A Comparison of Regulated Child Care in Rural and Urban Pennsylvania

The Center for
Rural Pennsylvania
A Legislative Agency of the Pennsylvania General Assembly

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May 2011

This project was sponsored by a grant from the Center for Rural Pennsylvania, a legislative agency of the Pennsylvania General Assembly.

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Contents

Introduction 5
Current State Activities 5
Goals and Objectives 6
Methodology 6
Results 7
Characteristics of Regulated Providers 7
Child Care Quality 7
Child Care Used by Subsidized Families 15
Nontraditional Hours of Child Care 17
Conclusions and Considerations 18
Keystone STARS, Quality and Rural Providers 20
T.E.A.C.H. Early Childhood® Program 20
Promoting Child Care to Meet Rural Needs .. 21
References 22

Executive Summary

This research was conducted in 2009-2010 to provide a comparison of regulated child care in rural and urban counties in Pennsylvania. Specifically, the research explored the types of licensed child care available, child care quality, and the types of care most often used by families who receive subsidies in rural and urban counties.

The research used 2008 data from the Pennsylvania Office of Child Development and Early Learning (OCDEL) and Environment Rating Scales assessment data from the 2002 Pennsylvania Early Childhood Quality Setting Study.

To explore child care quality, the researchers examined participation in the voluntary Keystone STARS quality rating program and the T.E.A.C.H. Early Childhood® program, both implemented by the Pennsylvania Department of Public Welfare. They also examined Environmental Rating Scales (ERS) assessment data completed by OCDEL.

The research found that the majority of licensed child care available in both rural and urban counties was child care centers (84 percent and 92 percent, respectively), followed by family child care and group homes.

According to the research, the majority of providers participating in the Keystone STARS program were child care centers. This was true for providers in both rural and urban counties.

In terms of the T.E.A.C.H. Early Childhood program, the research found active participants in both rural and urban counties and that rates of participation were similar across all types of child care. However, there were seven rural counties in the state that had no participants. The research also found that a large proportion of participants failed to complete their contracts in the T.E.A.C.H. Early Childhood program, although no data were available on the reasons why these participants did not complete the contracts.

The analysis of the ERS assessment data showed that rural child care counties scored significantly higher than those in urban counties on the majority of early childhood quality indicators evaluated by observational measures.

The research also found that the overwhelming majority of children in rural counties who received child care subsidies were cared for in regulated child care settings. However, there was considerable county-by-county variability.

The research also found that the proportion of providers offering care during nontraditional hours (6 p.m. to 6 a.m. and weekends) was low throughout the state; in 23 rural counties, there were no centers offering nontraditional hours of care.

Introduction

Abundant research has highlighted the importance of children's development from infant to age 5 (Shonkoff and Phillips, 2000). In the first five years of life, children develop basic skills and competencies that they build on as they grow. When children's cognitive, social-emotional, and physical development are nourished in these early years, they are more likely to enter school ready to learn and succeed.

Child care is a regular experience for a majority of children during their early years and it is clear that the quality of child care matters. Children who attend higher quality child care enter school better prepared and continue to do better in the early years of schooling (Peisner-Feinberg, et al., 2001).

Another important role of child care is providing a safe environment for children while parents are working. Large demographic shifts of mothers of young children into the paid labor force in recent decades, combined with increases in the numbers of single parent households, has meant that many more families are in need of nonparental care for their children.

This dual role of child care (promoting the development of young children and meeting the needs of working families), is likely to complicate the understanding of patterns of child care use since child care that meets one of these needs may not meet the other.

Much of the research conducted on child care has focused on urban and suburban areas or has summarized data statewide or nationally. While the findings of such studies are valuable, there is good reason to consider rural children as a distinct group. There is evidence, for example, that rural families are more likely to use family child care and neighbor/relative care than center-based child care (Atkinson, 1994; Grace et al., 2006; and Smith, 2006).

Family child care is defined as the care of a small number of children in the provider's home. In Pennsylvania, regulated family child care includes all providers caring for four to six children not their own.

Neighbor/relative care is care provided by a neighbor or relative for fewer than three children. It is not required to be regulated by the state.

Center-based care is state-licensed care in an out-of-home setting for seven or more children.

Pennsylvania also licenses group day care homes where six to 12 children are cared for by two providers, usually in a home setting.

When not otherwise indicated, group day care homes are combined with center-based care in this report.

A recent study examining child care patterns in rural Pennsylvania and North Carolina found that more than half of families using child care used settings other than child care centers (De Marco et al., 2009). This pattern of child care use is concerning because studies in Pennsylvania and nationally have shown that the quality of child care is better in center-based programs than in home-based programs (Governor's Task Force on Early Childhood Care and Education, 2002; and NICHD ECCRN, 2002).

There are a number of reasons rural families may rely more on home-based child care. Center-based child care generally costs more than home-based options (both family child care and neighbor/relative care) (Capizzano and Adams, 2003; and Smith, 2006). As poverty rates in rural areas are relatively high, rural families may find it difficult to afford center-based options unless they have financial assistance. In fact, rural families that use child care subsidies are more likely to select care in regulated child care environments than those who do not use subsidies (Walker and Reschke, 2004).

Distances between home, work, and child care, as well as the overall low population densities in rural communities, may limit center-based care as an option (Katras et al., 2004). In Maryland, when locations of child care centers were mapped in a rural county, they were found to be clustered around an urban core, leaving many in the county with long distances to travel to reach these centers (Walker and Reschke, 2004).

Parents who work during atypical hours may have difficulty using center-based child care since such providers typically operate only during daytime hours on weekdays. Many regulated family child care providers also only offer care during traditional work hours. This significantly constrains choices for those working nights and weekends (Ames et al., 2006). In addition, parents who do not work full-time may be unable to find regulated providers willing to provide part-time care for their children (Walker and Reschke, 2004).

Current State Activities

For many families, child care expenses are the second largest item in the household budget after rent or mortgage payments (Giannarelli and Barsimantov, 2000). In recognition of the burden these payments may have on families, Pennsylvania has offered child care subsidies to low-income families to help with provider costs. The subsidy program, Child Care Works, allows parents to choose any provider, including centers, group homes, family child care and neighbor/relative care. Over the years, there have been waiting lists for the subsidy program, suggesting that many families needed this type of support.

In May 2010, all child care waiting lists for the Child Care Works program were cleared when American Recovery and Reinvestment Act (ARRA) funds became available for the program. However, since the AARA funds were a one-time resource, the Child Care Works program waiting list may grow again.

In addition to payments for care, families also may be challenged with locating child care options that meet their needs. To help parents with this process, the state offers resource and referral services in each county through the Child Care Information Services (CCIS) office. CCIS

offices, funded through the Pennsylvania Department of Public Welfare (DPW), serve as clearinghouses for information about child care in each county and handle the Child Care Works subsidy program. CCIS offices are separate from the county Children and Youth Services offices.

In recent years, the state has invested significant funds to improve the quality of child care available to families through the Keystone STARS quality rating system, which is regulated by DPW, and the T.E.A.C.H. Early Childhood program.

Keystone STARS is Pennsylvania's Child Care Quality Voluntary Improvement Program that provides fiscal incentives for child care programs to attain higher level standards, building upon the licensing requirements for child care facilities. The effectiveness of the program has been evaluated (Barnard et al., 2006). The program awards one to four STARS based on the level of compliance with specific program quality standards, which indicate the level of participation by the specific child care facility (see the Office of Child Development and Early Learning's Keystone STARS Child Care Standards, 2010).

The voluntary Keystone STARS quality rating system was piloted in portions of the state in 2002 and implemented statewide shortly after. The goal of the program is to objectively rate the quality of child care settings using standardized procedures, (the Environment Rating Scales, ERS), and to provide child care programs with targeted financial assistance, professional development, and other supports to help them improve quality. In addition, the STARS ratings provide parents with some information about the quality of care their children are receiving. In June 2008, 55 percent of regulated providers statewide were participating in the Keystone STARS program, although there were variations by region and by type of regulated care (center, group home, family child care) (OCDEL, 2009).

In 1999, DPW began funding T.E.A.C.H. (Teacher Education And Compensation Helps) Early Childhood for those working in DPW-regulated child care programs in Pennsylvania. This program was implemented in response to concerns about the very high turnover rates of teachers in child care as well as evidence that teacher qualifications in the state had been declining over the previous decade (Fiene et al., 2002). The program provides scholarships for individuals who wish to pursue additional professional education in early childhood and has been expanded to include those in Pre-K Counts,[1] Pennsylvania Department of Education (PDE) regulated programs in public schools, and Head Start programs. Currently, child care workers who want to participate in T.E.A.C.H. Early Childhood must be in a program that participates in Keystone STARS.

Assessments of both the T.E.A.C.H. Early Childhood program and the Keystone STARS program were completed in 2006 (Barnard et al., 2006; and Miller et al., 2006). While the evaluations of both T.E.A.C.H. Early Childhood and Keystone STARS are generally positive, they only provide information about the commonwealth as a whole. Neither report considers whether or how the impact of these programs varies in rural and urban counties. Understanding these differences can be effective in targeting improvement efforts for the programs.

Goals and Objectives

The goal of this research, conducted in 2009-2010, was to provide a comparison of state-licensed child care in rural and urban Pennsylvania counties. This included an analysis of the quality of regulated child care available as well as participation of child care providers in quality improvement activities. The study also included an assessment of available data on the child care use patterns of families using the state child care subsidy. This research provides information that may help the commonwealth better target child care resources and initiatives to have the greatest impact for children and families.

Specific objectives of this research were to explore child care quality, child care providers and families using child care subsidies in rural and urban Pennsylvania. The examination of "quality" included an evaluation of provider participation in the Keystone STARS program and an analysis of data on observed quality of child care. Teachers were examined in relation to their participation in the T.E.A.C.H. Early Childhood scholarship program, which helps them increase their skills through additional education. Finally, the researchers examined the child care use patterns of families using child care subsidies in relation to the availability of regulated child care programs and the availability of nontraditional hours of care.

Methodology

The researchers used 2008 data collected by the Pennsylvania Office of Child Development and Early Learning (OCDEL). As the research progressed, some of this data could not be made available for research purposes. Therefore, the researchers used data from the 2009 Kids Count Data Book (Annie E. Casey Foundation, 2009).

For the analysis of child care quality, the researchers reanalyzed Environment Rating Scale (ERS) assessment data from the 2002 Pennsylvania Early Childhood Quality Settings Study. The researchers analyzed the 2008 Keystone STARS ratings of participating providers along with a separate reanalysis of data from the 2002 study of child care quality with specific examination of rural and urban

[1] Pre-K Counts programs are state supported pre-kindergarten programs targeting children at risk of academic failure. In 2008-2009, the PreK-Counts program served approximately 11,800 children in 62 counties. PreK-Counts is funded through competitive grants from the Pennsylvania Department of Education to public schools, child care, Head Start and private nursery schools. Further information, including the most recent list of funded PreK-Counts programs, is available at www.prekcounts.org.

Table 1: Licensed Child Care Capacity in Rural and Urban Counties (2008)

	Center		Group Home		Family Child Care		Total	
	N	%	N	%	N	%	N	%
Rural	58,000	84	4,132	6	6,924	10	69,056	100
Urban	266,892	92	5,535	2	18,156	6	290,583	100
Total	324,892	90	9,667	3	25,080	7	359,639	100

Source: OCDEL, 2008

Table 2: Regulated Providers by Provider Type (as of 06/30/2010)

	Center		Group Home		Family Child Care		Total	
	N	%	N	%	N	%	N	%
Rural	3,563	55	528	8	2,420	37	6,511	100
Urban	928	41	359	16	951	42	2,238	100
Total	4,491	51	887	10	3,371	39	8,749	100

Source: OCDEL, 2010

similarities and differences. Because data on STARS and ERS were available for different years, the researchers did not make comparisons between the two data sets.

Having to use the 2002 ERS data rather than 2008 data was a significant limitation. This six-year time gap between data collection does call into question the validity of the results related to program quality based on previous studies (Fiene, et al., 2002; and Fiene, Iutcovich, Johnson, and Koppel, 1998) in which there were significant changes in the level of program quality from one study to the next. (Note: after the research was completed, OCDEL released the report, 2010 Keys To Quality Evaluation. This report may provide additional information on program quality).

The research, with one exception, used the Center for Rural Pennsylvania's definition of rural and urban counties as follows: a county is considered rural when the number of persons per square mile within the county is less than 274. Other counties are considered urban.

The exception to using this definition was in the analyses of child care quality data, which were from the 2002 Pennsylvania Early Childhood Quality Settings Study. In this study, urban (or metropolitan) counties were defined as those with more than 1 million people; small cities were those with 2,500 to 20,000 people, and rural areas were those with less than 2,500 people (National Center for Educational Statistics, 2004). For this research, the researchers kept the urban data and labeled it "urban," and aggregated the small cities and rural data and labeled it "rural."

Results

Characteristics of Regulated Providers

In 2008, there were approximately 359,639 spaces in regulated child care programs (centers, group homes, and family child care) in Pennsylvania. Not surprisingly, most of this capacity was in the more populated parts of the state. Table 1 shows the breakdown of child care capacity in rural and urban counties.

A larger proportion of child care capacity for rural families is in smaller settings (group home and family child care settings) when compared to urban settings. Correspondingly, urban settings have a larger proportion of total capacity available in center-based care. DPW's child care regulations limit capacity in family child care settings to a maximum of six children unrelated to the provider, and, for group homes, the limit is 12 children unrelated to the provider. Child care centers may care for seven or more children unrelated to the provider, however, total licensed capacity is determined by the square footage of the facility. In other words, there is no limit to the size of child care centers. It is worth noting that licensed capacity is typically higher than the actual enrollment in a center.

Table 2 shows the number of regulated providers in rural and urban counties by provider type.

Child Care Quality

Keystone STARS

The Keystone STARS program is a state-sponsored child care quality improvement program. It was established as a pilot program in 2002 and currently operates statewide (PA Keys, 2009). Regulated child care providers earn higher STARS designations (between one and four) by meeting specific performance standards related to: staff qualification and professional development; the learning program for children; partnerships with families and community; and leadership and management. Each STAR level builds on the previous one. Participating programs receive financial awards based on the STAR level they have achieved and the size of the program.

The research found a slight difference in STAR levels in programs located in rural and urban counties (See Table 3). The analysis included a total of 17,964 facility obser-

Table 3: Comparison of Facilities in Rural and Urban Counties by Star Level (2008)

Star Level	Rural (5,287)	Urban (12,677)
No Star*	75%	75%
Star 1	14%	15%
Star 2	7%	5%
Star 3	2%	2%
Star 4	2%	3%

*Includes both "Start with STARS" (providers who have joined but have not yet earned a STAR designation) and providers not participating in Keystone STARS. Source: OCDEL, 2008

Table 4: Facilities in Rural and Urban Counties by Type of Care Provided (2008)

Type of Care	Rural (5,287)	Urban (12,677)
Center	46%	49%
Group home	2%	2%
Family child care	52%	49%

Source: OCDEL, 2008

vations (5,287 observations in rural counties and 12,677 observations in urban counties) from OCDEL's 2008 Licensing and Provider Data Base. This database includes multiple observations of each Keystone STARS facility but does not indicate if the observation is done in the same classroom.

Table 4 provides a breakout of the type of care provided. According to the analysis, there were a greater number of family child care homes in rural counties than in the urban counties (52 percent rural versus 49 percent urban) and a greater number of child care centers in urban counties than in rural counties (49 percent urban versus 46 percent rural).

Table 5 provides a more detailed breakdown by STAR level and rural and urban provider types. There are statistically significant differences at the No STAR level, STAR 1 level, and STAR 2 level, with more family child care in rural counties and more center child care in urban counties. The majority of child care providers participating in the Keystone STARS program are child care centers, especially at the higher STAR levels, regardless of urban or rural county location.

Table 6 provides a detailed breakout of the type of care in urban and rural counties and their STAR level. There was one statistically significant difference with family child care homes in rural versus urban counties. There were more "No STAR" family child care providers in urban counties. Group homes did not reach a statistically significant level because of the smaller number of facilities represented by this type of care. Child care centers did not reach a statistically significant level because of the smaller number of facilities represented in the STARS 3 and 4 levels, although there were more STAR 4 facilities in urban counties.

Observed Child Care Quality

The ERS assessments are child care quality assessments completed by OCDEL evaluation staff through direct observation in the child care setting. OCDEL has a separate division of ERS assessors who perform regular evaluations of child care facilities. ERS assessments measure the basic structural/environmental aspects of quality such as: space and furnishings, personal care routines, language and reasoning, program structure, and parents and staff. The ERS assessments are done as a facility applies for a specific STAR level.

For this part of the analysis, the researchers examined the dataset used for the 2002 Pennsylvania Early Childhood Quality Setting Study (Fiene, et al., 2002). This study included a representative sample of child care centers, group homes and family child care from across the state. Along with the ERS, this study also used the Caregiver Interaction Scale (Arnett, 1989), a measure of the quality of adult-child interactions. Both measures are described below.

Environment Rating Scales: ECERS-R

The Early Childhood Environment Rating Scale (ECERS-R) (Harms, Clifford and Cryer, 1998) was used with center-based child care in facilities caring for 12 or more children. A trained observer spent time in the classroom observing the setting and activities and may have also asked questions of staff before completing ratings on the measure. The ECERS-R is organized into the following subscales:

- Space and furnishings (indoor space, furniture for care, play, and learning, furnishings for relaxation, room arrangement, space for privacy, child related display, space for gross motor, and gross motor equipment);
- Personal care routines (greeting/departing, meals/snacks, nap/rest, toileting/diapering, health practices, and safety practices);
- Language-reasoning (books and pictures, encouraging children to communicate, using language to develop reasoning skills, and the informal use of language);
- Activities (fine motor, art, music/movement, blocks,

Table 5: Facilities in Rural and Urban Counties by Star Level and Type of Care Provided (2008)

Star Level	Rural (5,287)		Urban (12,677)	
	N	%	N	%
No Star				
Family child care	2,536	63	5,934	61
Group home	81	2	97	1
Center	1,409	35	3,697	38
Star 1				
Family child care	230	33	465	27
Group home	14	2	17	1
Center	454	65	1241	72
Star 2				
Family child care	70	21	81	13
Group home	3	1	12	2
Center	258	78	530	85
Star 3				
Family child care	16	13	20	11
Group home	3	2	2	1
Center	109	85	161	88
Star 4				
Family child care	15	14	42	10
Group home	0	0	4	1
Center	89	86	374	89

Source: OCDEL, 2008

Table 6: Facilities in Rural and Urban Counties by Type of Care Provided and Star Level (2008)

Type of Care Provided	Rural (5,287)	Urban (12,677)
	%	%
Family CC Homes		
No Star	88	90
Star 1	8	7
Star 2	2	1
Star 3	1	1
Star 4	1	1
Group CC Homes		
No Star	72	77
Star 1	22	14
Star 2	4	8
Star 3	2	1
Star 4	0	1
Child Care Centers		
No Star	59	60
Star 1	20	21
Star 2	12	9
Star 3	5	3
Star 4	4	7

Source: OCDEL, 2008

sand/water, dramatic play, nature/science/math/numbers, use of TV, video, and/or computers, and promoting acceptance of diversity);

- Interaction (supervision of gross motor activities, general supervision of children, discipline, staff child interactions and interactions among children);
- Program structure (schedule, free play, group time and provisions for children with disabilities); and
- Parents and staff (provisions for parents, provisions for personal needs of staff, provisions for professional needs of staff, staff interaction and cooperation, supervision and evaluation of staff and opportunities for professional growth).

The ECERS-R is completed by OCDEL evaluation staff for all STAR 3 and 4 level programs. In the 2002 Pennsylvania child care study (Fiene, et al, 2002), 209 center-based programs were assessed using the ECERS-R. It is one of the most widely used measures of quality in center-based child care settings and has been used extensively in research on these settings (Besharov and Morrow, 2006; Goelman et al., 2000; Helburn, 1995; Manlove et al., 2008; and Whitebook et al., 2001). Scoring for the ECERS-R is on a 1-7 scale.

Child care programs located in rural counties scored higher, on average, than those in urban counties. Further statistical analysis revealed that there were significant differences between the program quality observed in urban and rural counties, with the rural county programs scoring stronger than urban county programs (see Figure 1).

Additional analysis explored the differences, if any, of the program quality in urban and rural counties on each of the ECERS-R subscales. Again, rural county programs scored higher, on average, than urban county programs. In all subscales, the differences were found to be significant, except in "interaction."

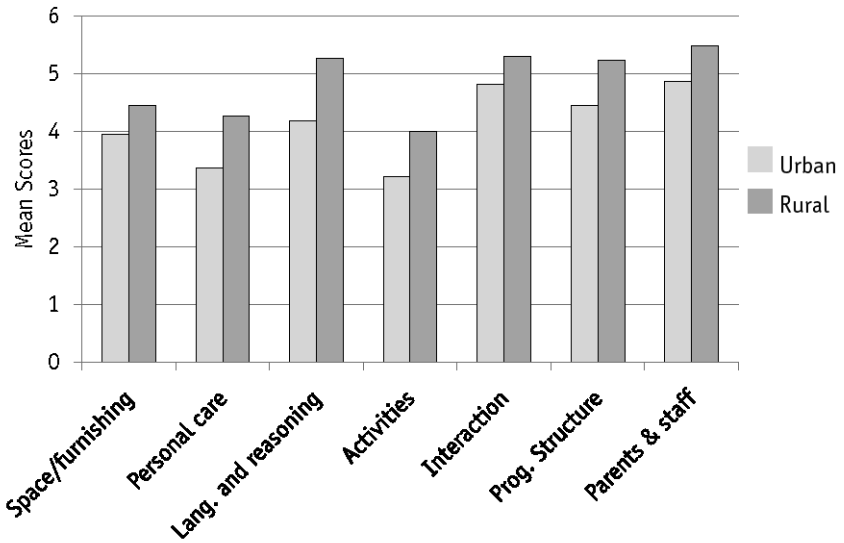
Environment Rating Scales: FDCRS

In this section only data on family child care settings were considered. The Family Day Care Rating Scale (FDCRS) (Harms and Clifford, 1989) is similar to the ECERS-R but measures the quality of family-based child care programs. It too has been used extensively in research (Goelman et al., 2000; and Kontos et al., 1995). As with the ECERS, trained observers collected the FDCRS data using an identical procedure. The observer spent time in the family child care setting and asked questions when needed to gather more information.

The FDCRS scale consists of 40 items divided into six subscales:

- Space and furnishings (furnishings for routine care and learning, furnishings for relaxation and comfort, child related display, indoor space arrangement, active physical play, space to be alone for infant/toddlers and 2 years and older);
- Basic care (arriving/leaving, meals/snacks, nap/rest, diapering/toileting, personal grooming, health and safety);
- Language and reasoning (informal use of language by infants/toddlers and 2 years and older, helping children understand language by infants/toddlers and 2 years and older, helping children use language, and helping children reason using concepts);

Figure 1: Early Childhood Environment Rating Scale - Revised (2002)

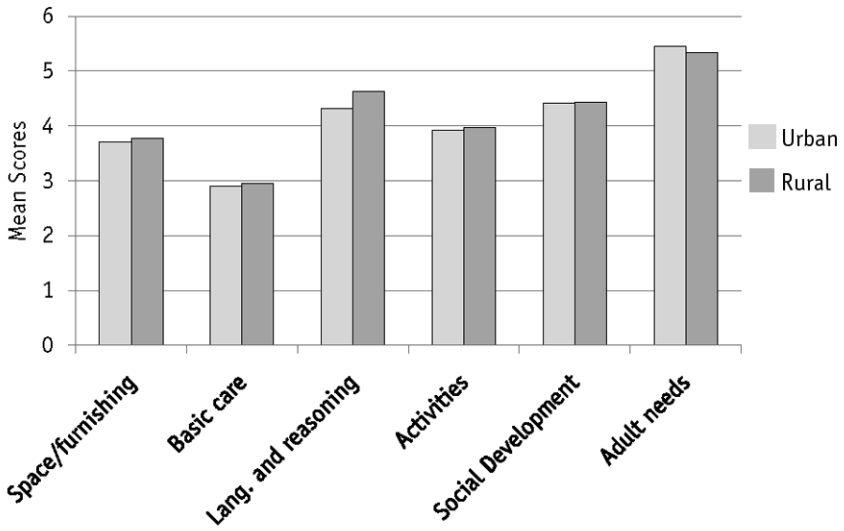


Source: ECERS-R, 2002

- Learning activities (eye hand coordination, art, music and movement, sand and water play, dramatic play, block, use of TV, schedule of daily activities, and supervision of play indoors and outdoors);
- Social development (tone, discipline, and cultural awareness); and
- Adult needs (relationship with parents, balancing person and caregiver responsibilities, and opportunities for professional growth).

In the 2002 Pennsylvania child care study (Fiene, et al, 2002), 163 family-based programs were assessed using the FDCRS. It proved difficult getting permission to do observations in the urban family care settings. As a result, the *n* of family child care providers in urban settings (≤ 50) limited the analysis of this scale.

Figure 2: Family Daycare Environment Rating Scale (2002)



Source: FDCRS, 2002

Although total scores on the FDCRS were lower in rural than in urban counties, the scores on all subscales, except one, were higher in rural than in urban counties (see Figure 2).

In general, in all subscales except "adult needs," family care providers in rural counties scored higher, on average, than urban county providers.

Caregiver Interaction Scale (Arnett/CIS)

In this section, all three types of regulated care (center, group home, family child care) are grouped in the analyses. The Caregiver Interaction Scale (CIS) measures the caregiver's sensitivity to the needs of the children in care. A trained observer assesses the actual interactions between the caregiver and the children, noting how warm and engaging the caregiver is, her/his disciplinary style, and types of physical contact with the children. Only one caregiver is observed at a time. The CIS is widely used, often in conjunction with the ERS scales described above and in studies of all types of child care including unregulated care (Doherty et al., 2000; Goelman et al., 2000; Helburn, 1995; Kontos et al., 1995; Manlove et al., 2008; and Whitebook et al., 2001). In Pennsylvania these measures have only been combined in research studies (university research staff are usually the observers).

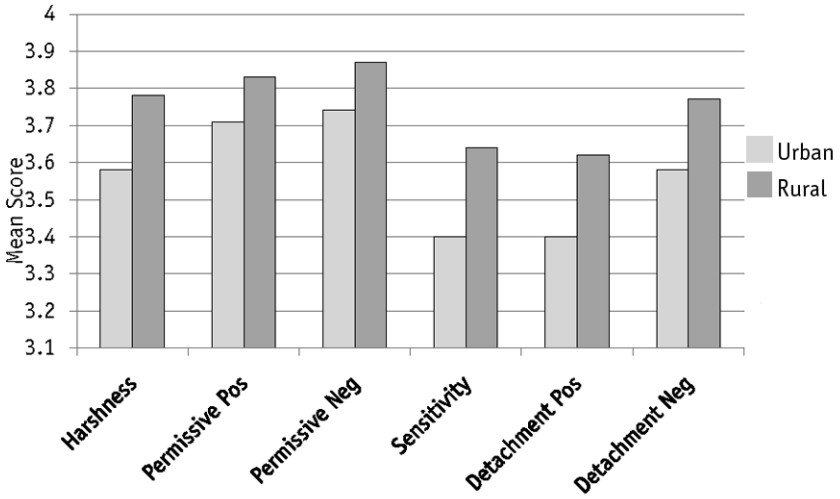
In the 2002 study of child care in Pennsylvania (Fiene, et al., 2002), there were 230 caregivers in rural counties and 142 caregivers in urban counties observed using the CIS. It is not an assessment scale that is used by OCDEL evaluation staff as part of the Environment Rating Scales (ERS).

The items on the CIS are divided into four sub-scales: permissive (positive and negative), harshness, detachment (positive and negative), and sensitivity. The scoring includes: all/never = 1; few instances/somewhat = 2; many instances/quite a bit = 3; and consistently/very much = 4. The findings provide an assessment of caregiver behaviors while interacting with children.

On the total score of this Arnett/CIS, the mean scores were relatively high for both rural and urban providers, indicating strong caregiver interactions in both locations. Further statistical analysis revealed that there were significant differences between the quality of caregiver-child interactions among urban providers and rural providers, with the interactions among rural providers scoring stronger than urban providers (see Figure 3).

The researchers performed additional

Figure 3: Arnett Caregiver Interaction Scale (2002)



analyses to explore potential differences in the quality of caregiver-child interactions among rural and urban providers on each of the CIS/Arnett subscales. The scores for the harshness, permissive negative and detachment negative subscales were reversed scored, so somewhat high means were viewed as positive. For all subscales, rural providers scored higher, on average, than urban providers. Further analysis revealed that these differences between rural and urban providers were significant.

T.E.A.C.H. Early Childhood®

In 1999, DPW began funding T.E.A.C.H. (Teacher Education And Compensation Helps) Early Childhood for those working in DPW-regulated child care programs in Pennsylvania. The program, which is run by the Pennsylvania Child Care Association (PACCA), also receives funding from businesses and foundations.[2] Participation rates are driven partly by availability of funds from these three sources. Typically, all available funds are expended, so there is demand for the program. Total funding for the program during the 2008-2009 fiscal year was approximately $4.8 million.

The T.E.A.C.H. Early Childhood program provides scholarships for individuals who want to pursue additional professional education in early childhood. Scholarship rates are different for 2-year and 4-year colleges, with the former being lower. The scholarship covers tuition and most fees at Pennsylvania community colleges and the Pennsylvania State System of Higher Education universities. Colleges with higher tuition and fees may accept T.E.A.C.H. Early Childhood students but will only receive the tuition rates set for the program. During the 2008-2009 fiscal year, there were 24, 2-year colleges and 24, 4-year colleges and universities participating in the program (PACCA, 2009).

Participants sign an annual contract to take between nine and 15 credits of coursework. If they are unable to complete the contract obligation within the 12-month period, they can receive a one semester extension. The number of contracts an individual will complete depends on their educational goal. A participant who has a high school diploma but no college coursework will generally take 4 to 5 years (four to five contracts) to complete an associate's degree (average 12 credits per year), while an additional 3 to 4 years is typically required to complete a bachelor's degree. Participants tend to move through the program more rapidly once they have completed the associate's degree (Laurie Litz, PACCA, personal communication July 30, 2010). Scholarships are also available for individuals pursuing a Child Development Associate credential, and Pennsylvania Director Credential as well as for those seeking Pennsylvania Department of Education teacher certification in Early Childhood Education (PreK through early elementary).[3]

As participants complete courses they are eligible for either a bonus or a pay raise. In return, their contract commits them to continue working in their current child care setting for 1 year after each scholarship year. Those who complete a bachelor's degree are committed to 1 additional year in the field of child care, in addition to the years they are committed to working in their current child care setting. PACCA tracks whether participants fulfill their contract commitments (taking classes and staying with their program and the child care field). Unfortunately, it does not gather information about exactly where the participants are, only that they have, or have not met the terms of their contracts. During the 2007-2008 contract year, 6 percent of all participants left the program without fulfilling their contract. Nothing is known about why they failed to complete their contracts.

Currently, child care workers who want to participate in T.E.A.C.H. Early Childhood must be in a program that participates in Keystone STARS. Participation in the program has generally increased over time. Since the Keystone STARS program was implemented statewide, there has been a steady increase in demand for scholarships. Moving up the Keystone STARS levels requires, in part, increased education levels for staff. Table 7 shows the number of T.E.A.C.H. Early Childhood graduates for the 2008-2009 fiscal year (PACCA, 2009).

In terms of the program, there are several issues worth

Table 7: Number of T.E.A.C.H. Early Childhood® Graduates (2008-09)

Certificate/Degree	n
CDA Credential Comprehensive*	67
Associate's Degree	79
Bachelor's Degree	20
Director's Credential**	13
Certification Only (already PDE certified in another area)	1
Master's Degree with ECE certification***	4
TOTAL	184

*CDA (Child Development Associate) = 120 clock hours of training followed by a formal assessment. **Director Credential = 15 credits of undergraduate or graduate coursework specific to the role of child care directors. ***Special program funded by School District of Philadelphia.

[2] The most recent annual report of the program is available from PACCA at: http://www.pacca.org/teach.aspx?id=984&ekmensel=c580fa7b_18_0_984_7.

[3] The CDA (Child Development Associate) is a credential program administered by the national Council for Professional Recognition www.cdacouncil.org. To receive the CDA credential a candidate must meet specific performance and learning goals. The CDA often serves as the first step toward an associate's degree in early childhood. The Pennsylvania Director Credential is designed for those with administrative responsibilities in child care. Guidelines for the credential were being revised at the time of the study. Further information is available at: http://www.pakeys.org/pages/get.aspx?page=Career_Degrees.

Table 8: Position of T.E.A.C.H. Participants (2008)

	Rural (330)		Urban (1,603)	
	N	%	N	%
Substitute/floater/aide	30	9	104	7
Assistant group supervisor	156	47	718	45
Group supervisor	45	14	477	30
Owner-group super/Director-group supervision	68	21	166	10
Assistant director/coordinator/director/owner-director	31	9	138	9

noting. First, not all colleges and universities offer programs for all scholarship types. Second, the format for delivery of coursework varies from program to program. Courses may be offered through traditional resident instruction, as evening, weekend, or compressed schedule classes, at off-campus locations, on-line or partially on-line. Unfortunately, information is not recorded about the format of coursework. Knowing the location of the home institution does not necessarily give a good indication of the accessibility of the course offerings to these nontraditional students.

The data used for these analyses were from a dataset provided by PACCA of unduplicated counts of T.E.A.C.H. Early Childhood participants working in regulated child care settings in 2008. The dataset contained a single entry for each T.E.A.C.H. Early Childhood participant who had an active contract at any time during 2008. It includes individuals who may have completed a degree or certification during that year as well as those who had remaining work to do to complete their degree/certification. Information about contract status is for the last contract for each individual for 2008.

According to the analysis, in 2008, a total of 1,943 different individuals participated in the T.E.A.C.H. Early Childhood scholarship program (1,603 urban, 336 rural, 10 unknown). While complete demographic information was not available for all participants, enough information was provided to determine similarities and differences between rural and urban county participants.

Overall, participants from rural counties had significantly lower levels of formal education than did those from urban counties. For example, 60 percent of rural participants and 45 percent of urban participants had no formal education beyond high school. Five percent of rural participants and 13 percent of urban participants had a degree in Early Childhood Education (all associate's degrees among rural and 12 percent among urban).

Since T.E.A.C.H. Early Childhood scholars are working on further education and degrees in early childhood education, the researchers did not find it surprising that relatively few currently held relevant degrees. Even so, those from urban counties were significantly more likely to hold a degree in early childhood education or a related field than were those from rural counties.

The scholarship programs in which participants were enrolled mirror the education levels of these individuals. For example, the overwhelming majority of rural (78 percent) and urban (67 percent) participants were enrolled in associate's degree programs. The second largest group in rural counties was those working toward the Child Development Associate (CDA) certification (11 percent), and the second largest group in urban counties (18 percent) was pursuing a bachelor's degree.

The largest proportion of participants in both rural (47 percent) and urban (45 percent) counties were working as Assistant Group Supervisors. The next largest group in urban counties was Group Supervisors (30 percent) and in rural counties it was Owner-Group Supervisors and Director-Group Supervisors (21 percent) (see Table 8).

In both rural and urban counties, the proportion of participants working with infants and toddlers was similar to the proportion working with preschoolers (see Table 9). However these proportions were higher in urban counties (36 and 37 percent) than in rural counties (27 and 29 percent). A much larger proportion of rural participants (32 percent) were working with mixed age groups of infants through school age than were urban participants (17 percent). These differences likely reflected the higher proportion of family child care providers in rural counties. Such care is typically mixed age while center-based care is typically grouped by age.

The race/ethnicity of the T.E.A.C.H. Early Childhood participants mirrored the state as a whole. Ninety-two percent of participants in rural counties were white/European-American compared to 52 percent in urban counties (see Table 10). Black/African-American was the second largest racial/ethnic group in urban counties (36 percent). In rural counties, only 2 percent of participants were black/African American.

PACCA collects information on where a participant lives and where that participant works. To examine rates of participation in the program, the researchers used work location of the participants since it was important to know where participants were applying the new skills and competencies they developed. In 2008, seven rural Pennsylvania counties had no T.E.A.C.H. Early Childhood participants working in them (Cameron, Clinton, Forest, Perry, Potter, Snyder, and Wyoming). All of the urban counties had participants. To evaluate the participation rates in rural versus urban counties, the researchers used

Table 9: Age Group With Which T.E.A.C.H. Participants Worked (2008)

	Rural (325)		Urban (1,577)	
	N	%	N	%
Infants and toddlers only	87	27	570	36
Preschool only	94	29	577	37
School age only	13	4	72	5
Infants through school age	104	32	275	17
Preschool through school age	27	8	83	5

Table 10: Race/Ethnicity of T.E.A.C.H. Participants (2008)

	Rural (330)		Urban (1,603)	
	N	%	N	%
Asian/Pacific Islander/Asian/Bangladeshi	3	1	27	2
Black/African-American	8	2	571	36
Hispanic/Latino/Latina	5	2	104	7
Native American/American Indian	1	<1	3	<1
White/European-American	304	92	833	52
Multi-racial	1	<1	17	1
Other/No response	8	2	48	3

three ratios, calculated by county, but only for counties that had at least one T.E.A.C.H. Early Childhood participant in a given category. Therefore, they only considered the relative participation rates in those counties where at least one person was participating in T.E.A.C.H. Early Childhood. One ratio was the number of regulated family child care spaces in a particular county divided by the number of T.E.A.C.H. Early Childhood participants who were family child care providers in that county. Another was the number of licensed child care center and group home spaces in the county divided by the number of center and group home participants. The third was the number of licensed child care center and group home spaces in the county divided by the number of center directors and owner/directors in the county. The analyses revealed that participation rates are not significantly different across rural and urban counties for family child care providers, center teachers, or center directors. Figures 4 and 5 give a sense of which parts of the state have more or fewer participants in the program.

There are four urban counties (Berks, Lackawanna, Luzerne, and Westmoreland) and 26 rural counties (Armstrong, Blair, Cambria, Cameron, Carbon, Centre, Clinton, Columbia, Crawford, Fayette, Forest, Fulton, Huntingdon, Juniata, Mifflin, Montour, Northumberland, Perry, Pike, Potter, Snyder, Somerset, Sullivan, Venango, Wayne and Wyoming) that had no family child care providers participating in the T.E.A.C.H. Early Childhood scholarship program.

Participation of center teachers was more widespread in both urban and rural counties. All urban counties had T.E.A.C.H. Early Childhood participants who were child care center teachers. Nine rural counties (Cambria, Clinton, Forest, Fulton, Greene, Perry, Potter, Snyder, and Wyoming) had no T.E.A.C.H. Early Childhood participants who were child care center teachers.

Also, while two urban counties (Berks and Lackawanna) did not have center owners or directors participating in T.E.A.C.H. Early Childhood, only 10 rural counties (Bradford, Butler, Juniata, Lawrence, McKean, Mercer, Monroe, Sullivan, Venango, and Washington) had center owners or directors participating.

Both rural (65 percent) and urban (75 percent) participants were most likely to have learned about T.E.A.C.H. Early Childhood from the child care center in which they work. It is interesting to note, though, that nearly twice as many rural participants than urban participants learned about the program from county Child Care Information Services (CCIS) offices, which provide resource and referral assistance. In addition, nearly twice as many rural participants were family child care providers as were urban participants. Since a larger proportion

Figure 4: Family Child Care-T.E.A.C.H. Participation Rate (2008)

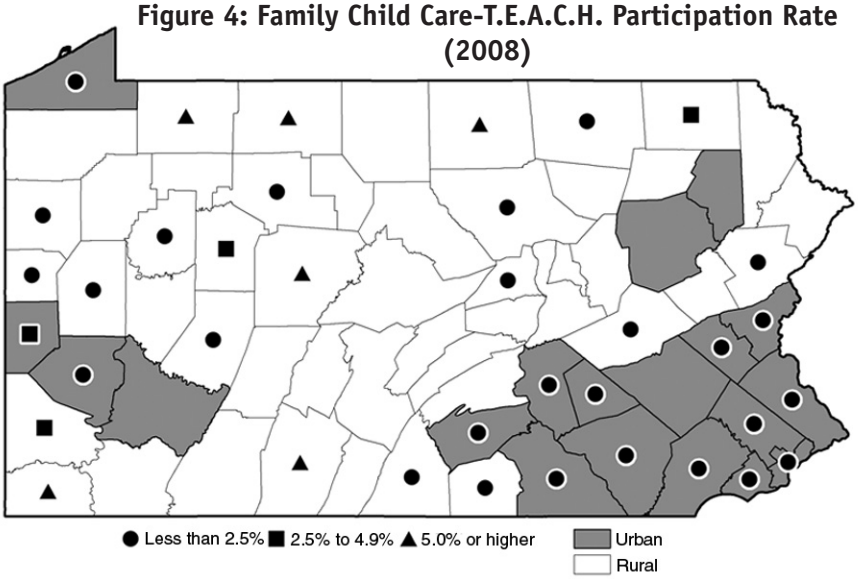
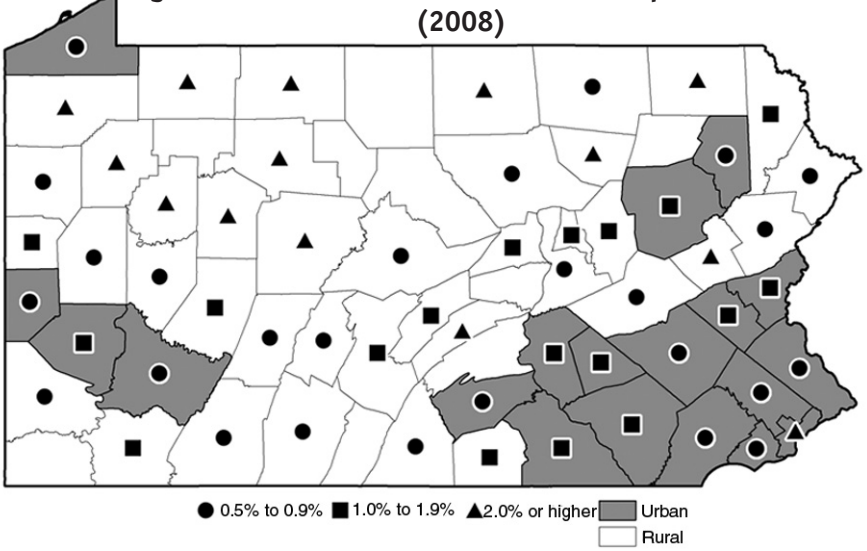


Figure 5: Center Teacher-T.E.A.C.H. Participation Rate (2008)



of child care in rural counties is family child care when compared to urban counties, it may be that the county CCIS offices serve as a particularly important information source for child care providers in rural counties.

Sponsors of T.E.A.C.H. Early Childhood participants did not differ significantly between rural and urban counties, as the majority in both rural (59 percent) and urban (55 percent) counties were for-profit child care programs. The next largest sponsor type for both rural and urban counties was independent non-profits (39 percent and 42 percent, respectively) with relatively few being sponsored by faith-based programs (2 percent and 1 percent, respectively) or Head Start (1 percent and 2 percent, respectively).

Also, the overwhelming majority of participants were from center-based child care (82 percent rural, 90 percent urban). However, the proportion of participants from group homes was twice as large in rural counties (4 percent) as in urban counties (2 percent) and the proportion of participants from family child care was nearly twice as large in rural counties (15 percent) as in urban counties (8 percent).

In both rural and urban counties, the largest number of participants was in STAR 2 level programs while the second largest for both was STAR 4 level programs. It is worth noting that relatively few participants came from STAR 3 level programs. There was no significant difference between rural and urban participants in the STAR level of their programs.

Of considerable interest is the progress participants make in the T.E.A.C.H. Early Childhood program. As participants move through the program, the program keeps a record of the status of their contracts, the type of scholarship the participant has, the certification or degree being pursued, the bonus or raise the participant receives, and how many T.E.A.C.H. Early Childhood contracts the participant has had.

The contract status indicates whether the T.E.A.C.H. Early Childhood participant is meeting the obligations of the contract and making the expected progress on completing courses. In the dataset used for analyses, the contract status is the last status for a participant in 2008.

Of those participating in T.E.A.C.H. Early Childhood in 2008, the contract completion rates for those who were not completing a degree were nearly identical (as a percentage of all participants) across rural and urban counties. However, a large proportion of participants from both rural and urban counties were categorized as either "dropped" (left the program without completing at least one semester of the current contract) or "withdrawn" (left after completing at least one semester of the contract but not enough credits to complete the whole contract). The percentage of participants dropping or withdrawing from the program was higher in urban counties (39 percent) than in rural counties (14 percent) while the percentage completing a degree (graduate completed, graduated withdrawn) was higher in rural counties (18 percent) than in urban counties (14 percent). However, these differences were not significant.

By far, the largest proportion of participants in both urban and rural counties was working on completing an associate's degree. There was a larger proportion of rural participants working toward an associate's degree (78 percent rural, 67 percent urban) and a larger proportion of urban participants working toward a bachelor's degree (18 percent urban, 8 percent rural). This makes sense given the overall lower education level of participants from rural counties.

The T.E.A.C.H. Early Childhood program has requirements for the bonuses and raises provided to participants. Those working in centers or group homes receive either a bonus of $600 or a 4 percent raise. A second option is to receive a $300 bonus and a 2 percent raise. For those working in family child care, the policy is for all to receive a $300 bonus. These are the minimum awards required under the T.E.A.C.H. Early Childhood program. Increases may be higher if a program chooses to provide more than a 4 percent wage increase and/or if the additional education results in the provider being promoted to a higher paid position.

According to the data, an overwhelming majority of center and group home participants received a raise and all family child care participants received a raise.

In documenting wage changes, the T.E.A.C.H. Early Childhood program includes the bonus in the calculation of hourly wage. For those who received a raise or bonus in 2008, the average amount worked out to $1.50/hour. While the average was slightly higher in rural counties ($1.53) than in urban counties ($1.49), the difference was not statistically significant.

In 2008, the average hourly wage for those working in child care in Pennsylvania was $9.52 (Center for the Child Care Workforce, 2009), although there was probably considerable variation across different parts of the state and types of child care. A $1.50 hourly wage increase represents a 16 percent raise over this average.

The largest proportion of participants was in their first contract with the scholarship program (49 percent rural, 47 percent urban). The proportion of participants in their second contract was less than half of those in their first contract (22 percent rural, 21 percent urban). This steep drop is reflected, in part, in the large number of participants whose contracts were either "dropped" or "withdrawn."

The number of contracts is difficult to interpret since some participants may reach their educational goals under a single contract while others may require a number of contract cycles. Each contract involves between nine and 15 credits. This, along with the information about the number of "dropped" or "withdrawn" participants in 2008 suggests that much of the sharp drop in numbers of those

on their first or second contract is due to leaving the program without completing the original educational goal.

Child Care Used by Subsidized Families

There were two major project goals regarding the families who use child care. First was whether they were able to find child care that suited their needs in terms of hours and the kind of care they preferred (centers versus family child care for instance). Closely connected to this was the question of how easy it was for families to find child care for what are considered "nontraditional" hours, notably evenings or weekends, whether it was easier to find child care for nontraditional hours in rural or urban counties, and if there was a difference in the kinds of care available for nontraditional hours.

A second goal was to understand to what extent families made use of regulated, as opposed to legally unregulated, care. In Pennsylvania, the state regulates child care centers, family child care, and group homes, but families, including those whose child care is subsidized by the state, have the option of using two other categories of care; the child might be cared for in his/her own home or in the home of a neighbor or relative (legally unregulated care). Since previous research had suggested that families in rural areas are more likely to use unregulated care than families in urban areas, the researchers expected that the same would be true of this sample (Grace, et al., 2006).

For this analysis, the researchers used 2008 data from OCDEL and data from the 2009 Kids Count Data Book. These data were derived originally from information collected by OCDEL. Because aggregate data were used, the researchers could not conduct any statistical analyses on the data.

Family Need for Care

The first question about families focused on the type and hours of care needed by families contacting their county CCIS office for resource and referral information. While all CCIS offices keep a record of inquiries, there is no statewide standard reporting format. Therefore, it was not possible to address this question.

Child Care Subsidy Use

In 2008, Pennsylvania had a total licensed capacity to care for 359,639 children, and a total of 131,047 children's care was being paid for with a subsidy through Child Care Works.

According to 2000 U.S. Census data, there were 845,915 children under age 6 in Pennsylvania, and of these, 508,890, or 60 percent, lived in households in which all available adults were employed.[4] Assuming that there has been no great change in the number of children under age 6 in the state over the last 10 years, a substantial number of children are being cared for in settings not regulated by DPW. While some children may be cared for by one parent while the other works, there are likely many families using some type of nonparental child care.

Table 11: Comparison of Licensed Capacity, Showing Use by Subsidized Children (2008)

	Licensed Capacity	Subsidized Children In Licensed Care	% Capacity	Total Children w/ Subsidy	% Subsidized Children in Licensed Care
Rural	69,056	18,294	26%	22,833	80%
Urban	290,583	77,104	27%	108,214	71%
Totals	359,639	95,398	27%	131,047	73%

In rural counties, the total licensed capacity was 69,056 in 2008, and 84 percent of those spaces were in child care centers. In rural counties, the total number of children with subsidies using regulated care was 26 percent of capacity (see Table 11). The total number of children with subsidies in rural counties was 22,833. Of these children 80 percent were in regulated care. Thus only 20 percent were in unregulated care.

In urban counties the total licensed capacity was 290,583 in 2008. Of that, 92 percent were in child care centers. In urban counties, the total number of children with subsidies using regulated care was 27 percent of capacity. The total number of children with subsidies in urban counties was 108,214. Of these children, 71 percent were in regulated care, so only 29 percent were in unregulated care.

It is clear that the majority of children with subsidized care are using regulated care. It also appears that the use of regulated care by children who are subsidized was not absorbing all the capacity in any part of the state.

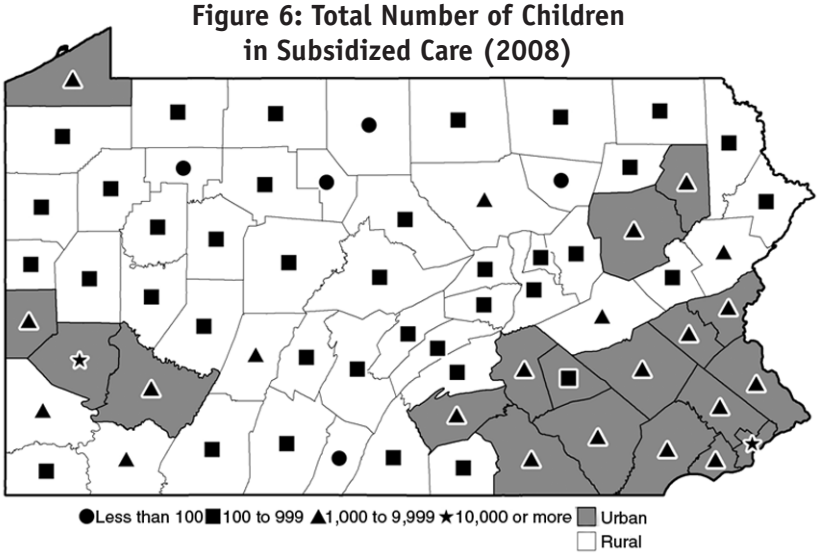
When viewing Table 11, it is important to note that there were variations in the proportion of subsidized children using regulated care. To look at extremes, in Sullivan County (rural), 100 percent of children with subsidies were being cared for in regulated settings. In contrast, 56 percent of children in Fayette County (rural) were being cared for in regulated care. In Cumberland County (urban), 91 percent of children with subsidies were cared for by regulated providers, but only 59 percent of the children in Allegheny County (urban) were. Figures 6 and 7 on Page 16 show the variations. Figure 6 shows the total number of children in subsidized care in each county while Figure 7 shows the percent of subsidized children in regulated care.

Figure 6 illustrates how some counties have few children using subsidies while some counties have many. This reflects the overall density of population in the counties and thus the rural/urban differences here are not surprising. What is of interest is when these figures are examined in combination with Figure 7.

Figure 7 shows the percentage of subsidized children who are using regulated child care. It is immediately clear that the majority of children who are subsidized are in

[4] U. S. Census 2000, Summary File 3 (SF3), P 46.

Figure 6: Total Number of Children in Subsidized Care (2008)

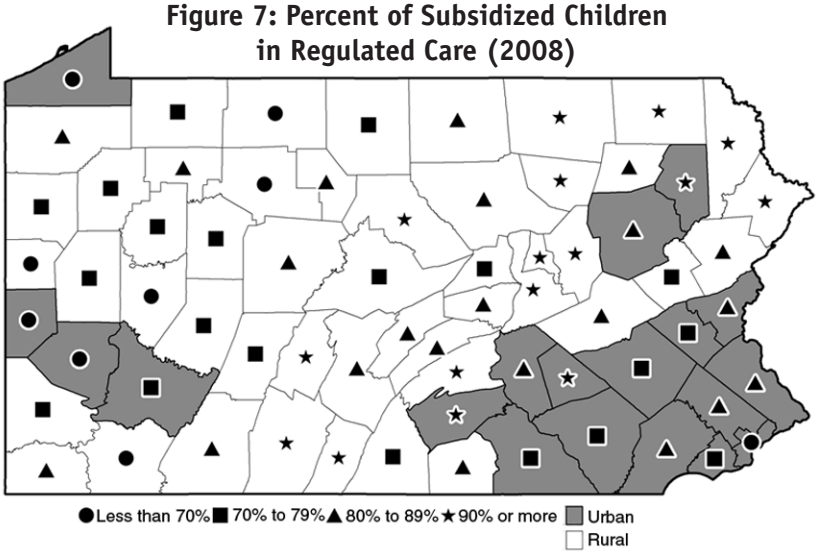


regulated care. But it is also clear that some rural counties, particularly in the central and northeastern regions of the state, have the overwhelming majority of subsidized children being cared for in regulated settings.

Table 12 looks specifically at the number and proportion of children using different types of care. The use of neighbor/relative care was of particular interest as it is the most frequently used form of unregulated care. Table 12 shows that it is the second most common provider category used.

Child care centers were still the most widely used form of child care. Across the state, 79,912 children with subsidies used child care centers (61 percent). This pattern of use varied only slightly between urban and rural counties. Children in urban counties used neighbor/relative care more than children in rural counties. Out of the total number of children receiving subsidized care in urban counties 27 percent used neighbor/relative care compared to only 20 percent of the total number of children with subsidized care in rural counties.

Figure 7: Percent of Subsidized Children in Regulated Care (2008)



Rural children with subsidies use family child care more than urban children with subsidies. In rural counties, 10 percent of children used family child care, and in urban counties, 7 percent used family child care. In rural counties, 9 percent of children were being cared for in group homes. Only 3 percent of children in urban counties who have subsidized child care used group homes.

The use of family child care and group homes does not simply reflect choices made by parents, but is closely related to the proportion of licensed capacity that family child care and group homes represent out of the total licensed capacity. For example, in urban counties, family child care was only 6 percent of licensed capacity, and group homes only 2 percent. In contrast, in rural counties, family child care represented 10 percent of licensed capacity, and group homes represented 6 percent. Therefore, it makes sense that a greater proportion of children in rural counties use family child care and group home care, as it represents a greater proportion of the licensed capacity available in those counties.

The pattern of placement of children with the different categories of provider holds when looking at children of different age categories. Tables 13 and 14 examine the differences in the types of child care being used by different age groups. Table 13 shows infants through preschool while Table 14 shows school-age children.

For all age groups, the most common category of provider was the child care center. For children in these age groups, in both urban and rural counties, the next largest category of provider used was neighbor/relative care.

This pattern changed, however, with older children (see Table 14). For urban children, the pattern almost reversed with the majority (49 percent) being cared for by neighbors/relatives, and only 39 percent being in centers. In rural counties there was a less significant shift. The majority of older school-age children (48 percent) were cared for in centers, but this was a smaller proportion than for any other age group, and the number of older school-age children cared for by neighbors/relatives was 33 percent, the largest percentage of any age group in this form of care.

Note that these figures apply only to families using the Child Care Works subsidy. Data are not readily available about patterns of child care use for families not using subsidies. It is possible that those patterns of care would look quite different.

Table 12: Patterns of Placement in Child Care for Children with Subsidies by Provider Category (2009)

	Center		Group Home		Family		Neighbor/ Relative		In Home	
	N	%	N	%	N	%	N	%	N	%
Urban	65,991	61%	3,579	3%	7,534	7%	29,641	27%	1,469	1%
Rural	13,921	61%	2,051	9%	2,322	10%	4,527	20%	12	<1%
Total	79.912	61%	5,630	4%	9,856	8%	34,168	26%	1,481	1%

Nontraditional Hours of Child Care

Traditionally, child care has been offered during daytime work hours, when it would not be expected that working parents would be at home. The typical child care center offers care from 6:30 am to 5:30 or 6:00 pm. There is a good deal of variation, but offering care late into the evening, overnight, or on the weekends, is not typical. Yet hospitals and factories are staffed around the clock, every day of the year, and most retail establishments are open during the day and evenings on weekends.

The state recognizes the customary hours of care in its definition of "traditional" versus "nontraditional" hours in an agreement signed by providers who want to offer care to subsidized children as follows: traditional hours of care are defined as Monday to Friday between 6 a.m. and 6 p.m.; nontraditional hours of care are defined as Monday to Friday between 6 p.m. and 6 a.m., and/or Saturday and Sunday.

One of the questions this study sought to address was whether families who needed nontraditional hours of care could find it. Although the research could not find how many families actually sought nontraditional hours of child care, it could determine if providers offered nontraditional hours of care.

For the analysis, the researchers used OCDEL data on 23,431 providers in Pennsylvania who were serving subsidized children in 2008. Table 15 on Page 18 shows the number of providers that offered nontraditional hours of care.

In both rural and urban counties, there are providers willing to supply subsidized families with nontraditional hours of care. Across the state, 10,222 providers offered nontraditional hours of care. Of these, 420 were centers, 927 were family child care, 238 were group homes, and 8,636 were relatives and neighbors, and one was "other." The research could not estimate how many children the 10,222 providers cared for since child care centers vary in the number of children they are licensed to serve.

In addition it is useful to remember that the providers were not asked if they provided nontraditional hours for all spaces in the program. Thus, a center that is licensed to care for 50 children might provide evening care for only 10.

There were some urban/rural differences in the availability of providers offering nontraditional hours of care. In urban counties, a higher percentage of caregivers offered nontraditional hours of

Table 13: Patterns of Placement in Child Care for Children with Subsidies by Age and Provider Category (Infant through Preschool) (2009)

	Center		Group Home		Family		Neighbor/ Relative		In Home	
	N	%	N	%	N	%	N	%	N	%
Infant										
Urban	2,846	57%	176	4%	465	9%	1,469	29%	39	<1%
Rural	710	57%	123	10%	148	12%	249	20%	0	0
Young Toddler										
Urban	7,586	59%	497	4%	1,066	9%	2,722	23%	54	<1%
Rural	1,481	62%	237	10%	251	11%	405	17%	0	0%
Older Toddler										
Urban	9,158	68%	500	4%	1,163	9%	2,584	19%	92	<1%
Rural	1,820	65%	278	9%	295	10%	416	15%	2	<1%
Preschool										
Urban	29,955	68%	1,459	3%	2,814	6%	9,178	21%	389	<1%
Rural	6,168	65%	853	9%	911	10%	1,550	16%	3	<1%

Note: The Pennsylvania Department of Welfare categorizes children as: Infants (0 - 1 yr); Young Toddlers (1 - 2 years); Older Toddlers (2 - 3 years); Preschoolers (3 - entry to kindergarten).

Table 14: Patterns of Placement in Child Care for Children with Subsidies by Age and Provider Category (School Age) (2009)

	Center		Group Home		Family		Neighbor/ Relative		In Home	
	N	%	N	%	N	%	N	%	N	%
Young School										
Urban	11,308	54%	615	2.9%	1,262	6%	7,347	35%	410	1.9%
Rural	2,571	57%	364	8%	462	10%	1,092	24%	3	<1%
Older School										
Urban	5,138	39%	332	2.5%	764	6%	6,341	49%	485	3.7%
Rural	1,171	48%	196	8%	255	10%	815	33%	4	<1%

Note: The Pennsylvania Department of Welfare categorizes children by age as follows: Young School Age (kindergarten to entry to 4th grade); Older School Age (4th grade to age 15). Note that the child care subsidy is not available to children past their 13th birthday.

Table 15: Providers Offering Nontraditional Hours of Care, by Provider Type (2008)

Nontraditional hours offered	No		Yes		Total		Percent of total "yes"
Rural	N	%	N	%	N	%	%
Center	720	90%	78	10%	798	100%	4%
Group Home	227	74%	79	26%	306	100%	5%
Family Child Care	391	68%	188	32%	579	100%	11%
Neighbor/Relative	969	41%	1,374	59%	2,343	100%	80%
Other	0	0%	1	100%	1	100%	100%
Total Rural	2,307		1,720		4,027		
Urban							
Center	2,506	88%	342	12%	2,848	100%	4%
Group Home	239	60%	159	40%	398	100%	2%
Family Child Care	743	52%	739	48%	1,482	100%	9%
Neighbor/Relative	7,414	51%	7,262	49%	14,676	100%	85%
Total Urban	10,902		8,502		19,404		
Grand Total	13,209		10,222		23,431		

care. In rural areas, a greater proportion of relatives and neighbors were willing to offer care during nontraditional hours than was the case in urban areas.

In most counties, there were a few providers who offered care during nontraditional hours, but in one rural county (Sullivan) there were no providers of any type responding positively to the question of whether they offered nontraditional hours of care.

As noted above, the percentage of centers that offered care during nontraditional hours was low throughout the state, but in most urban counties there were at least some centers that offered nontraditional hours of care. Only one urban county, Cumberland, had no centers offering these hours of operation. However, in 23 rural counties, no centers offered nontraditional hours of care.

With regard to regulated versus unregulated providers who offered nontraditional hours of care, it would appear that unregulated providers filled in to provide the nontraditional hours of care that regulated providers did not. With the exception of Sullivan County, which was reported as having no unregulated providers serving subsidized children, there was not a single county where fewer than 18 percent of unregulated providers offered nontraditional hours of care. Regardless of being rural or urban, a substantial number of counties fall into the highest category with 52 to 74 percent of unregulated providers offering nontraditional hours of care.

It would appear that families in need of child care at night, or on weekends, regardless of whether they live in an urban or rural county, would most likely find this care from unregulated providers. The difference between the percent of regulated and unregulated providers offering nontraditional care to children receiving subsidy is so great that it raises the question of whether this might represent the actual preference of parents who work evenings or weekends.

Conclusions and Considerations

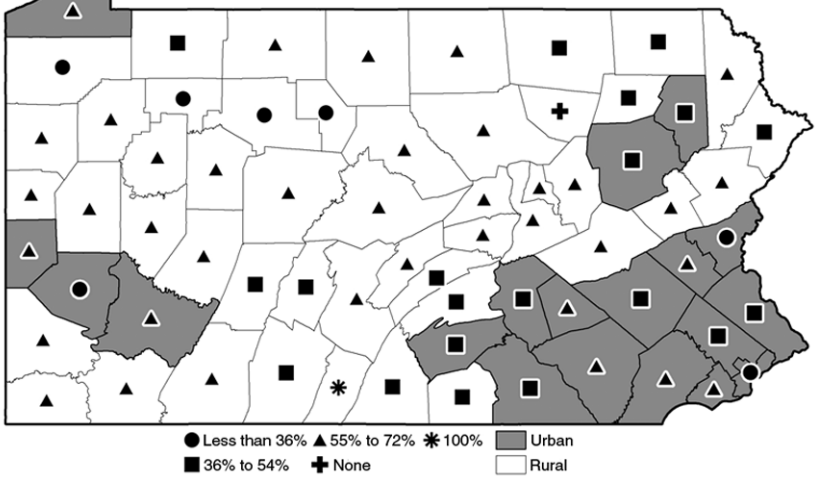
Family child care and group homes represent a much larger proportion of licensed capacity in rural counties than in urban counties. Given the lower population densities in rural counties, this finding was not surprising.

In terms of quality, there were only slight differences between rural and urban county providers in their overall 2008 Keystone STARS ratings. In both cases 75 percent of regulated providers were at the No STAR level. However, differences did appear when examining the type of regulated provider along with STAR level. At the No STAR, STAR 1, and STAR 2 levels, there were more family child care providers in rural counties and more centers in urban counties. Overall, the majority of providers participating in the STARS program were child care centers, especially at the higher STARS level. This was true for both rural and urban counties.

Comparing rural and urban counties by STAR level within each type of provider showed that there were more No STAR family child care homes in rural than in urban counties.

Observed variations in rural and urban child care quality were examined using data from the Early Childhood Quality Study (Fiene, et al., 2002). Overall, the data revealed the rural child care settings

Figure 8: Percent of Neighbor/Relative Providers Offering Nontraditional Hours of Care (2008)



scored significantly higher than those in urban settings on the majority of early childhood quality indicators.

On the ECERS-R total score, rural providers scored significantly higher than urban providers. The rural providers also scored significantly higher than the urban providers on every subscale but one, the "interaction" subscale, which measured supervision of children, staff-child interactions, and interactions between children. As interactions in a learning environment are essential to learning success, the strong scores in this subscale across rural and urban settings should be viewed as an overall strength of child care in Pennsylvania. The subscale scores showed significant differences in favor of rural providers for health and safety practices (personal care), encouraging language and reasoning skills (language and reasoning), and the types and amount of activities including music, art, dance and science (activities). Although the rural providers consistently scored significantly higher on subscales of the ECERS-R, the scores, particularly in the variety of activities, remain relatively low.

The scores on the FDCRS paralleled those for the ECERS-R. The means revealed strong scores in all but two subscales: basic care and activities. Although this may appear to be a concern, the insufficient data on family child care providers in urban settings prohibited additional analyses. More data need to be collected to satisfactorily speak to what issues need further attention.

As interactions between adults and children in a learning environment are key to learning success (Cox and Paley, 1997, NICHD ECCRN, 2005), the strong scores in the Arnett/CIS subscale across rural and urban providers are noteworthy. Although all the scores (both rural and urban) were relatively high, the differences for the harshness and the sensitivity subscales over the other subscales are noteworthy. In both cases rural caregivers were significantly less harsh in their interactions with children and significantly more sensitive than were urban caregivers.

Data on the T.E.A.C.H. Early Childhood program from 2008 were examined to see if the program has been as successful in reaching out to both rural and urban counties. In many ways, participation is similar across rural and urban counties, but there were some notable differences and much about the program remains unexplored.

In rural and urban counties where there are active T.E.A.C.H. Early Childhood participants, the rates of participation are similar. This is true for family child care providers, center teachers, and center owners and directors. However, there were seven rural counties that had no participants (Cameron, Clinton, Forest, Perry, Potter, Snyder, and Wyoming). It is unclear whether this is due to lack of need (individuals have sufficient education), lack of awareness of the program, unavailability of appropriate educational opportunities, or other reasons.

Those in rural child care settings in 2008 had lower overall levels of education than did those in urban settings. However, the overall quality of care in 2002 was higher in rural settings. This is surprising since considerable literature supports the idea that higher levels of education are associated with higher quality care. Because the researchers were unable to evaluate rural and urban quality using 2008 data, any conclusions drawn must be tentative.

However, these findings raise interesting questions. If there is, in fact, a disconnect between education level and quality of care, such that rural providers have lower levels of education but provide higher quality of care, what explains this? There are many possible explanations including the mobility/stability of the population, the diversity/homogeneity of the population, and the size and type of setting in which children are placed (e.g., family child care, small center, large center). Unfortunately, data from the current study did not suggest any particular explanation over another.

The large proportion of participants who dropped or withdrew from the T.E.A.C.H. Early Childhood program in 2008 (39 percent urban, 33 percent rural) is notable. However, the research could not determine the reasons why individuals left the program in this way. Currently PACCA lacks the resources to track these individuals in any detailed way once they have completed their obligations to the program. This is unfortunate because this information could prove invaluable in developing ways to increase retention and program completion rates for participants.

There are many possible explanations for the large number of participants who dropped or withdrew from the program. It may be that participants start a course and then feel unable, for some reason, to manage the workload. This could be because of lack of preparation for college level work, difficulty in juggling work, family and education responsibilities, or some other reason. Without more information about why individuals stay in or leave the T.E.A.C.H. Early Childhood program, it is impossible to know the reason for the high levels of dropping out and withdrawing, and difficult to take steps to reduce the rates.

While both rural and urban T.E.A.C.H. Early Childhood participants were most likely to have heard about the program from their child care center, the county Child Care Information Systems (CCIS) offices were identified as the source of information for 16 percent of rural providers. This suggests that the CCIS offices may be particularly important avenues for outreach in rural counties.

Because there are no available data on the types of care parents are seeking when they contact their county CCIS office, there is no way to assess all parents' expressed need for care. Even if such data were available they would only provide information about parents who contact the CCIS and would not provide insight into the needs and preferences of parents who find child care arrangements on their own.

It was possible to look at the patterns of child care use for those parents who use a child care subsidy through Child Care Works. It is clear that there is sufficient li-

censed capacity to meet the child care needs of all families in Pennsylvania who use subsidies. It is also clear that rural counties have a larger proportion of licensed capacity in family child care and group homes and a relatively smaller proportion in center settings than do urban counties.

The overwhelming majority of children in rural counties who received child care subsidies through Child Care Works (80 percent) were being cared for in regulated child care settings. However, there was considerable county-by-county variability ranging from 100 percent to only 56 percent of these children being cared for in regulated settings. It is unclear why 20 percent of parents receiving child care subsidies elected to use it for neighbor/relative care. They may have selected it because of location, because of the particular individual providing care, because space was not available in regulated settings, because regulated settings don't provide care during the hours needed, or for other reasons. Currently available data do not provide any insight about the reason for this variability.

The 20 percent of subsidized children in neighbor/relative care are in settings of unknown quality. These providers may be excellent, but there is no way to know for certain. Further, as they are not eligible to participate in the Keystone STARS or TEACH Early Childhood® programs, there is no mechanism to help neighbor/relative providers build their knowledge and skills in caring for young children.

Abundant evidence documents the benefits of high quality early care and education settings for children's development and learning, particularly for those from low-income families (NICHD ECCRN, 2002; Loeb et al., 2004; Peisner-Feinberg et al., 2001; and Votruba-Drzal et al., 2004). It is thus notable that such a large proportion of rural families using child care subsidies have placed their children in regulated care, and that such a high percentage of those children are in child care centers. Families who are eligible for subsidized child care are, by definition, low-income. Children in such families may be at developmental risk and are thus precisely the ones who will most benefit from a high quality child care setting.

The small number of child care centers offering care in the evenings or on weekends should be noted. The proportion of such providers is low throughout the state, but in most urban counties there are at least some centers offering nontraditional hours of care. Only one urban county had no centers offering these hours of operation. However, in 23 rural counties, no centers offered nontraditional hours of care. As there are hospitals, factories, and retail establishments in rural areas whose hours of operation include evenings, weekends, and overnights, it is interesting that child care centers have not responded to this potential demand for service.

Keystone STARS, Quality, and Rural Providers

As efforts to enroll additional providers in the Keystone STARS program continue, an update of the 2006 assessment would be beneficial. A systematic analysis of the Environment Rating Scales (ERS) data collected by OCDEL, along with data from past years, could offer a picture of the progress being made in rural counties to increase the quality of care and education provided in Keystone STARS programs. Once these ERS data are entered into the Pennsylvania Early Learning Network (ELN), such analyses should be possible.

The reasons for the finding in this study of higher quality in rural vs. urban counties are unclear, particularly since education levels of providers in urban counties are higher than those of providers in rural counties. Being able to combine the most current Keystone STARS data with the most current ERS data may help clarify this finding. In addition, gathering information from individuals who provide technical assistance to Keystone STARS programs through the Pennsylvania Keys regional offices may offer insights that the researchers missed.

T.E.A.C.H. Early Childhood® Program

Perhaps the biggest area of concern with regard to the T.E.A.C.H. Early Childhood program is the large number of participants who fail to complete a contract. The current tracking program only gathers information on whether participants fulfill their contract obligations or not. Participants may leave the program for many reasons. They may also fail to complete a contract or program of study because of the challenges of balancing employment and family obligations with coursework. A survey of those who do not complete a contract and/or program of study would shed light on the reasons why people leave the program and potentially lead to ways to improve retention. Such a survey would require resources beyond those currently available to track participants.

The other side of this issue is how effective institutions of higher education are at meeting the educational needs of child care providers. Evidence suggests that there are some common components institutions of higher education can provide that increase the success of child care teachers taking college courses (Dukakis and Bellm, 2006; Dukakis et al., 2007; and Whitebook et al., 2008). A survey of colleges and universities that contract with the T.E.A.C.H. Early Childhood program could offer insight about the format (resident instruction, off campus, online) and scheduling (daytime, evening, weekend, online synchronous or asynchronous) of coursework offered. Such a survey should also ask about support services provided to these nontraditional students, such as having a designated advisor, enrolling students in cohorts for peer support, and assistance in navigating technology. Institutions that are

particularly successful at meeting the needs of T.E.A.C.H. Early Childhood participants could serve as models on effective program delivery.

Promoting Child Care to Meet Rural Needs

From the research, it became clear that information on rural child care is quite limited. It is also an area where gathering information is challenging. However, use of stratified random sampling techniques could help the commonwealth gain a better picture of child care needs in rural areas in a cost-effective way.

Additional information about the care provided during nontraditional hours also would be helpful. It would be useful to have information about providers and about parents seeking these hours of care. Data available for this research indicated only whether or not a provider offered care during nontraditional hours. It would be useful to know exactly what nontraditional hours they are offering.

Neighbor/relative care accounts for the overwhelming majority of providers serving subsidized children who offer nontraditional hours of care. This is true in both urban and rural counties. It would be useful to better understand why family child care and center providers are not offering this form of care.

The other piece of the nontraditional hours of care picture would be to get a better understanding of parents' needs for this type of care. Currently, parents who apply for a child care subsidy through Child Care Works must indicate the hours they work. If their work schedule varies they are asked to provide a four-week sample schedule. Analysis of this information would provide a good picture of the hours parents using subsidies need care for a child. Gathering this information from parents who are not using subsidies is a much greater challenge.

Most of the discussion in this report has been limited to children in families that use the Child Care Works subsidies, and the research has noted the widespread use of neighbors and relatives, both for nontraditional and traditional hours of care. While it is clear that children using Child Care Works subsidies in both urban and rural counties are being cared for in a range of settings, it is not at all clear why families have selected these settings. A survey of families using the Child Care Works subsidy could shed light on the reasons for these parents' child care choices.

One of the major limitations of this research was the inability to generalize the patterns of use of child care by families with subsidies to parents who do not use subsidies. Although it is not easy to reach these parents, a study approaching families through their licensed providers might provide a better understanding of the reasons for the placements this set of parents have made for their children. Of course, this would not reach parents who are using legally unregulated care, or those who should be regulated but are not. However, it could still generate useful information.

Information from a survey of parent needs and preferences could be used to create a new standardized form to be used by Child Care Information Services offices in each county when responding to resource and referral and subsidy inquiries. The information gathered about parent needs and preferences, in turn, could be used to target capacity building efforts.

Another way to approach gathering information on the use of unregulated care would be to survey parents through their work place. This would have the advantage of potentially reaching parents who live in different household types (single parents, dual earner families) with different kinds of support available (income, nearby relatives, living close to organizations that offer school-age child care, etc.) and varying hours of work.

Finally, while this project has focused on regulated and legally unregulated child care, it is important to remember that other early childhood programs in the commonwealth may also meet child care needs. PreK Counts was developed by the Pennsylvania Department of Education as a way to provide high quality pre-kindergarten opportunities for children and families. Head Start programs, which have been operating in the commonwealth since the inception of the program in the 1960s, offer comprehensive, high quality programming for preschoolers. Both of these programs can also serve a child care function for families when parents are in the paid labor force. However, the complexity of the service delivery system poses challenges both for evaluation and for improvement of programs.

A complete picture of child care must consider all of the programs above, and oversight of these programs resides in different agencies. Head Start must meet federal guidelines as well as some state requirements, PreK Counts and private nursery schools come under the Pennsylvania Department of Education, and child care is regulated by the Pennsylvania Department of Public Welfare. Historically, each of these program types of care has functioned in isolation. The establishment of OCDEL in 2004 grew from the recognition that these varied delivery systems served much the same purpose for children and families. OCDEL brings these varied programs under a single umbrella so that quality improvement and monitoring can be coordinated. The evolving Early Learning Network (ELN) data collection system is a part of this coordination. From a research perspective, this coordination of information is still a work in progress, but in time, data should be easier to access and analyze to answer important policy questions.

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