U.S. Census (2010).

Findings for local education agency birth-to-5 population were similar to those for total population (table C4). Local education agencies with a small birth-to-5 population had the highest percentage of programs located in public school buildings (53 percent). Local education agencies with a small birth-to-5 population also had the lowest percentage of preK programs at preK capacity in May 2019 (36 percent).

Local education agencies with a medium birth-to-5 population had the lowest percentage of preK programs that were NAEYC accredited (11 percent). Local education agencies with a large birth-to-5 population had the highest percentage of preK programs that were Head Start grantees (14 percent) and the lowest percentage of preK programs that had at least one mixed-age classroom (73 percent).

Table C4. Program structural and quality characteristics of prekindergarten (preK) programs in Vermont, by local education agency birth-to-5 child population size

Program characteristic, 2018/19	Local education agency birth-to-5 population size, 2010 ^a					
	Small		Medium		Large	
	Percent	Number of programs	Percent	Number of programs	Percent	Number of programs
Is at preK capacity as of May 2019	35.7	56	48.6	111	49.7	175
Is located in public school	52.6	57	36.6	112	37.1	175
Accepts subsidy payments ^b	85.7	28	83.8	74	83.3	114
Has at least one mixed-age classroom	80.4	56	83.6	110	72.6	175
Is NAEYC accredited	15.8	57	10.7	112	14.3	175
Is a Head Start grantee ^b	7.1	28	9.5	74	14.0	114
Uses formal preK curriculum	89.3	56	90.9	110	87.4	175
Plans to renew approval	96.4	56	96.4	110	96.6	175

a. Local education agencies with fewer than 420 children ages birth to 5 were designated as small population, local education agencies with 420–620 children ages birth to 5 were designated as medium population, and local education agencies with more than 620 children ages birth to 5 were designated as large population (the maximum number of children ages birth to 5 within a local education agency's geographic boundaries was 1,748).

b. Public school programs cannot accept subsidy payments for their services or be Head Start grantees.

Source: Authors' analyses based on Vermont Agency of Education survey and administrative data (2018/19) and U.S. Census (2010).

Descriptive analyses were conducted by county to show state policymakers the landscape of preK programs in their region of the state. The proportion of public school and private programs varied by county (table C5), which may have implications for the types and hours of preK services available in each region.

Table C5. Percentage of Vermont prekindergarten (preK) programs that were designated as public school and private programs, by county, 2018/19

County	Percent		Number of programs
	Public school	Private	
Addison	30.4	69.6	23
Bennington	21.7	78.3	23
Caledonia	38.5	61.5	26
Chittenden	21.6	78.4	97
Essex	60.0	40.0	5
Franklin	51.6	48.4	31
Grand Isle	40.0	60.0	5
Lamoille	41.2	58.8	17
Orange	38.9	61.1	18
Orleans	42.1	57.9	19
Rutland	69.2	30.8	26
Washington	54.8	45.2	31
Windham	25.8	74.2	31
Windsor	28.6	71.4	42

Source: Authors' analyses based on Vermont Agency of Education survey and administrative data (2018/19).

Availability of programs—hours per day and weeks per year—varied across counties, with preK programs in Essex County having the lowest average number of open hours per day (4.8) and weeks per year (37; table C6). This is probably the case because some counties, such as Essex, have smaller populations, and local education agencies with small populations also showed similar results. There was also variability in the average number of preK children served at each program across counties (ranging from 12 to 30). These findings may have implications for the availability of preK programming in each county and for the number of transitions between settings children may experience in these areas if they need afterschool or summer care, similar to findings regarding availability of preK programs and program types by local education agency population size.

Table C6. Program hours, number of children and of licensed teachers, and STep Ahead Recognition System (STARS) ratings of approved prekindergarten (preK) programs in Vermont, by county, 2018/19

County	Hours open per day		Weeks open per year		Number of preK children		Number of licensed teachers		Total STARS rating ^a		Years in STARS	
	Mean (standard deviation)	Number of programs	Mean (standard deviation)	Number of programs	Mean (standard deviation)	Number of programs	Mean (standard deviation)	Number of programs	Mean (standard deviation)	Number of programs	Mean (standard deviation)	Number of programs
Addison	8.1 (1.6)	18	41.3 (6.0)	20	19.9 (9.6)	20	1.8 (1.0)	20	4.7 (0.5)	20	8.6 (2.5)	20
Bennington	8.6 (2.1)	18	47.3 (5.9)	19	24.6 (14.8)	18	1.8 (1.0)	18	4.4 (0.7)	23	8.3 (3.9)	23
Caledonia	8.6 (2.2)	25	37.6 (15.5)	25	16.4 (8.6)	25	1.6 (0.9)	25	4.7 (0.5)	24	7.4 (3.7)	24
Chittenden	8.4 (2.4)	81	41.4 (11.6)	84	27.2 (20.6)	84	2.0 (1.6)	84	4.6 (0.6)	97	7.5 (3.5)	97
Essex	4.8 (1.1)	5	37.2 (2.2)	5	11.8 (5.4)	5	1.2 (0.4)	5	4.6 (0.5)	5	8.6 (3.1)	5
Franklin	7.4 (1.6)	22	39.9 (8.1)	28	27.6 (26.0)	28	2.1 (2.1)	28	4.2 (0.7)	31	7.7 (4.0)	31
Grand Isle	8.3 (3.5)	4	45.0 (10.0)	4	13.5 (4.8)	4	1.5 (0.6)	4	4.8 (0.4)	5	7.8 (4.3)	5
Lamoille	7.3 (2.4)	16	38.6 (11.5)	16	24.9 (12.2)	16	1.6 (0.7)	16	4.5 (0.5)	15	7.8 (3.5)	15
Orange	9.2 (1.5)	11	44.7 (7.3)	13	17.1 (11.0)	13	1.2 (0.7)	13	4.5 (0.6)	18	8.0 (3.5)	18
Orleans	7.9 (2.9)	16	38.9 (11.4)	16	19.8 (17.4)	16	1.4 (1.3)	16	4.5 (0.6)	19	7.8 (4.5)	19
Rutland	7.8 (1.7)	18	38.8 (10.8)	21	27.5 (16.8)	21	1.4 (0.5)	21	4.4 (0.6)	26	8.6 (2.0)	26
Washington	7.8 (1.9)	24	40.5 (6.3)	27	29.5 (24.9)	27	2.0 (1.3)	27	4.4 (0.6)	31	7.9 (3.5)	31
Windham	8.3 (1.7)	27	41.7 (10.4)	27	16.3 (8.4)	27	1.3 (0.5)	27	4.6 (0.5)	31	8.1 (3.2)	31
Windsor	8.8 (1.9)	38	41.8 (11.5)	38	18.9 (10.7)	38	1.3 (0.7)	37	4.4 (0.5)	42	7.6 (3.6)	42

a. Programs are awarded three stars if they obtain at least 9 points across the five subdomains of regulatory history, teacher qualifications and professional development, families and community, program practices, and administration; four stars if they obtain at least 12 points; and five stars if they obtain at least 15 points.

Source: Authors' analyses based on Vermont Agency of Education survey and administrative data (2018/19).

Availability of Head Start programs and programs that accept child care subsidies varied by county (table C7), which may also be related to differing poverty levels across counties. There also was some variability within each county in the percentage of programs that had reached preK capacity by May 2019. These findings indicate that the availability of programs with wraparound services and open preK slots may differ by county. Finally, although the large majority of programs indicated that they would renew approval, fewer than 90 percent of programs in Orleans County indicated they would do so, which may have implications for availability of preK for children in that county in future years.

Table C7. Structural characteristics of prekindergarten (preK) programs in Vermont, by county, 2018/19

County	At preK capacity as of May 2019		Located in public school		Accepted subsidy payments		Head Start grantee		Planned to renew approval	
	Percent	Number of programs	Percent	Number of programs	Percent	Number of programs	Percent	Number of programs	Percent	Number of programs
Addison	55.0	20	40.0	20	92.9	14	7.1	14	100.0	20
Bennington	61.1	18	21.1	19	92.9	14	21.4	14	94.4	18
Caledonia	36.0	25	44.0	25	100.0	14	21.4	14	96.0	25
Chittenden	46.4	84	29.8	84	82.8	64	7.8	64	96.4	84
Essex	40.0	5	60.0	5	0.0	2	100.0	2	100.0	5
Franklin	50.0	28	50.0	28	71.4	14	7.1	14	100.0	28
Grand Isle	50.0	4	25.0	4	100.0	3	0.0	3	100.0	4
Lamoille	56.3	16	37.5	16	88.9	9	11.1	9	93.8	16
Orange	61.5	13	46.2	13	90.0	10	0.0	10	92.3	13
Orleans	37.5	16	43.8	16	87.5	8	25.0	8	87.5	16
Rutland	33.3	21	66.7	21	71.4	7	28.6	7	100.0	21
Washington	51.9	27	50.0	28	64.3	14	7.1	14	92.6	27
Windham	48.1	27	33.3	27	94.7	19	5.3	19	96.3	27
Windsor	42.1	38	36.8	38	79.2	24	12.5	24	100.0	37

Source: Authors' analyses based on Vermont Agency of Education survey and administrative data (2018/19).

PreK program quality characteristics varied by county (table C8). In particular although the majority of programs in any county used a formal preK curriculum, in some counties a lower percentage of programs indicated they did so (the range was 75 percent in Addison County to 100 percent in Essex County and Grand Isle County). Counties also varied in the percentage of preK programs that were NAEYC accredited. Because NAEYC accreditation is a national indicator of early childhood program quality, this finding may have implications for the quality of preK programming available in each county.

Table C8. Program quality characteristics of prekindergarten (preK) programs in Vermont, by county, 2018/19

County	At least one mixed-age classroom		NAEYC accredited		Used formal preK curriculum	
	Percent	Number of programs	Percent	Number of programs	Percent	Number of programs
Addison	90.0	20	10.0	20	75.0	20
Bennington	83.3	18	5.3	19	88.9	18
Caledonia	76.0	25	8.0	25	96.0	25
Chittenden	71.4	84	19.0	84	86.9	84
Essex	100.0	5	20.0	5	100.0	5
Franklin	71.4	28	3.6	28	92.9	28
Grand Isle	50.0	4	50.0	4	100.0	4
Lamoille	62.5	16	6.3	16	93.8	16
Orange	84.6	13	7.7	13	92.3	13
Orleans	87.5	16	18.8	16	81.3	16
Rutland	45.0	20	4.8	21	85.7	21
Washington	85.2	27	7.1	28	96.3	27
Windham	81.5	27	14.8	27	85.2	27
Windsor	94.7	38	23.7	38	89.2	37

NAEYC is National Association for the Education of Young Children.

Source: Authors' analyses based on Vermont Agency of Education survey and administrative data (2018/19).

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