

2011 Local Child Care Market Rate Study

Final Report

for

*The Delaware Department of Health and Social Services,
Division of Social Services*

Submitted by Workplace Solutions

Reading, MA
(781) 944-3635

June 2011

Table of Contents

	Page
Executive Summary	3
Tables A, B, C	16
Bar Charts	17
Full Report	18
Acknowledgements	19
Overview	20
PART 1: Results of the Study	21
Prices Throughout the State	21
Full-time & Part-time Care	22
Prices by Age Category	23
Prices by County	24
Family Child Care, Center Child Care	25
Prices Paid by Delaware Families	28
Odd-hour Care; Special-needs Care	30
Change in Prices Since 2009	34
The Participation and Response Rates	34
Accuracy of the Study	35
Recommendations for Future Rate Studies	36
General Findings of the 2011 Study	36
PART 2: How the Study Was Conducted	38
Methodology	38
The Sampling Frame & The Sample Plan	38
The Selection of the Sample	42
The Questionnaire	44
The Marketing and Outreach Steps	51
The Interviews	53
The Analysis of the Data	55
PART 3: Appendix (Separate Document)	
Tables of 75 th Percentiles of Prices	
Participation Rates, Response Rates, Refusal Rates, Obsolescence Rates	
Sample Design Report	
Marketing Materials	
Survey	

2011 Local Child Care Market Rate Study

Executive Summary Report

for

The Delaware Division of Social Services

Submitted by Workplace Solutions
Reading, MA
(781) 944-3635
June 2011

ACKNOWLEDGMENT

The following individuals and groups are acknowledged for their assistance with this study: The Delaware Division of Social Services especially Elaine Archangelo, Director of The Division of Social Services, for her assistance and support especially in encouraging providers to participate in the study; Barbara McCaffery, Project Coordinator for the 2011 rate study who provided ongoing guidance throughout the project. We also thank Children and Families First, especially Donna Bratton and Debra Renz for assistance with the provider-sampling frame, and Evelyn Keating of the Delaware Institute for Excellence in Early Childhood at the University of Delaware for assistance with communication to the provider community.

This study would not have been possible without the gracious cooperation of the many Delaware child care providers who took the time to participate in the interviews and help with the study. Thank you all.

OVERVIEW

The 2011 Delaware Child Care Market Rate Study was conducted to meet federal requirements of 45 Code of Federal Regulations Parts 98 & 99 to ensure that reimbursement rates allow subsidized low-income children equal access to early education and care. The goal of this Rate Study was to develop statistically credible information on the present market prices charged by licensed providers in Delaware. "Market prices" are prices providers charge parents for the care of their private-paying children. They are non-discounted prices charged to unrelated and unaffiliated parents.

The Delaware Division of Social Services (the Division) contracted with the consulting firm Workplace Solutions, located in Reading Massachusetts, to undertake this study. The firm has conducted seven previous child care market rate studies for the Division, including the 2009 study, and has substantial experience with these surveys. Workplace Solutions' consulting group consisted of a team of researchers including: Marie Sweeney (MBA, M.Ed.), Principal of Workplace Solutions; Peter Schmidt (Ph.D., Economics), University Distinguished Professor of Economics, Michigan State University; William Horrace (Ph.D., Economics, MBA Finance), Professor of Economics, Syracuse University and Ann Witte (Ph.D., Economics), Professor of Economics, Wellesley College.

Marie Sweeney worked closely with the Division's Project Coordinator Barbara McCaffery to plan and implement the study. Because of the importance of obtaining accurate pricing information, the study was carefully planned and executed. The project began in February 2011. The Division and Workplace Solutions planned the study during February and March. Interviews were conducted during the spring. The researchers submitted the final report to the Division in June 2011.

The following section describes the methodology for the Market Rate Study. This includes descriptions of the sample design, the selection of the sample, the survey, and the interviews in the field. The next section describes the findings of the survey including the 75th percentile prices for each market segment, the provider participation rates, and the accuracy of the estimates of the 75th percentile prices reported in the study. This section contains descriptions of both prices *charged* by Delaware providers (provider prices) and prices *paid* by Delaware families (purchase prices).

Page 16 of the report contains three tables presenting the 75th percentile 2011 prices for the center and family child care markets. Table A contains the full-time daily prices at the 75th percentile for family child care for Kent, Sussex and New Castle counties. It also contains the minimum price reported in the county (Min), the maximum price reported in the county (Max), and the prices used to determine the 75th percentile (n). Table B contains the family child care full-time daily prices at the 75th percentile for infant, toddler, and preschool care as well as part-day prices for school-age care. Table C contains the center full-time daily prices at the 75th percentile for infant, toddler, and preschool care as well as part-day prices for center school-age care. Page 17 contains two bar charts that show a visual presentation of the 75th percentile prices for the 24 market segments in the study. This allows for an easy comparison of prices among the various market segments.

METHODOLOGY

Workplace Solutions implemented the survey to obtain prices for private-paying children actually in care at the time of the study. The researchers selected a representative sample of providers throughout Delaware and interviewed the sample providers by telephone. Utilizing the prices obtained through the interviews, researchers calculated the 75th percentiles of market prices for full-time infant, toddler, and preschool care and for part-day school-age care. Estimates of the accuracy of the 75th percentiles of 2011 market prices confirm that the Delaware market rate study achieved a high degree of precision.

The Sampling Frame

The sampling frame for the family child-care sample consisted of Delaware's Office of Child Care Licensing's data of licensed family child care and large family child care providers as of March 2011, merged with Children and Families First (CFF) data of licensed family child care and large family child care providers as of March 2011. The sampling frame for the center/school-age sample consisted of Delaware's Office of Child Care Licensing's data of licensed center/school-age providers as of March 2011, merged with Children and Families First data of licensed center/school-age providers as of March 2011. This comprehensive sampling frame allowed all providers in the state the opportunity to be selected for the rate study interview and reduced the likelihood of a non-representative sample. This also enabled the researchers to

select various prototypes and age categories of providers for the sample to ensure representation of all types of providers.

As part of the development of an accurate sampling frame, Workplace Solutions and Children and Families First reviewed the center, school-age and family child care data to identify and delete providers in categories that were outside the parameters of the study. These included providers that only served a niche in the child care market (drop-in care, back-up care), were not open to the general public (employer-supported programs operated only for employees' children), were significantly subsidized by the federal government (Head Start), or did not provide child-care services for the targeted timeframe (nursery schools). After eliminating these programs from the sampling frame, the consultants then determined that the total number of providers eligible for the study (the sampling frame) was 1439 providers. This sampling frame included 379 licensed center/school-age providers and 1060 licensed family child care and large family child care providers.

The Sampling Plan

The researchers developed a Sampling Plan to select a stratified random sample of the providers eligible for the study. This was developed in order to determine the child care prices of various market segments in Delaware. The sample design built upon the design and results of the 2009 Delaware Child Care Market Rate Survey. The 2011 sampling plan targeted all licensed providers in the state that qualified for the study, and called for sampling 45% of these providers.

The researchers designed the sample for full-time care for centers and family child-care providers and for part-day care for school-age care. The sample was planned to enable the researchers to analyze the final data by:

- type of care
- geographical region
- age categories
- full-time care & part-day care

Regions were the three counties in the state: Kent County, Sussex County, and New Castle County. The *types of care* were (1) child-care center and school-age center care and (2) family child care and large family child care. The *age-groupings* were infant, toddler, preschool and school-age.

The Selection of Providers

The economists selected providers at random from the sampling frame for each market segment. That is, they selected a separate random sample for each of the market segments or cells in the sample design, with each sample corresponding in size to the Sampling Plan. In all, the sample contained 477 family child-care providers and 172 center/school-age providers.

<u>FCC</u>		<u>Center/School Age</u>	
Sussex	177	Sussex	32
Kent	123	Kent	33
New Castle	177	New Castle	107
TOTAL:	477	TOTAL:	172

The researchers selected a wide range of providers throughout the state for the sample. These included: family child care providers, large family child care providers, centers serving all age categories, centers serving only one or two age categories, multi-site child care providers, centers that were part of a large national organization, free-standing school-age programs, school-age programs that were part of a multi-age program, school-age programs located in elementary schools, for profit programs and non-profit programs. The researchers also selected providers for the sample that reported scarce types of care in 2009 (e.g., infant care, odd-hour care).

The Questionnaire

The researchers utilized two surveys for this study, one for the center/school-age market, a second for the family child care and large family child care market. The questionnaire was designed to collect comprehensive and accurate information about prices charged to private-paying parents. Both the center and the family child care survey were designed to be easy for the providers yet enable the researchers to address the complex pricing strategies of the Delaware provider community and the nuances of the market.

The *center survey* asked providers to quote their prices for:

- Private-paying infants enrolled full time
- Private-paying toddlers enrolled full time
- Private-paying preschool-age children enrolled full time
- Private-paying school-age children enrolled part-day, for less than 4 hours-per-day

The *family child-care survey* asked providers to quote individual prices for private-paying children in their care, since some FCC providers may not have a set rate for their care. Thus, the FCC survey was designed to collect:

- A price-per-child, for up to eight private-paying children enrolled full time
- A price for a private-paying school-age child or children enrolled for part-day care (< 4 hours per day)

Odd-hour Care and Special Needs Care: The Division requested that information also be collected for odd-hour care and for special-needs care. Odd-hour care is evening care, overnight care and weekend care. Therefore the survey was designed to collect prices for odd-hour care for private-paying children as well as enrollment and cost information for children with special-needs.

The Marketing Steps to Encourage Provider Participation

During the planning phase of the project, the Division and Workplace Solutions planned and implemented various steps to encourage providers to participate in the study. These included written materials mailed to the providers, meetings held for providers to explain the forthcoming rate study, and assistance from professional child care groups to inform providers of the study.

- Family child care providers and center-sample providers received an announcement letter from Elaine Archangelo, Director of the Division of Social Services. The Director's letter informed them of the forthcoming Market Rate telephone interview and encouraged providers to participate in the study if contacted.
- Providers received a simple worksheet to help them prepare for the interview as part of the announcement letter.
- The Delaware Institute for Excellence in Early Childhood at the University of Delaware included in its spring edition of *Provider Pursuits* an article informing providers of the forthcoming child care market rate survey.
- The Division and Workplace Solutions planned and held Information Sessions for providers in two different locations in the state. At these meetings Division Project Coordinator Barbara McCaffery and Workplace Solutions researcher Professor William Horrace explained the purpose and scope of the rate study and answered providers' questions. Project Manager Sweeney also participated in these sessions.
- The Division mailed an announcement letter to all licensed providers in the state to inform them of the forthcoming Information Sessions and to

explain the child care rate study. The Division also included information about the study and the Information Sessions on its LISTSERV.

The Interviews

A professional telephone interview group, Opinion Dynamics, was selected to conduct interviews. This group has conducted interviews for previous Delaware Child Care Market Rate Studies. Workplace Solutions project manager also participated in the interviews. Interviews were conducted during the spring of 2011. The interviewers attempted to contact and interview all of the providers in the sample including many of the back-up sample providers that were added to the sample (e.g., all FCC back-up providers in Kent and Sussex were ultimately added to the sample). Interviewers made up to 20 "call attempts" to reach the sample provider and obtain a completed interview. In all, 1014 providers were called for the rate survey interviews. This represents 70% of providers in the Delaware sampling frame.

RESULTS

The 2011 Delaware Child Care Market Rate Study results include: providers reporting 1,960 prices for private-paying children actually in their care; a very high provider participation rate and low refusal rate; a high level of accuracy in the estimation of the 75th percentile prices.

The Participation Rate and Refusal Rate

The Delaware participation rate shows that the providers were overwhelmingly willing to participate in the study. A 90% participation rate was obtained for the study. A participation rate of 97% was obtained for the center/school-age interviews. An 88% participation rate was obtained for the family child care interviews. These high participation rates reflect both the ongoing efforts of the Division of Social Services to encourage provider participation in the rate survey and the gracious cooperation of child care providers. The refusal rate for the study was quite low: 3%. In all, 4% of FCC providers and 2% of center providers refused to participate. In total, 554 providers reported prices for private-paying children in their care.

The Analysis of the Data

The researchers converted prices obtained in the interviews into daily rates and then estimated the 75th percentiles of the distribution of daily prices for each market segment. The 75th percentile price is such that 75% of the prices are at or below the price and 25% are above.

The three tables at the end of this Executive Summary (pg. 16) present findings for all 24-market segments in the study. (See Tables A-C of this summary for the estimated 75th percentile prices.) The bar charts on page 17 present an overview of the prices at the 75th percentiles. In all, the researchers submitted ten tables of findings, which are included in the Appendix to the full report.

Accuracy of the Study

The goal of the Delaware Child Care Market Rate Study was to develop statistically credible information on the present market prices charged by child care providers in the state. This goal was met since the researchers used a statistically valid methodology, and since the relevant market prices were estimated with a verifiable and high degree of precision.

For the infant, toddler and preschool market segments for both the center and family child care markets, the 95% confidence interval is typically about plus or minus 5% of the estimate. All of the Kent and Sussex family child care providers were ultimately included in the sample and called for the interview. Since there were not very many Kent and Sussex family child care providers who had private-paying infants in their care, the researchers combined these two cells into one K&S infant cell. These cells had also been combined in previous child care market rate studies. This improved the level of accuracy so that this cell is now in line with the other full-time cells. The Kent and Sussex center infant cells were also combined to improve their level of accuracy.

For school-age care, the 95% confidence interval is typically about plus or minus 5%-10% of the estimate. This is not because the confidence intervals are wider. It occurs because the prices are lower (this is not full-time care). To improve the level of accuracy for Kent and Sussex school-age care, these cells were combined for both the FCC and center market segments.

For all of the market segments in the study, the level of accuracy achieved would be considered a more than acceptable high level of precision.

Range of Prices

Prices can vary widely in the state, by up to 100% among a segment of the market. At the 75th percentile, results of the study reveal that the daily market prices for full-time care range from \$24 to \$49.50. Part-day school-age prices range from \$12 to \$19.15.

Care is lower in price in family child care homes than in centers. For full-time toddler care in New Castle County, at the 75th percentile it is \$32 in family child care and \$43.40 in center care. For full-time preschool care in Kent County, at the 75th percentile it is \$25 in family child care and \$30.25 in center care.

75th Percentile Prices by County

Prices can also vary by geographic region in Delaware. For center and family child care, prices are highest for New Castle County and lower for Kent County and Sussex County. Prices in New Castle County are higher for all types of care and market segments. Prices at the 75th percentile are very similar or the same for Kent and Sussex market segments.

For *center care*, Sussex has the overall lowest priced care at the 75th percentile and New Castle the highest (averaging all four age categories per county). However, the Sussex and Kent center prices are very similar. At the 75th percentile, New Castle prices are significantly higher than Kent and Sussex prices.

For *family child care*, Kent and Sussex prices are the same or very similar. As with center care, Sussex has the overall lowest priced care at the 75th percentile and New Castle had the highest. However the price disparity between New Castle and Kent/Sussex counties is less for family child care than for center care. For full time center care there is approximately a 40% to 50% price difference per age category between the lowest price care at the 75th percentile and the New Castle price at the 75th percentile. For full-time family child care, there is approximately a 30% price difference per age category between the lowest prices care at the 75th percentile and the New Castle price at the 75th percentile.

75th Percentile Prices by Age of Children

In general, the 75th percentile prices for full-time care decreases as the age of the child increases. For example, for center infant care in Sussex, the 75th percentile price is \$35 per day and the preschool price is \$27 per day. For FCC infant care in New Castle, the 75th percentile price is \$33 per day and preschool care is \$31.06 per day.

School-age Children

For this study, school-age providers reported prices for part-day care, which is care for less than four-hours per day. In all, the researchers obtained 260 prices for part-day school-age care from providers who had private-paying school-age children enrolled at their site. At the 75th percentile, school-age care in centers is higher priced than in family child care. As an example, at the 75th percentile, Sussex part-day school-age care in centers is \$15 compared to part-day school-age care in FCC programs which is \$12.

Family Child Care

In all, 389 family child care providers reported 1464 prices for private-paying infant through school-age children. At the 75th percentile, FCC full-time daily prices range from \$24 to \$33 depending on the age category and the county. Part-

day school-age prices at the 75th percentile range from \$12 to \$15, depending upon the county, for care for less than four hours per day.

Center Child Care

In all, 165 child-care centers and school-age center providers reported 496 prices for private-paying children. These providers reported private prices for full-time care for infants, toddlers, and preschoolers and part-day care for school-age children. Full-time daily prices at the 75th percentile range from \$27 to \$49.50, depending on the age category and the county. Part-day school-age prices at the 75th percentile range from \$15 to \$19.15, depending upon the county, for care for less than four hours per day.

Prices Paid by Delaware's Families (Weighted Prices)

The price estimates reported to this point are calculated from the prices *charged* by providers. The Division requested that the researchers also calculate prices that reflect actual child care *purchases* being made by families in Delaware. To obtain these prices, the researchers weighted the 75th percentile prices by the number of private-paying children reported for each age category. Thus, if a provider reported that they had a private-paying infant in their care, the price for that infant care was weighted by the number of private-paying infants in the provider's program. These prices are referred to as "weighted" prices and reflect all market transactions by private-paying parents.

For center care, these weighted prices tend to be higher than the "per provider" prices for full-time care. As an example, the daily price at the 75th percentile charged by Kent center providers for toddler care is \$31.25; weighted per private-paying children it is \$34. For part-day school-age care in centers, the weighted prices are lower than the provider prices for New Castle County, and higher for the combined Kent/Sussex school-age cell. For FCC providers, the weighted prices are the same as the provider prices for most of the market segments. For two of the FCC market segments, the weighted prices are higher, for one segment the weighted price is lower.

Odd-Hour Care

FCC providers reported 22 prices for odd-hour care they had recently provided for private-paying children. The 75th percentile price for odd-hour care for New Castle County is \$4.35/hour; for Kent/Sussex Counties it is \$6.92/hour.

Special-Needs Care

In all, 24% of providers interviewed indicated that they were serving a child or children with special needs in their program. Of the center providers, 55% reported that they were serving a child or children with special needs. For family child care providers, only 11% reported that they were currently providing services to a child with special needs.

In all, 83% of the providers in the study who were serving a child or children with special needs reported that there were no additional costs incurred to serve these children. Thus, the majority of providers who were serving children with special needs reported that there were no additional costs to their program for serving these children.

The Division requested that the researchers also conduct a *differential analysis* to determine if providers who were serving children with special needs charged higher prices than providers who had no children enrolled with special needs. This is to determine if providers who have children enrolled with special needs pass along possible higher costs for serving these children to all of the children in their care. To determine this, the economists compared (1) the prices charged by providers who had children enrolled with special needs in relation to (2) the prices charged by providers who had no children enrolled with special needs. They analyzed these prices to determine if there was a statistically significant difference between the two groups.

To make these comparisons the researchers defined ten cells: Kent full time (ITP*), New Castle full time (ITP), Sussex full time (ITP), Kent and Sussex (combined) school age, and New Castle school age. This was done both for centers and for family child care. When the researchers compared the prices actually charged by providers that do and do not serve children with special needs, they found no clear pattern. In six of the cells providers that served children with special needs charged higher prices, in three they charged the same price, in one they charged lower prices. These differences were never large and in only one case (Sussex centers, full time care (ITP)) was the difference statistically significant. Therefore it does not appear to be the case that Delaware providers who serve children with special needs charge higher prices than other providers to offset any higher costs associated with serving these children. (*ITP = infant, toddler and preschool.)

Special needs findings: The majority of providers who had children enrolled with special needs reported that there were no additional costs to have these children in their program. In addition, the differential analysis did not seem to support the hypothesis that these providers were passing along possible higher costs for serving these children to their total enrollment of children.

Change in Prices Since the 2009 Market Rate Study

Note: Percentage changes quoted in this section are for the two-year period between 2009 and 2011. They are not percentage changes on an annual basis. Overall, there has been a 5.6% increase in prices since 2009 (averaging the changes in prices of all 24 cells). There has been an overall 7% increase in center prices (averaging the change in prices of all 12 center cells). For the FCC market, there has been an overall 4.3% increase in prices since the 2009 study (averaging the changes in prices of all 12 FCC cells).

GENERAL FINDINGS OF THE 2011 STUDY

- The daily market prices for full-time care at the 75th percentiles range from \$24 to \$49.50; part-day school-age prices at the 75th percentiles range from \$12 to \$19.15.
- At the 75th percentile, the daily market prices for full-time family child care range from \$24 to \$33.
- At the 75th percentile, the daily market prices for full-time center care range from \$27 to \$49.50.
- Prices in center care are higher than prices in FCC in all 12 market segments.
- Full-time prices are generally highest for infant care and lowest for preschool care. (Only part-day school-age prices were reported.)
- At the 75th percentile, prices in New Castle County are significantly higher than prices in Sussex County and Kent County.
- The 75th percentile price for FCC odd-hour care for New Castle is \$4.35/hour. For Kent/Sussex it is \$6.92/hour.
- In all, 24% of the providers interviewed were serving a child or children with special-needs. The majority reported that there were no additional costs to their program to serve these children.

- Overall the 2011 prices at the 75th percentiles increased by 5.6% since the 2009 study. (Determined by averaging the changes in prices among all 24-market segments.) This is a price increase over a two year period not an annual price increase.

SYNOPSIS OF RESULTS

- Prices are generally higher for care in New Castle County, for center care, and for younger children. Prices are generally lower for care in Sussex and Kent counties, for family child care, and for older children.

Detailed Findings (Tables A, B, C)

Tables A, B and C below provide detailed information regarding full-time infant, toddler and preschool daily prices and part-day prices for school-age care. The tables contain, for each cell: 1.) cell definition; 2.) population size N, estimated population of providers of this type of care; 3.) n, number of private-price observations utilized to develop the percentiles; 4.) the maximum price reported for the cell (Max); 5.) the minimum price reported for the cell (Min); 5.) the 75th percentile prices (75thile).

2011 Delaware Child Care Market Rate Study

Table A. Family Child Care - 75thile Prices

County	N	n	Max	Min	75 th ile
Kent, ITP	**	161	41.67	16.00	26.00
NC, ITP	**	361	50.00	18.00	32.00
Sussex, ITP	**	179	45.00	10.50	25.00

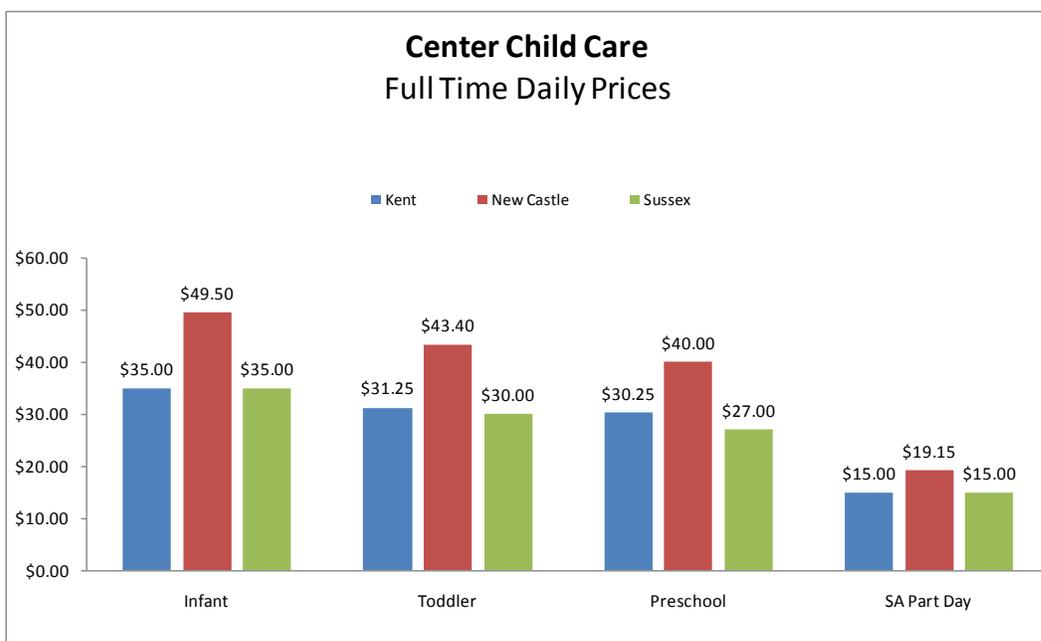
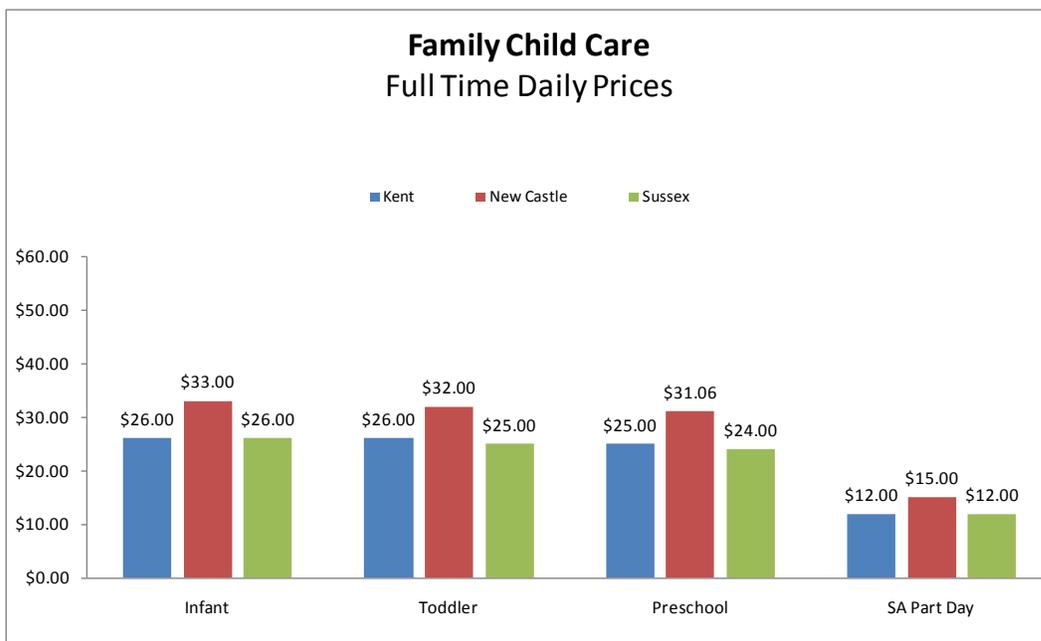
Table B. Family Child Care by Age - 75thile Prices

County	Type	N	n	Max	Min	75 th ile
Kent & Sussex	INF	**	48	45.00	12.00	26.00
Kent	TOD	**	69	32.00	17.00	26.00
Kent	PS	**	68	41.67	16.00	25.00
Kent & Sussex	SA	**	80	17.00	4.00	12.00
New Castle	INF	**	77	50.00	20.00	33.00
New Castle	TOD	**	145	41.63	22.00	32.00
New Castle	PS	**	139	40.00	18.00	31.06
New Castle	SA	**	70	37.50	5.00	15.00
Sussex & Kent	INF	**	48	45.00	12.00	26.00
Sussex	TOD	**	76	35.00	12.00	25.00
Sussex	PS	**	79	35.67	10.50	24.00
Sussex & Kent	SA	**	80	17.00	4.00	12.00

Table C. Child Care Centers - 75thile Prices

County	Type	N	n	Max	Min	75 th ile
Kent & Sussex	INF	59	43	45.60	22.00	35.00
Kent	TOD	41	27	39.00	22.00	31.25
Kent	PS	63	31	38.15	19.00	30.25
Kent & Sussex	SA	108	39	35.00	6.00	15.00
New Castle	INF	124	69	71.03	25.00	49.50
New Castle	TOD	165	84	67.95	25.00	43.40
New Castle	PS	233	95	66.56	15.00	40.00
New Castle	SA	211	57	33.00	4.99	19.15
Sussex & Kent	INF	59	43	45.60	22.00	35.00
Sussex	TOD	40	22	37.00	17.00	30.00
Sussex	PS	53	28	50.00	18.00	27.00
Sussex & Kent	SA	108	39	35.00	6.00	15.00

Prices are daily, full time private-paying rates except for School Age (SA), which is part day (less than 4 hours per day.) ITP = Infant, Toddler and Preschool Child Care. INF = Infant Child Care, TOD = Toddler Child Care, PS = Preschool Child Care, SA = School-age Child Care. N = estimated population of providers of this type of care. ** Population size treated as unknown. n = number of private-prices utilized to develop the 75th percentiles. Max = maximum price reported. Min. = minimum price reported. 75thile = 75th percentile price.



2011 Child Care Market Rate Survey

Full Report

for the

Delaware Division of Social Services

Submitted by Workplace Solutions

Reading, MA

(781) 944-3635

June 2011

ACKNOWLEDGMENT

The study reported in this document was supported by a contract from the Delaware Division of Social Services (DSS). This does not indicate their concurrence with the results nor is the Division responsible in any way for the errors we may have made or the conclusions we have presented herein.

The following are individuals and groups we wish to acknowledge for their assistance with this study: The Delaware Division of Social Services especially Elaine Archangelo, Director of the Division of Social Services for her assistance and support especially in encouraging providers to participate in the survey; Barbara McCaffery, Division Project Coordinator for the Market Rate Survey, who provided ongoing guidance throughout the project. We thank Children and Families First, especially Donna Bratton and Debra Renz, for assistance with the provider sampling frame. We also thank Evelyn Keating of the Delaware Institute for Excellence in Early Childhood at the University of Delaware for her assistance with communication to the provider community.

This study would not have been possible without the gracious cooperation of the many Delaware child care providers who took the time to participate in the interview and help with the study. Thank you all.

OVERVIEW

The goal of the Delaware 2011 Child Care Market Rate Survey was to develop statistically credible information of the present market prices charged by providers in Delaware and to provide confidence intervals that indicate the accuracy of the estimated percentiles. “Market prices” are prices providers charge parents for the care of private-paying children. They are prices charged by the providers to unrelated and unaffiliated parents that have not been reduced for special circumstances (e.g., low-income).

The Delaware Division of Social Services planned to utilize the information obtained from the survey to inform state decisions regarding reimbursement rates for child care services purchased by the state. Information from the study would help ensure that reimbursement rates allow subsidized low-income children equal access to early education and care. This survey complies with federal requirements of 45 Code of Federal Regulations for conducting a child care market rate survey (45 Code of Federal Regulations Sections 98 & 99, referring to “Equal Access”).

The Delaware Division of Social Services (the Division) contracted with the consulting firm Workplace Solutions, located in Reading Massachusetts, to undertake this study. Workplace Solutions conducted seven previous child care rate studies for the Division (from the 1996 market rate study to the 2009 market rate study), and has significant theoretical and field experience with these studies in Delaware and in other states. The research team brought to this project extensive experience in order statistics, research methodology, sampling design, and interview of child care providers. Workplace Solutions' consulting group consisted of a team of researchers including: Marie Sweeney (MBA, M.Ed.), Principal of Workplace Solutions; Peter Schmidt (Ph.D., Economics), University Distinguished Professor of Economics, Michigan State University; William Horrace (Ph.D., Economics, MBA Finance), Professor of Economics, Syracuse University; Ann Witte (Ph.D., Economics), Professor of Economics, Wellesley College. This team has collaborated for 17 years conducting child care studies and other related studies.

Project Manager Marie Sweeney worked closely with the Division's Project Coordinator Barbara McCaffery to plan and implement the study. The need for accurate pricing information for policy purposes meant that the study had to be carefully planned and executed. The project began in February 2011. The Division and Workplace Solutions planned the study during February and March. Interviews were conducted during the spring; the final report was submitted to the Division in June.

The outline of the report follows. The following section describes the findings of the survey including: estimates of the 75th percentiles of prices by age group and county; full-time and part-time prices; family child care and center prices; odd-hour care and care for children with special needs. This section contains a discussion of prices charged by providers (provider prices) and prices paid by Delaware families (weighted prices). It also includes response rates and

participation rates, and the estimates of the accuracy of the 75th percentiles of prices reported in the study. The next section describes the methodology used for the Market Rate Survey. This includes the development of the sample frame, descriptions of the sampling plan and the sample selection; the survey; the provider marketing steps; and the interviews conducted in the field. Finally it includes a description of how the data was analyzed. The final section includes the Appendix, which contains: (1) 10 Tables of findings of the study; (2) the Response Rates, Participation Rates, Refusal Rates and Obsolescence Rates; (3) the Sampling Design Report; (4) the marketing materials used in communication to the provider community; (5) the surveys.

The 10 Tables include: (1) the 75th percentiles of prices, including comparisons of the distribution of prices charged by providers (“provider prices”) and the distribution of prices paid by Delaware families (“weighted prices”), (2) the 75th percentiles of odd-hour prices, and (3) a study of the costs and prices associated with the care of children with special needs.

PART 1: RESULTS OF THE STUDY

The 2011 Delaware Child Care Market Rate Study results reflect: the 75th percentiles of prices estimated with a high level of accuracy; a very high provider participation rate (90%); a very low refusal rate (3%), and providers reporting 1,960 prices for private-paying children currently in their care.

Prices Throughout the State

The Appendix contains ten tables presenting the results of the 2011 Child Care Market Rate Study. Table 1, 2, and 3 report the 75th percentile prices for the full-time daily rates for infant, toddler and preschool center care and family child care throughout the state. These tables also report the 75th percentile prices for part-day school-age care for school-age children throughout the state. Table 4 presents the 75th percentiles for the hourly rates for odd-hour care in New Castle County and Sussex/Kent Counties. These tables present a 95% confidence interval for provider prices that allow one to assess the accuracy with which the 75th percentiles have been estimated. One can be 95% confident that the 75th percentile lies within these confidence intervals.

Tables 5 through 8 present the findings of the special-needs study. Tables 9 and 10 present the prices for the daily rates for center care and for family child care throughout the state, as well as the prices ‘weighted’ by the number of reported private-paying children in each age category. These are prices paid by private-paying families in Delaware and will be referred to as *purchase prices*. They are different from the prices generally discussed in the report, which are the prices *charged* by the providers (‘provider prices’).

Tables 1, 2 and 3 in the Appendix contain, for each cell: 1.) cell definition; 2.) population size N , where known. N was unknown for family child care providers, and so it was taken to be infinity in equation (1) in the Sampling Design for the sampling variance. This is a conservative approach that yields wider confidence intervals than if N were known; 3.) n = number of price observations (prices reported by providers) utilized to develop the 75th percentiles; 4.) the maximum price reported for the cell; 5.) the minimum price reported for the cell; 6.) the sample 75th percentile price; 7.) the standard error of the sample 75th percentile price, from Sheather-Jones bandwidth choice rule and Epanechnikov kernel; 8.) kernel-based 95% confidence interval; 9.) nonparametric 95% confidence interval, based on the hypergeometric distribution when N is known, and on the binomial distribution when N is not known. The researchers recommend that the parametric (kernel-based) confidence intervals be used when the number of price observations (n) is greater than or equal to 40 and that the nonparametric intervals be used when the number of price observations is less than 40.

Full-time Care

"Full time" care in this study refers to a daily price for a *full week* (at least 6 hours of care per day and 30 hours or more per week). Daily prices for full-time care at the 75th percentile are reported for center child care and family child care for infant, toddler and preschool-age children. The study obtained 1,700 full-time prices used to calculate the 75th percentile prices. The range of daily prices reported by the Delaware providers for full-time care is \$10.50 to \$71.03. These are not the prices at the 75th percentiles but represent the lowest and the highest priced care reported by the providers for full-time care.

Part-time Care

Part-time care for this study refers to *part-day* care for school-age children. Part day care is for *less than 4 hours per day* and can be for 'after-school care', or for 'before-school care' or for 'before & after-school care'. Part-day prices at the 75th percentile are reported for center care and for family child care for school-age children. The study obtained 260 part-time school-age prices used to calculate the 75th percentile school-age prices. The range of part-day prices reported by the Delaware school-age providers is \$4.00 to \$37.50. These are not the prices at the 75th percentiles but represent the lowest and the highest priced school-age care reported by the providers for part-day care.

The Range of 75th Percentiles of Prices

Tables for the 75th percentiles of prices, including confidence intervals and standard errors, are reported in the Appendix. At the 75th percentiles, results of the study reveal that the market price* for full-time care range from \$24 per day to \$49.50 per day. *Thus, full-time prices can vary widely in the state, by over 100%*

among a segment of the market. The 75th percentile of prices for part-day school-age care range from \$12 to \$19.15. (*Prices discussed in this section are unweighted provider prices. Weighted prices are discussed later in the report.)

The 75th Percentiles of Prices by Age of Child

The 75th percentile of daily market prices of full-time care in centers decreases as the age of the child increases. For example, for center infant care in Kent, the 75th percentile price is \$35 per day, the toddler price is \$31.25 per day and the preschool price is \$30.25 per day. This is also true for family child care: New Castle infant care is \$33 per day, toddler care is \$32 per day, and preschool care is \$31.06 per day.

At the 75th percentile, for full-time center-care and for full-time family child care in all three counties, infant care* is the highest priced and preschool care is the lowest priced. (Only part-day prices are reported for school-age children.)

75th Percentiles of Prices for full-time center care in New Castle

Infant care	\$49.50 / day
Toddler care	\$43.40 / day
Preschool care	\$40.00 / day

75th Percentiles of Prices for full-time FCC in Sussex County

Infant care	\$26.00 / day
Toddler care	\$25.00 / day
Preschool care	\$24.00 / day

*For FCC infant and toddler care in Kent County, the infant and the toddler daily prices at the 75th percentile are the same: \$26.

School-age

For this study, providers reported school-age prices only for part-day care for less than four-hours per day. Since the reported prices for these children are for part-day care and for older children, they are the lowest priced care in the study.

At the 75th percentile, part-day school-age care in centers is higher priced than in family child care homes. For example, center school-age care in Kent County is \$15.00 for part-day compared to \$12.00 in family child care in Kent County. Note: Kent and Sussex school-age cells were combined into one K&S cell, for both the FCC and center markets.

Part-day School-age Care at the 75th Percentiles

	Family Child Care	Center Care
Kent	\$12.00.	\$15.00
Sussex	\$12.00	\$15.00
New Castle	\$15.00	\$19.15

The 75th Percentiles of Prices by County

Prices can also vary by geographic region in Delaware. For center and family child care, prices are highest for New Castle County and lower for Kent County and Sussex County. Prices in New Castle County are higher for all types of care and market segments. Prices at the 75th percentile are similar or the same for Kent and Sussex market segments.

For *center care*, Sussex has the lowest priced care at the 75th percentile and New Castle the highest. Sussex and Kent center prices are very similar or the same for infant, toddler and school-age care. At the 75th percentile, New Castle prices are significantly higher than Kent and Sussex prices.

For *family child care*, Kent and Sussex prices are the same or very similar for infant through school-age care. As with center care, Sussex has the lowest priced care at the 75th percentile and New Castle the highest. However the price disparity between New Castle and Kent/Sussex counties is less for family child care than for center care. For center care there is approximately a 40% to 50% price difference for full-time care per age category between the lowest priced care at the 75th percentile and New Castle's price at the 75th percentile. The same occurs for family child care, but the price difference is approximately 30% for full-time care per age category at the 75th percentile.

Selected 75th Percentiles of Prices Per County

	<i>Sussex</i>	<i>Kent</i>	<i>New Castle</i>
Centers			
Infants	\$35.00	\$35.00	\$49.50
Preschool	\$27.00	\$30.25	\$40.00
FCC			
Toddlers	\$25.00	\$26.00	\$32.00
School-age*	\$12.00	\$12.00	\$15.00

* part-day

Family Child Care Prices

For the market rate survey, 389 family child-care providers quoted prices for private-paying children in their care. These providers had a median number of three private-paying children attending their program full time. For FCC providers reporting prices for school-age children attending their program, these providers had a median number of two private-paying school-age children enrolled.

The family child care providers reported 1464 prices for private-paying children. In total, they reported prices for 1300 private-paying children who were attending their program full time. For FCC providers that were serving school-age children, they reported 164 prices for private-paying school-age children enrolled for part day. Thus 42% of the participating FCC providers had at least one private-paying school-age child attending their program part day.

The vast majority of the prices reported were weekly rates. FCC providers also quoted hourly, daily, and monthly prices. The researchers used these prices

for development of the 75th percentiles of prices. The range of full-time daily prices reported by these providers is \$10.50 to \$50. The range of part-day school age prices reported is \$4.00 to \$37.50. In order to obtain these prices, all of the sample providers and many of the back-up replacement sample providers were called by the interviewers. In all, 811 FCC sample and replacement-sample providers were called for the rate study interview.

Rates at the 75th Percentile: The 75th percentile full-time price for Kent County for combined infant, toddler and preschool care (ITP) is \$26/day. For Sussex County (ITP) it is \$25. For New Castle (ITP) it is \$32/day. The 75th percentiles of prices are also reported for full-time family child care by age groupings for each county. At the 75th percentiles, FCC full-time daily prices by age category range from \$24 to \$33. Part-day school-age prices at the 75th percentile range from \$12 to \$15.

For full-time infant care, the 75th percentiles of prices range from \$26/day to \$33/day. To improve the level of accuracy of infant care at the 75th percentile for Kent and Sussex counties, these cells were combined into one K&S infant care cell. At the 75th percentile, the price for the K&S infant care is \$26/day. For full-time toddler care, the 75th percentiles of prices range from \$25 to \$32. For full-time preschool care, the 75th percentiles of prices range from \$24 to \$31.06. Infant care* is the highest priced full-time care and preschool care is the lowest priced full-time care. New Castle County has the highest priced care for all FCC age categories. (*For Kent County, the infant and toddler prices at the 75th percentile are the same: \$26/day.)

Center Child Care Prices

For the market rate survey, 165 child-care center and school-age center providers reported prices for private-paying children in their care. These providers reported prices for full-time care for infants, toddlers, and preschoolers and part-day school-age care. In all, they reported 496 private-paying prices. The center providers generally reported prices for 17* private-paying children enrolled full time (*average). They also reported prices for 11** private-paying school-age children enrolled part day (**average).

The vast majority of prices reported were quoted as weekly rates. Center providers also quoted hourly prices, daily prices, monthly prices, as well as school-year prices. The range of full-time daily prices reported by these providers is \$15 to \$71.03. The range of part-day school-age prices reported is \$4.99 to \$35.

Rates at the 75th Percentile: The 75th percentiles of prices are reported for center care by age category for each county in Delaware. Full-time daily prices at the 75th percentiles range from \$27 to \$49.50, depending on the age category and the county. Thus the range in price for full-time center care is much greater than the range in price for full-time FCC care. Part-day school-age prices at the 75th percentile range from \$15 to \$19.15.

For full-time center care, the 75th percentiles for the daily-market prices for infant care range from \$35 to \$49.50. For full-time toddler care, the daily prices at the 75th percentiles range from \$30 to \$43.40. For full-time preschool care, the daily prices at the 75th percentiles range from \$27 to \$40. For part-day school age care, the daily prices at the 75th percentiles range from \$15 to \$19.15. New Castle County has the highest priced care at the 75th percentiles for all age categories.

The 75th Percentiles of Prices and Types of Care

At the 75th percentiles, the price of care is lower in family child care homes than in centers for all age categories for each county (see below). For some county / age-categories it is a relatively small price difference (Kent school-age: FCC is \$12.00/day, centers is \$15.00/day.) For other county / age categories the price difference is significant between family child care and center care (New Castle infants: FCC is \$33/day, centers is \$49.50/day).

2011 Daily Full-Time Rates at the 75th Percentiles

	<i>Centers</i>	<i>FCC</i>
Infant		
Kent	\$35.00	\$26.00
Sussex	\$35.00	\$26.00
New Castle	\$49.50	\$33.00
Toddler		
Kent	\$31.25	\$26.00
Sussex	\$30.00	\$25.00
New Castle	\$43.40	\$32.00
Preschool		
Kent	\$30.25	\$25.00
Sussex	\$27.00	\$24.00
New Castle	\$40.00	\$31.06
School age**		
Kent	\$15.00	\$12.00
Sussex	\$15.00	\$12.00
New Castle	\$19.15	\$15.00

** part-day

Comparing the FCC results with the center results, it is apparent that the prices for family child care are lower and less variable than prices for center care. The greatest overall difference between FCC prices and center prices at the 75th percentiles occurs in New Castle. The range in New Castle price differences, between FCC prices and center prices, is 28% to 50% depending upon the age category. In reviewing the price differences for all of the counties, infant care has the greatest overall age-category price difference between family child care and center care prices.

Prices Paid by Delaware's Families (Weighted Prices)

The Delaware 2011 Local Child Care Market Rate Study provides a snapshot of what providers are *charging* at the 75th percentiles and the price at which parents are *purchasing* their child care services. The Division and Workplace Solutions determined that 'weighted' prices would reflect actual child care *purchases* being made by families in Delaware. To obtain these prices, the researchers weighted the 75th percentile prices by the number of private-paying children reported for each age category. These prices are referred to as 'weighted' prices and reflect all market transactions by private-paying parents.

Up to this point, the prices generally discussed in this report have been prices *charged* by the providers for the private-paying children in their care. Weighted prices are reported separately. Throughout this study, Workplace Solutions planned and implemented the research methodology to estimate provider prices and weighted prices. This report concentrates on the standard 75th percentiles of provider prices, but also presents the estimates of the 75th percentiles of weighted prices. All prices referenced in this report are provider prices unless specified as "weighted prices".

Calculation of Provider Prices

To calculate the 'provider' price, consider an example of full-time infant care in centers. Each respondent provider who has at least one private-paying infant enrolled full time reports their rate for full-time private-paying infants. Thus any sample provider who has any number of full-time private-paying infants enrolled at their site reports one full-time infant price. All of the respondent providers who report a price for this infant care have their price counted once in determining the infant 75th percentile 'provider' price (price *charged*). A provider with two full-time private-paying infants is given as much emphasis in the study as a provider with 28 full-time private-paying infants enrolled. Each of these providers has their full-time infant rate counted once in determining the 75th percentile (provider) price, since the researchers are analyzing what a provider is *charging*.

Calculation of Weighted Prices

Another way to look at prices it is to *weight* the 'provider price' by the number of private-paying infants enrolled at the time of the interview. So, to determine the weighted prices, a provider with two full-time private-paying infants actually has their price for this infant care counted twice (weighted by their number of private-paying infants enrolled full time) and a provider who has 28 full-time private-paying infants has their price counted 28 times (weighted by their number of private-paying infants enrolled full time). Using weighted prices allows one to estimate the prices at which private-paying parents are actually *purchasing* the care.

If the weighted prices are higher, this tells one that the private-paying parents are purchasing more care from the programs charging above the 75th percentiles of provider prices (more private-paying children are enrolled in the higher priced programs) and/or that the larger providers are charging above the 75th percentiles of provider prices.

Weighted Prices for the 2011 Study

The price differences between provider and weighted prices for 2011 range from -3% to 13% for full-time care. For part-time care, the differences between provider and weighted prices range from -3% to 8%.

For the 24 market segments, 13 cells have weighted prices that are higher than the provider price, nine cells have provider and weighted prices that are the same, and two cells have weighted prices that are lower than the provider price.

For center care, weighted prices are higher than the "per provider" prices for full-time care for all nine of the full-time market segments (infant, toddler and preschool care). As an example, the daily price at the 75th percentile charged by Sussex center providers for toddler care is \$30; weighted per private-paying children it is \$34. For part-day school-age care in centers, the weighted price is lower than the provider price for New Castle County, and is higher than the provider price for Kent/Sussex. For example, the New Castle school-age price at the 75th percentile is \$19.15; weighted it is \$18.65.

For FCC providers, the weighted prices are the same for nine of the market segments (cells), are higher for two cells and lower for one cell. (See Appendix: Tables 9 & 10 'Per Provider' and 'Weighted' Prices).

Selected 75th Percentiles of Provider Prices and Weight Prices

Centers	<i>Provider</i>	<i>Weighted</i>
S Preschool	\$27.00	\$30.00
NC Toddler	\$43.40	\$47.58
FCC		
K School-age	\$12.00	\$12.00
NC Preschool	\$31.06	\$30.25

Odd-hour Care

As part of the market rate study, the researchers included questions about odd-hour care in the provider survey. Odd-hour care includes evening care, overnight care and weekend care.

Evening care:	care during any evening hours, for example from 8 P.M. to 11 P.M.
Overnight care:	care for any overnight hours, for example 11 P.M. to 6 A.M.
Weekend care	Saturday care, Sunday care, or Saturday through Sunday care

As part of the survey, providers were asked if they had provided odd-hour care within the past month for any private-paying child and received a payment for that care. FCC providers who participated in the interviews reported 22 prices for various types of odd-hour care. The most frequently reported odd-hour care was evening care (15), then weekend care (7). No FCC provider reported overnight care. This was not sufficient to allow for development of price percentiles for evening care and weekend care. Instead, the researchers developed a 75th percentile of prices for one category: "odd-hour" care. Researchers calculated an FCC odd-hour rate for New Castle County and for Sussex/Kent Counties combined. Since only four center providers reported offering odd-hour care, no odd-hour 75th percentile prices are reported for center/school-age care.

The 75th percentile prices for FCC odd-hour care for New Castle County is \$4.35/hour; for Kent/Sussex Counties it is \$6.92/hour. The range of odd-hour prices reported is \$2.20 per hour to \$13.00 per hour.

Odd-Hour Care

	<i>75th percentile</i>	<i>Range</i>
New Castle	\$4.35/hour	\$2.20-\$13.00/ hour
Kent/Sussex	\$6.92/hour	\$2.50-\$10.00/hour

Care for Children with Special Needs

As part of the survey, providers were asked: "Are you presently serving any child with special needs in your program, private paying or state subsidized? For this survey, "special needs" means a child from infancy through 18 years of age who is diagnosed with physical, emotional, or developmental needs requiring special care." [PROBE: "ANY child with-special-needs can be private paying or state-subsidized child, and can be full time or part time."]

In all, 24% of providers responding to these questions indicated that they were serving a child or children with special-needs in their program. Of the center providers, 55% reported that they were serving a child or children diagnosed with special needs. For family child care providers, only 11% reported that they were currently providing services to a child diagnosed with special needs.

Additional Costs of Serving Children with Special Needs

The survey asked the providers about any *additional costs* for serving children who had been diagnosed with special needs. Because of the American's With Disabilities Act (ADA), providers in general cannot charge higher prices for children with special needs. Although providers could not charge higher prices, the Division wanted to know if it actually costs the providers more to serve these children in their programs. Providers who reported that they did have a child or children diagnosed with special needs in their program were asked:

Are there any additional costs to you for serving this child or children with special needs? [PROBE: Does it cost you any more to have the child or children diagnosed with special needs in your program than to have the other children in your program?]

In all, 83% of the providers in the study who reported serving a child or children with special needs also reported that there were no additional costs incurred to serve these children. Of providers who answered this question, 95% of the FCC providers and 78% of the center / SA providers reported that there were no additional costs to serve children with special needs. *Thus, the vast majority of providers who were serving children with special needs stated that there were no additional costs for them to serve these children.*

A total of 15% (20) of providers who had children with special needs enrolled reported that there *were* additional costs to have these children in their program. The average additional cost they reported was 19% (centers 22%, FCC 13%). Table 5 & 6 in the Appendix reports the breakdown of providers responding to these questions. (Note: The sum of providers responding to the various questions about special needs does not equal the total number of providers reporting prices for regular care in the surveys. A small number of respondents did not answer some or all of the questions about special needs.)

Pricing Differential Analysis

Because of the American's With Disabilities Act (ADA), providers in general cannot charge higher prices for children with special needs. They can, however, charge higher prices to *all* of the children enrolled to off-set any higher costs for serving these children with special needs, or they can absorb the higher costs themselves if they do occur, or have a third party absorb additional costs. Therefore, the Division requested that the researchers also conduct a *differential analysis* to determine if providers who were serving children with special needs charged higher prices overall than providers who did not have children enrolled with special needs. To determine this, the economists compared (1) the prices charged by providers who had children with special needs enrolled in relation to (2) the prices charged by providers who had no children enrolled with special needs.

Therefore, the researchers sought to determine whether a *price differential* existed between the following two categories of providers:

Providers serving both children who had been diagnosed with special needs and children who had not been diagnosed with special needs. (SNC)

Providers who had no children enrolled that had been diagnosed with special needs (RC)

To determine if a statistically significant price difference existed between these two categories of providers, the researchers calculated the 75th percentile of prices, by cell, of these two groups (SNC, RC). If a statistically significant difference in price did exist, this would support the hypothesis that SNC providers were passing along (possible) additional costs for serving children with special needs to all of the children in their program. The researchers utilized the information collected from all of the providers to conduct this analysis.

In determining a pricing differential, the researchers were not only interested in calculating a price differential but also determining whether or not the reported differential was significantly different from zero (was the difference statistically significant). To do this, the researchers needed to derive 75th percentile prices, standard errors and confidence intervals for providers serving children with special needs (SNC) and for providers who had no children enrolled that had been diagnosed with special needs (RC). The prices provided the numerical basis for the differential while the standard errors allowed the consultants to consider if the differentials are meaningful in a statistical sense. (See Appendix: Tables 7 and 8)

For the 2011 study, the researchers developed two sets of differentials: (1) one for full-time care (infant, toddler, and preschool care), and (2) one for part-day care (school-age care). The 75th percentiles of prices were reported for the following 20 cells: (1) Kent ITP (SNC) center, (2) Kent ITP (RC) center, (3) New Castle ITP (SNC) center, (4) New Castle ITP (RC) center, (5) Sussex ITP (SNC) center, (6) Sussex ITP (RC) center, (7) Kent & Sussex SA (SNC) center, (8) Kent & Sussex SA (RC) center, (9) New Castle SA (SNC) center, (10) New Castle SA (RC) center, (11) Kent ITP (SNC) family child care, (12) Kent ITP (RC) family child care, (13) New Castle ITP (SNC) family child care, (14) New Castle ITP (RC) family child care, (15) Sussex ITP (SNC) family child care, (16) Sussex ITP (RC) family child care, (17) Kent & Sussex SA (SNC) family child care, (18) Kent & Sussex SA (RC) family child care, (19) New Castle SA (SNC) family child care, (20) New Castle SA (RC) family child care. (ITP = infant, toddler, and preschool full time care; SA = part-day school-age care. SNC = providers serving a child/ children diagnosed with special needs as well as children who had not been diagnosed with special needs. RC = no children enrolled who had been diagnosed with special needs.)

Results of the Differential Analysis

When the researchers compared the prices actually charged by providers that do and do not serve children with special needs, they found no clear pattern. In six of the cells, providers that served children with special needs charged higher prices, in three they charged the same price, in one they charged lower prices. These differences were never large and in only one case (Sussex centers, full time care (ITP)) was the difference statistically significant. Thus it does not appear to be the case that Delaware providers who serve children with special needs charge higher prices than other providers to offset any possible higher costs associated with serving these children. The results of this analysis are presented in Tables 7 and 8 of the Appendix. There is generally no statistically significant difference in prices between providers who serve children with special needs (SNC) and those who do not (RC). More specifically, the asymptotically normal test statistic indicates that the SNC differential is always statistically insignificant (95% level) except for one case, Sussex County center ITP.

Special needs findings: The majority of providers who had children enrolled with special needs reported that there were no additional costs to have these children in their program. In addition, the differential analysis did not seem to support

the hypothesis that these providers were passing along possible higher costs to their total enrollment of children.

Change in Prices Since the 2009 Market Rate Study

Note: Percentage changes quoted in this section are for the two-year period between 2009 and 2011. They are not percentage changes on an annual basis. Overall, there has been a 5.6% increase in prices at the 75th percentiles since 2009 (averaging the changes in prices of all 24 cells). There has been an overall 7% increase in center prices at the 75th percentiles (averaging the change in prices of all 12 center cells). For the FCC market, there has been an overall 4.3% increase in prices at the 75th percentiles since the 2009 study (averaging the changes in prices of all 12 FCC cells).

The Participation Rates and Response Rates

Participation Rates

The total participation rate for the survey was 90%. An 88% participation rate was obtained for the family child care interviews. A 97% participation rate was obtained for the center / school-age interviews. This rate represents the number of providers that, when contacted for the interview, agreed to participate in the study. It includes both providers that did qualify for the study and providers that did not qualify for the study (e.g., provider with all subsidized children). In all, 70% of the providers in the sampling frame were contacted for the interviews (sample and replacement sample).

The Delaware participation rates show that the providers were very willing to participate in the study. These rates reflect both the ongoing efforts of the Division of Social Services to encourage provider participation in the rate survey and the gracious cooperation of the Delaware child care providers.

Response Rates

The response rate is the percent of qualified sample providers participating in the survey and reporting prices for private-children in their care. The Delaware *response rate* for center / school-age interviews was 96%; for FCC care it was 66%. The total response rate for the study was 74%. In all, 554 providers reported prices for private-paying children in their care.

Refusal Rates and Obsolescence Rates

The refusal rates for the study were quite low. The overall refusal rate for the study was 3%. For the FCC market, the refusal rate was 4%; for center / school age providers it was 2%. The refusal rate is the percent of sample providers that refused to participate in the survey when contacted, divided by the total number of qualified providers in the sample.

The obsolescence rate for the study was 4%. The FCC obsolescence rate was 5%; the center obsolescence rate was 1%. The obsolescence rate is the percent of providers in the sample that were no longer providing child care services.

Calculation of Response Rates

The response rate was determined by dividing the number of completed interviews by the total number of providers in the sample that had not been eliminated from the sample. Providers were dropped from the sample for various outcomes including: no private-paying children enrolled; did not provide full-time services for children below school age; were no longer in business, etc. Therefore, to determine the response rate, the number of providers who completed an interview and reported private prices was divided by the total number of providers with the following dispositions: completed interview, mid-interview terminate, refusal, answering machine, no response. Providers with the following dispositions were not included in the denominator when determining the response rates since these providers were removed from the sample and replaced with back-up sample: no longer in the child care business; no private-paying children enrolled for the required timeframe; all subsidized children; disconnected phone; computer/fax tone; wrong number; duplicate; language problem; and privacy block on phone.

Accuracy of the Study

The goal of the 2011 Delaware Child Care Market Rate Study was to develop statistically credible information on the present market prices charged by child-care providers in the state. This goal was met since the researchers used a statistically valid methodology, and since the relevant market prices were estimated with a verifiable and high degree of precision.

The degree of statistical uncertainty is defined as the range of the 95% confidence interval for the 75th percentile of prices. For the infant, toddler and preschool market segments for both the center and family child care markets, the 95% confidence interval is typically plus or minus 5% of the estimate. This range was higher for family child care for infants in Kent and Sussex counties. All of the Kent and Sussex family child care providers were ultimately included in the sample and called for the interview. There simply were not very many Kent and Sussex family child care providers who had private-paying infants enrolled full time. Therefore, the researchers combined these two cells into one FCC K&S infant cell. These cells had also been combined in previous Delaware child care market rate studies. This improved the level of accuracy so that the accuracy of estimates for this cell is now in line with the other full-time cells. The Kent and Sussex center infant cells were also combined into one cell to improve their level of accuracy.

For school-age care, the 95% confidence interval is typically plus or minus 5%-10% of the estimate. This is not because the confidence intervals are wider. It occurs because the prices are lower (this is not full-time care). For both the FCC

and center markets, the Kent and Sussex school-age cells were combined into one K&S cell. This improved the level of accuracy for both the FCC and center school-age prices at the 75th percentile in both Kent and Sussex.

For all of the market segments in the study, the level of accuracy achieved would be considered a more than statistically acceptable high level of precision. The researchers stress that it is important not just that a high degree of precision was attained, but also that the study quantified how high a degree of precision was attained.

Recommendations for Future Child Care Market Rate Studies

The 2011 Child Care Market Rate Study was successful in obtaining accurate prices from the child care providers in Delaware. The surveys and the sample size were effective in obtaining the needed provider data. The estimates of the accuracy of the percentiles confirm that the study achieved a high degree of precision. The Director's announcement letter to the providers, as always, had an impact on the providers resulting in a very high participation rate and very low refusal rate. Possible changes that the Division may wish to consider for the next child care market rate survey include: (1) elimination of the Information Sessions for the providers due to poor attendance at the 2011 sessions; (2) a sample design to equalize the estimated accuracy of the estimates to further improve the accuracy levels among the market segments.

GENERAL FINDINGS OF THE 2011 STUDY

- The vast majority of providers contacted for the study agreed to participate in the interview (90%). Few refused to participate in the study (3%).
- The daily market prices for full time care at the 75th percentiles range from \$24 to \$49.50; part-day school-age prices at the 75th percentiles range from \$12 to \$19.15.
- At the 75th percentile, the daily market prices for full-time family child care range from \$24 to \$33.
- At the 75th percentile, the daily market prices for full-time center care range from \$27 to \$49.50.
- At the 75th percentile, the market prices for FCC part-day school-age care range from \$12 to \$15.

- At the 75th percentile, the market prices for center part-day school-age care range from \$15 to 19.15.
- The range in reported FCC daily prices for full time care is \$10.50 to \$50. The range in reported FCC part-day school-age prices is \$4 to \$37.50.
- The range in reported center daily prices for full time care is \$15 to \$71.03. The range in reported center part-day school-age prices is \$4.99 to \$35.
- Prices in center care are higher than prices in FCC in all 12 market segments.
- Full-time prices are generally highest for infant care and lowest for preschool care. (Only part-day school-age prices were reported.)
- At the 75th percentile, prices in New Castle County are significantly higher than prices in Sussex County and Kent County.
- The 75th percentile price for FCC odd-hour care for New Castle is \$4.35/hour. For Kent/Sussex it is \$6.92/hour. Evening care was the most frequently reported type of odd-hour care.
- In all, 24% of the providers responding to the questions about special needs had a child or children diagnosed with special-needs enrolled in their program: 55% of centers and 11% of FCC providers reported that they had a child/children enrolled with special needs.

The vast majority of these providers reported that there were no additional costs to their program to serve these children.

- Overall the 75th percentile prices for 2011 were 5.6% higher than the 75th percentile prices for 2009 (averaging all 24 market segment changes). These percentage changes are for the two-year period between the spring of 2009 and the spring of 2011. They are not percentage changes on an annual basis.
- The study attained a high degree of precision of the estimates, as well as a quantification of the precision of estimates that are in accord with standard statistical practice.

SYNOPSIS OF RESULTS

Prices are generally higher for New Castle County, center care, and care for younger children. Prices are generally lower for Sussex County and Kent County, family child care, and care for older children.

PART 2: HOW THE STUDY WAS CONDUCTED

Methodology

The goal of the Market Rate Study was to develop statistically credible information of prices charged by Delaware providers. To meet the goal, the Division and Workplace Solutions carefully planned the study. Both groups collaborated to define the parameters of the study. They addressed many issues about the study that would allow providers to participate in the interviews and enable the Division to utilize the rate-study information. Some of these issues included: types of programs to exclude from the study (e.g. drop-in care, Head Start, license-exempt providers); prices to collect for part-day school-age care ('after-school' care, 'before-school' care, 'before and after school' care); selection of the methodology for weighting of prices (by the number of private-paying children rather than by slot).

Workplace Solutions implemented the survey to obtain prices for private-paying children in care during the time of the study. The consultants selected a representative sample of providers throughout Delaware. The sample providers were interviewed by telephone and reported the prices for private-paying children currently in care. Utilizing prices obtained from these providers, researchers estimated the 75th percentiles of market prices for full-time infant, toddler, and preschool care and the 75th percentiles of market prices for part-day school-age care. The researchers also provided confidence intervals that indicate the accuracy of the estimated percentiles. These estimates of the accuracy of the 75th percentiles of market prices confirm that the 2011 Delaware market rate study achieved a high degree of precision.

The Sampling Frame

Planning of the study included development of an accurate and comprehensive provider list for the design and selection of the sample (sampling frame). It was necessary to develop this comprehensive list of center/school-age and family child care providers to allow all of the providers in the state, that meet the parameters of the study, the opportunity to be selected for the interview. This reduced the likelihood of a non-representative sample (sample bias).

The sampling frame consisted of:

- The Delaware Office of Child Care Licensing (OCCL) data of licensed family child care and large family child care providers as of March 2011, merged with the March 2011 data of licensed family child care providers and large family child care providers from Children and Families First (CFF).
- The Delaware Office of Child Care Licensing (OCCL) data of licensed child-care center and center school-age providers as of March 2011, merged with the March 2011 data of licensed child-care center and center school-age providers from Children and Families First.

Both databases were reviewed using Microsoft Access. The researchers developed the sampling frame by provider site, that is, each licensed site represented a provider. Therefore if a provider had multiple locations, each site was considered to be a separate provider in the sampling frame.

Cleaning of the Data

The consultants reviewed each database to develop a complete and accurate sampling frame. Each of the databases was reviewed to identify and delete duplicates and to identify missing information from any of the data elements (e.g., missing phone number). Children and Families First reviewed their provider data to identify any possible duplicates or missing data elements. Workplace Solutions reviewed both the state data and CFF's data and subsequently merged both databases. Consultants reviewed the merged data to identify duplicates. Merging this data enabled the researchers to have a comprehensive list of Delaware providers and to identify age categories served by each center provider.

In merging the databases, it is possible to encounter duplicates that are not obvious. Workplace Solutions' data manager sorted the data fields in the merged database to identify possible duplicates. Each possible duplicate was then visually reviewed by the consultants to determine if the 'duplicate' represented two separate providers or was in fact a single provider. If the consultants could not determine if the two listings actually was a duplicate, a consultant would call the sites to clarify the issue.

Conflicting provider data was reviewed by Workplace Solutions and CFF to resolve any data discrepancies. In some instances where conflicting information occurred, Workplace Solutions reviewed the provider data from past Delaware market rate studies to try to resolve the discrepancy. A small number of providers appeared in only the CFF or in only the OCCL database. In those instances the consultants worked with CFF and the Division to resolve this, and also contacted some of the providers directly.

Excluded Programs

The Division and Workplace Solutions agreed upon a list of categories of providers that should be deleted from the sampling frame because they were outside the parameters of the study. Children & Families First initially reviewed their data, and Workplace Solutions reviewed the merged provider database to identify providers that should be excluded. These providers were then deleted from the sampling frame. If the consultants were unsure of deleting a specific provider, they contacted the provider directly to resolve the issue. Deleted categories included: providers that were closed to the general public (e.g., employer-supported center operated only for their own employees' children); programs providing services only to a niche in the market (e.g., drop-in care); programs receiving significant federal funding (Head Start); programs that serve children for free (ECAP programs) and programs that did not provide services for the required timeframe (nursery schools).

Excluded categories of providers included:

Head Start programs

Emergency back-up care, drop-in care, ad-hoc care

Holiday care

Sick child care

Programs that only serve children with special needs

Programs that only provide odd-hour care

Camps

Recreation programs

Early intervention programs

Programs that only provide care for children younger than SA children and only provide care for these children for less than 6 hours per day (less than 30 hours per week)

School-age programs that only provide care for 4 hours or more per day.

Employer-supported programs that only serve their own employees' children

Church or temple-supported programs that only serve their own members

Programs that serve unique populations (teen-age parents, children with AIDS, migrant workers' children, etc.)

Informal care programs (babysitting)

Programs that serve children for free

Relative care

Non-relative exempt care

Programs that only provide summer care

Age Category Information

To select the sample, the researchers required information about the age categories that each center provider served at their site. From this information, they would develop a 'universe' for each provider market segment (i.e., cell), that is a total number of providers per county serving each age category. For the center sampling frame, the researchers identified the age categories served by each center provider site from the data provided by Children and Families First and from age-category information obtained from the 2009 Delaware Market Rate Study. For the FCC sample, the researchers made estimates of the number of FCC providers who served the various age categories based on the outcome of the 2009 market rate survey. (See Appendix *Sample Design* for a further explanation.)

Development of the Provider Universe

From the development of the comprehensive list of providers eligible for the survey, Workplace Solutions determined that the total size of the sampling frame for the rate survey was 1439 providers. This included 379 licensed center / school-age providers and 1060 licensed family child care and large family child care providers. Subsequently, providers in the sampling frame were sorted by county, by type of care and by age-categories (centers) to create a list of providers for each cell.

The Sampling Plan and Analysis Plan

The researchers developed a Sampling Plan to select a stratified random sample of the provider population in Delaware. The researchers and the Division agreed upon the sampling plan for the study. This sample design was based on the previous design developed for the 2009 Delaware Child Care Market Rate Survey. The 2011 plan called for a sample of 45% of the providers in the state and was designed for full-time care for centers and family child-care programs and for part-day care for school-age programs. It targeted all licensed providers in the state that met the parameters of the study. This means that the provider needed to: (1) offer full-time care for children up to school-age and/or part-day school-age care; (2) provide services for the general public; (3) not be in the category of 'excluded providers'.

The sample design and analysis plan called for 24 cells. These cells consisted of: three geographical regions (counties), two type of care (e.g., centers), and four age categories (e.g., toddlers). *Geographic regions* were the three counties in Delaware: Kent County, Sussex County and New Castle County. The *types of care* were: (1) center and school-age care and (2) family child care and large family child care. The *age-groupings* were: infant, toddler, preschool and school-age.

The original sample design goal was to allocate the sample across the 24 cells in such a way as to approximately equalize the variances of the estimated 75th percentiles. The economists would base this on the expected variance in the price within each cell, the expected response rate, and on the total number of providers in the cell. Estimates of the expected response rates and price variance would be based on the 2009 Delaware Child Care Market Rate Study findings. However, in order to expedite the project and reduce the cost of the rate study, the sampling plan for 2011 was simplified to essentially replicate the 2009 sample design. By replicating the 2009 sample design, the economists would still approximately equalize the variances of the estimated 75th percentiles, although the expected outcome would not result in obtaining the variances as close to equality as if the sample design had been constructed based on the 2009 results for expected response rates and variance of prices. The sample was therefore allocated to each county in the same proportions as in 2009. That is for FCC, 25.6% of the sample was allocated to Kent County, 37.2% to New Castle County, and 37.2% to Sussex County. For Center Care, 19.1% was allocated to Kent County, 62.4% to New Castle County, and 18.5% to Sussex County.

The final sample design for the 2011 Rate Study included the number of sample observations allocated to each of the 6 countywide cells (3 for family child care and 3 for center / school-age care). However, the number of sample observations selected for the six county-wide cells did take into account the fact that there would be 24 cells at the final stage of analysis. (See Appendix: *Sampling Design Report for the 2011 Local Child Care Market Rate Survey.*)

The Selection of Providers for the Sample

Once the researchers developed the sampling frame and designed the sample, they assigned each provider a unique identifying number. The economists then randomly selected providers from the sampling frame, using random sampling procedures.

The 2011 sample selection consisted of randomly selecting providers from the sampling frame lists, by county, to achieve the desired sample size. However, the researchers knew that it is difficult to obtain prices for categories of scarce types of care such as infant care and odd-hour care. Therefore, a decision was made to oversample from providers of infant care and odd-hour care from the 2009 study results. Finally, certain types of center providers were initially selected for the sample to ensure their representation in the study. These were providers who offered care for only one or two age categories. Thus, providers who offered only

preschool care, or only school-age care, or only preschool and school-age care were initially selected for the sample.

Based on the timeframe for the project, it was imperative to start the family child care interviews as quickly as possible due to the larger size of the FCC sample. Therefore the FCC sample was designed and selected first. It replicated the design for the 2009 study, with oversampling of scarce types of FCC care (infant care and odd-hour care).

In the second stage, the child care/school-age sample was designed to replicate the 2009 sample. The 2011 center sample was selected with oversampling of scarce types of center care. In all, the sample contained 477 family child care programs and 172 center/school age programs.

Total Number of Providers Selected for the Sample

	<u>FCC</u>		<u>Centers</u>
Sussex	177	Sussex	32
Kent	123	Kent	33
New Castle	177	New Castle	107
TOTAL:	477	TOTAL:	172

Researchers determined that the *minimum* number of observations in a cell should be 13 providers, in order to estimate confidence intervals for each cell. For this study, the smallest size cell in the sample was 32 providers (Sussex Center). The largest size cells were New Castle and Sussex FCC providers (177 providers).

The researchers selected providers at random from the sampling frame for each market segment. They selected a wide range of providers throughout the state. These included: family child care providers, large family child care providers, centers serving all age categories, centers serving only one or two age categories, multi-site child care providers, centers that were part of a large national provider, free-standing school-age programs, school-age providers that were part of a larger multi-age program, school-age programs in elementary schools, for profit programs and non-profit programs.

After selecting providers for the sample, the remaining providers were then available as "back up" sample to allow for obsolescence and other outcomes requiring sample replacement. ("Obsolescence" refers to providers who are no longer providing child care services.) The obsolescence in the family child care market was expected to be higher than in the center market due to the relative ease of entering and exiting the FCC market. All of the providers that were not

selected as part of the regular sample were listed in random order and served as a "back-up" for cells needing replacements.

The "back-up" providers were used as replacements for providers who were selected for the study but were found, during the interviews, to have certain outcomes that required that they be replaced. These included: providers who were no longer providing services but had not notified DSS of that status; providers that had disconnected or incorrect phone numbers; providers that had private-paying children that did not qualify for the study (e.g., only younger children attending part-time); providers with all subsidized children; providers who had a language problem; providers with a "privacy block" on their phone.

The Questionnaire

The questionnaire was designed to collect accurate and comprehensive price information from providers that had private-paying children enrolled. The researchers would then utilize the collected pricing data to convert into daily prices and to estimate the 75th percentile price for each of the 24 cells in the study.

The 2011 Child Care Market Rate survey included questions about enrollment and rates (see Appendix: Survey). Workplace Solutions utilized two surveys for this study: one survey for the center/school-age market, a second survey for the family child care market. Each was designed to be easy for the providers yet still enable the researchers to address the complex pricing strategies of the provider community and the nuances of the market. Both instruments were designed to be utilized as telephone-interview surveys.

Each survey was carefully reviewed by the Division and Workplace Solutions to determine if adjustments needed to be made. The surveys collected information about prices and enrollment, but gathered information differently from each of the two groups because of the nature of these two markets. Both surveys gathered age-category information that would enable the researchers to report prices by age category. Center providers were asked for their rates by age categories (infants, toddlers, preschool age, school age). Family child care providers were asked for information for each private-paying child enrolled in their care on a full-time and part-day basis. This information included the child's age and price for their care. This is because some of the FCC providers may not have a set rate by age category. The researchers would then analyze the reported data to determine the prices charged by each of the providers for the following age categories:

AGE CATEGORIES

Infant

under 12 months of age

Toddler

from 12 months up to 36 months of age

Preschool

ages 3 years through 5 years, including the kindergarten year

School age

from first grade through 12 years of age

The Center Survey

The center survey asked the providers to report up-to-date information about their enrollment and prices for the private-paying children in their program. Center providers were asked to quote full-time prices for private-paying infants, toddlers, and preschoolers and part-day prices for school-age children enrolled at their site. In addition, in order to be able to weight the 75th percentile prices for each cell, the consultants included questions in the survey to obtain the number of private-paying children for each quoted price. Thus if a provider reported that they had private-paying toddlers enrolled full time, and quoted their price for this care, they also would report the number of private-paying toddlers enrolled on a full-time basis. Finally the center survey also included questions about odd-hour care and care for children with special needs.

The Family Child Care Survey

The FCC survey asked providers to quote individual prices for children in their care. The FCC survey was designed to collect a price-by-child, for up to eight private-paying children attending the provider's program on a full time basis. In addition, the survey also collected a price for part-day school-age care, if the provider had a private-paying school-age child or children enrolled. Finally, the survey included questions about odd-hour care and care for children with special needs.

School-age Care

The center and the family child care surveys included questions about school-age care. These questions were designed to ask providers if they had any private-paying school-age child enrolled. School-age for the study is from first grade through 12 years of age. For providers that reported that they did have a private-paying school-age child enrolled, the provider was asked if any private-paying school-age child attended their program part-day, for less than four hours per day. This could be for 'after-school care', for 'before-school care' or for 'before & after-school care'. Providers who reported 'yes' were asked to quote their rate for this care.

Thus, the 2011 Market Rate Survey collected prices for part-day school-age care, which the Division defined as *less than 4 hours per day*. School-age providers included center programs that offered care for multiple-age categories, free-standing school-age programs, as well as family child care providers that offered care to school-age children.

Screening Questions

In order to collect *market prices* the surveys included screening questions and directions for the interviewers to identify both providers and prices that would meet the criteria of the study. Both surveys began with screening questions to determine which providers should be interviewed and what price information should be collected.

These screening questions asked:

- (a) Did the provider actually have any children enrolled in their program? Were they paid for the children that were enrolled in their care?
- (b) Did the provider have any *private-paying* children enrolled at the time of the interview.
- (c) Did any of the private-paying children qualify for the survey, (e.g., were any infant through preschool-age children enrolled full time, or were any school-age children enrolled part-day).

Provider no longer in business: The survey began with screening questions to screen out providers who were no longer providing services at the time of the interview. A provider was initially asked if they were providing child care services. If a provider answered "no" they were next asked if they had provided child care services within the past month or was any child enrolled for the coming month. A provider was considered to be 'out of the market' that was not currently providing care, or did not provide care within the past month or the coming month. If a provider did not offer care during that time frame, the survey

would end. Thus the survey only collected information from providers who were presently providing child care services. If a provider was dropped from the sample because they were no longer providing services, another provider was added to the sample from the "back-up" provider list for that cell, if back up sample was available.

Provider with all subsidized children: Providers were next asked questions to determine if they had any state-subsidized children enrolled in their program (Purchase of Care and Purchase of Care Plus). The researchers included these questions to help providers and interviewers identify the private-paying children and private-paying prices that should be reported in the survey. If a provider only had subsidized children enrolled in their program, the provider was determined to be ineligible for the study and would be removed from the sample. The researchers designed the study to collect market prices for private-paying children actually receiving care. Only those prices would be used in developing the 75th percentile price for each market segment.

Provider with published rates: As part of the protocol for the study, the researchers determined that "published rates" would not be collected. Thus, if a provider only had state-subsidized children enrolled, but had a private rate if a private-paying child enrolled at some point, these published rates would not be collected. The researchers only used prices for private-paying children currently receiving child care services to estimate the 75th percentile price for each market segment.

The researchers included these screening questions since this is a market rate study to determine child care market prices, which are prices charged in a market transaction between unrelated and unaffiliated parties (called "arms-length prices" by economists). By including these screening questions the researchers ensured that the collected price reflected an actual private transaction in the marketplace.

Pricing Units

The surveys were designed to collect information for pricing time-periods actually used by providers (e.g., hourly, daily, weekly, monthly, etc.). At the request of the Division, the researchers then converted all collected price information to daily rates for the 24 market segments. The researchers used the private-paying prices to estimate both the 75th percentiles of the market prices and the accuracy with which the 75th percentile of prices was estimated.

The center and family child care questionnaires enabled providers to quote their rates as they actually quote them to parents. To accomplish that, the consultants designed the price questions to be 'open-ended'. Center providers could quote their prices as hourly, 1/2 day, daily, weekly, monthly, semester, school-year, yearly, or an "other" unit. Family child-care providers could quote their rates as hourly, 1/2 day, daily, weekly, monthly, or an "other" unit. The "other" pricing unit enabled the provider to quote their price in *any* unit of time other than those already listed. This lowered response bias in the study since providers were not

asked to calculate a rate they did not actually use. (Response bias is inaccurate responses to questions.) Providers were not asked to estimate a "daily rate" when they did not offer such a rate or did not typically use that rate.

Price Questions

The researchers carefully planned the study to collect non-discounted unsubsidized prices that were charged in an actual market transaction. The pricing question included directions for the providers to enable them to quote market prices. As an example, center providers serving private-paying toddlers were asked:

Using our definition of full-time as 30 hours or more per week, what rate do you charge for your basic full-time rate for private-paying toddlers?

In quoting your rate, please do not "add-on" any fees above your regular rate, and please do not deduct for any discounts or subsidies such as a "sibling discount" or a "sliding-fee scale".

The second part of the pricing question directs providers to quote their price without adding on any additional fee or without deducting for any discounts such as a sibling discount. Finally, both surveys only collected information for paid child care, that is, care for which a financial payment was received. Information about children served for free was not collected.

Additional Questions

The Division's RFP also required that information be collected for: odd-hour care; care of children with special needs; and weighted prices. Thus, the survey included additional questions to: (1) determine prices for odd-hour care, (2) address price and cost issues that might be associated with serving children with special needs, and (3) 'weight' the 75th percentile prices (see below).

Odd-hour Care

The consultants included questions about odd-hour care in the surveys. The Division determined that "odd-hour" care would be evening care, overnight care and week-end care. Providers were asked questions about their services and private-prices for each of the three types of odd-hour care:

Evening care: care during any evening hours, for example from 8 P.M. to 11 P.M.

- Overnight care:** care for any overnight hours, for example 11 P.M. to 6 A.M.
- Weekend care:** Saturday care, Sunday care, or Saturday through Sunday care

Because it was possible for some of these types of odd-hour care to overlap, these definitions were used as guidelines. This study would attempt to develop price percentiles for all three types of odd-hour care if providers reported a sufficient number of prices for each of these.

The researchers planned to obtain prices for odd-hour care that had recently been provided to private-paying children. Therefore, in the survey, providers were asked if they had provided odd-hour care within the past month to any private-paying child. If a provider answered *yes*, he was asked if he had received a payment for the odd-hour care. These screening questions were included because the Division wanted odd-hour prices only for private-paying children and for care that had actually been provided (not just a published rate). Also, it was known that some providers have this type of care but do not charge for it since some offer it occasionally as an amenity for children in their regular program. Thus, the consultants added these questions to identify the providers who had recently provided odd-hour care for private-paying children and had received a payment specifically for the odd-hour care. Once these providers were identified, they were asked to quote the price that they charged for the type of odd-hour care they had provided (evening, overnight or weekend care).

This odd-hour survey section was planned so that the researchers would have the information to convert the prices obtained to one pricing unit. For the regular study, all prices would be converted to a daily unit. This was not possible with odd-hour care since this care could vary widely. Therefore the prices collected would be converted to an hourly rate and reported to the Division as an hourly price. Providers were asked open-ended questions about their pricing of odd-hour care and could quote these prices in units they actually charge the parents: hourly, 1/2 day, day, evening, day & evening, overnight, weekend, week, or "other". These prices would then be converted to an hourly rate by the researchers.

Care of Children with Special Needs

The Division wanted to understand the pricing of child care for children with special-needs. However the consultants did not include a survey question asking what price providers charged for care of a child with special needs. This is because the ADA Act, in general, prohibited providers from charging higher prices for care of these children in child care programs. From the ADA Act, it appears that providers could either pass along extra costs for care of children with special needs to *all* of the children in their care, have a third party pay extra costs, or the providers themselves could absorb extra costs for serving these children if extra costs were incurred.

Therefore, for this study, the Division wanted to know: (1) if the provider was serving a child / children diagnosed with special needs; (2) if serving children with special needs incurred extra costs for these providers; and (3) if providers with an enrollment that included children with special needs charged higher prices overall than other providers. This might then support the hypothesis that providers were passing along possible higher costs associated with serving these children to their total enrollment of children. The researchers planned to collect information that would allow them to address these issues.

The survey included the special-needs questions to enable the researchers to:

- 1.) Identify providers that had a child or children diagnosed with special needs in their program.
- 2.) Determine if the providers that had children enrolled with special needs believed that it cost their program more to serve these children.
- 3.) Identify the estimated additional costs reported by the providers for serving children with special needs, if any.
- 4.) Determine if there is an overall statistical difference in prices charged by providers who were serving children with special needs vs. providers who had no children enrolled that had been diagnosed with special needs.

Therefore, as part of the survey, providers were asked:

Are you presently serving any child with special needs in your program, private-paying or state-subsidized? For this survey, "special needs" means a child from infancy through 18 years of age who is diagnosed with physical, emotional, or developmental needs requiring special care.

If a provider did not know if a child had special needs ("Is an ADHD child a child-with-special-needs?"), the consultants included a 'direction' for the interviewers: the provider would need to determine if any child in the program was a child with special needs.

Additional Costs: Providers who reported serving a child or children with special needs were then asked: "Are there any additional costs to serve these children?". Providers who responded *yes* were asked to estimate how much of an additional cost was incurred to provide these services. They could estimate that the additional cost was: "5% more", "10% more", "15% more", "20% more", or "another amount". If they selected 'another amount', they then would estimate the percentage representing the additional amount.

Differential Analysis: From the information collected, the researchers would undertake a differential analysis to evaluate the hypothesis that providers who had children with special needs in their program charged higher prices to their

general population of children to off-set higher costs incurred in serving these children. The questions that the researchers included in the survey would allow them to determine if there was a statistically significant difference in price between providers who were serving children with special needs and providers who had no such children enrolled in their program. If a significant difference did exist, as evidenced by the differential analysis, this could support the hypothesis that providers were in fact passing along additional costs for serving children with special needs to all of the children in their program.

Weighting Questions

The prices discussed in the full report are generally the prices *charged* by providers (per provider prices). The Division also requested that 75th percentile prices be weighted. The Division and Workplace Solutions determined that weighted prices would reflect actual child care *purchases* being made by families in Delaware. These are the prices paid by Delaware families. To obtain these prices, the consultants included questions in the surveys that allowed them to weight the 75th percentiles of prices by the number of private-paying children reported for each age category. Thus, when a provider reported the price for a full-time private-paying toddler in their care, the provider was then asked to report the number of full-time private-paying toddlers enrolled at that time. This provided the consultants with information for weighting the prices. These prices are referred to as “weighted” prices and reflect all market transactions by private-paying parents. They are considered to be the *purchase prices* paid by the private-paying parents.

The Marketing Steps to Encourage Provider Participation

During the planning phase of the project, the Division and Workplace Solutions planned and implemented various strategies to encourage providers to participate in the study. These included written materials mailed to the providers, meetings held for providers to explain the forthcoming rate study, and assistance from professional child care groups to inform providers of the study.

- All family child-care providers and center-sample providers received an announcement letter from Elaine Archangelo, Director of the Division of Social Services. The Director’s letter informed them of the forthcoming Market Rate Study interview and encouraged providers to participate in the interview if contacted for the survey. The letter included telephone numbers for the Division’s project coordinator and for Workplace Solutions’ project manager. The providers were encouraged to call either of these individuals if they had any questions about the survey.
- Providers also received, as part of the announcement letter, a simple worksheet to help them prepare for the interview. One worksheet was

developed for center providers and another for family child care providers. (See Appendix: Marketing Materials.)

- The Delaware Institute for Excellence in Early Childhood at the University of Delaware included in its spring edition of *Provider Pursuits* an article informing providers of the forthcoming child care market rate survey.
- The Division and Workplace Solutions planned and held Information Sessions for providers at two different locations in the state. At these meetings Division Project Coordinator Barbara McCaffery and Workplace Solutions researcher Professor William Horrace explained the purpose and scope of the rate study and answered providers' questions about the project. Workplace Solutions' project manager also participated in the sessions and served as a resource for the survey and interviews.
- The Division mailed an announcement letter to all providers in the state informing them of the Information Sessions and briefly explaining the rate study. The Division also included information about the study and the Information Sessions on its LISTSERV.
- In its meetings with providers during the past year, the Division discussed the market rate survey that would be forthcoming and encouraged the providers to participate in the interviews.

When contacted for the interview, many providers knew about the study from the provider outreach efforts, especially the Director's announcement letter they had received. Thus they were quite willing to participate.

Response and Non-response Bias

The Division of Social Services and Workplace Solutions undertook many steps to minimize both response and non-response bias in this study. Response bias arises because of inaccurate responses to questions; non-response bias is errors due to an unrepresentative sample of providers actually being interviewed because of such occurrences as refusal to participate.

To limit response bias, the researchers utilized surveys that were appropriate for the diverse types of providers included in the study. Both surveys had been field-tested. Survey price questions were open-ended allowing the providers to quote their rates in any unit of time they used. In addition, interviewers were trained in the surveys, in the terms and definitions used in the surveys, and in the purpose and goals of the study. All the interviewers used the same survey instruments and had written references for questions the providers might have in the course of the interview. Workplace Solutions worked daily with the interview group to address any questions or issues the providers or interviewers had and also monitored many of the interviews. After the conclusion of the interviews, Workplace Solutions called a small number of providers to clarify

some of their reported price data, thereby allowing this data to be used in the final analysis.

To limit non-response bias, the Division and the firm planned and implemented many communication steps to inform the providers of the forthcoming study and to encourage their participation in the study. In addition, interview procedures included: up to 20 "call attempts" to reach a provider for the interview; calling at varying times and days; setting an appointment with providers who requested this; and calling over a period of weeks. For a small number of providers that reported to the interviewer that they did not receive the Director's announcement letter and would not do the survey without the letter, Workplace Solutions resent these letters via express mail to encourage these providers to participate.

The Training of the Interviewers

A professional telephone interview group, Opinion Dynamics, was selected to conduct interviews in the field. This group also conducted interviews for prior Delaware Child Care Market Rate Studies. Project Manager Sweeney also participated in the interviews. Both Workplace Solutions and Opinion Dynamics trained the interviewers. All of the interviewers received reference materials and training in the survey, as well as training in handling of complex situations or technical questions posed by the providers. As part of the training, the possible difficulties that might arise were described and methods of dealing with these difficulties were indicated. Interviewers were directed to refer unusual circumstances or questions to supervisory personnel at the interview group, who then reviewed the situation with Workplace Solutions.

During the training sessions, the interviewers reviewed the survey in detail. The interviewers participated in "role playing" with Project Manager Sweeney. The interviewers also practiced conducting interviews using the CATI on-line survey. This allowed them to practice entering the providers' responses on-line, and to become familiar with the survey skip patterns.

The Interviews in the Field

The interviewers used a CATI system (Computer-Assisted Telephone Interviewing) for conducting the interviews and recording the results. As the interviewers asked the survey questions, they entered the providers' responses directly into the computerized database. The CATI system was utilized because of the complexity of the surveys, with numerous screening grids and skip patterns throughout the surveys. This system leads to more accurate data entry.

The interviewers attempted to contact and interview all sample providers including many of the back-up replacement sample (e.g., all FCC back-up providers in Kent and Sussex were added to the sample). Interviewers made up to 20 "call attempts" to a provider to obtain a completed interview. At the fourth

call attempt, the interviewers left a message on the provider's answering machine or voice mail explaining the purpose of the call. If a provider was reached and it was an inconvenient time, the interviewer would set up an appointment and then call back at the agreed-upon time. Family child-care providers were contacted during the day, in the evening, and on weekends. Center providers were contacted during the day, Monday through Friday.

Workplace Solutions project manager was closely involved with the interview process. This included such activities as: training of the interviewers, monitoring of the interviews, outreach to sample providers, calls to hard-to-reach providers, and sample management. She monitored many of the interviews with the providers throughout the time in the field. She conferred on a daily basis with the supervisors and interviewers about issues concerning individual providers and methods for obtaining completed interviews.

In situations where a provider reported that they were no longer in business, the provider had only subsidized children enrolled, the phone had been disconnected, or the provider had no children enrolled for the required timeframes, the provider was replaced with a "back-up" provider for that cell. These steps enabled the interviewers to reach and interview many of the providers in the sample and in the replacement sample. In total 70% of the providers in the sampling frame were called for the rate survey interview. The final respondents included 389 FCC providers and 165 center providers. These respondents reported 1960 prices charged for private-paying children in their care.

The questionnaire worked well in obtaining price information. The interviews required from 6 to 13 minutes to complete, depending upon the number of age categories a provider served (centers) or upon the number of children served by the provider (FCC). Interviews were conducted with providers during the spring of 2011.

Complicating Situations

Since Workplace Solutions had conducted previous market rate surveys of Delaware child care providers and providers in other states, many complicating situations had already been identified and addressed. However some complications still did occur. As an example, some of the school-age providers attempted to report prices for part-day school-age care that did not meet the definition of part-day (less than 4 hours per day). They had private-paying school-age children attending part-day but for four hours or more per day, not for less than four hours per day. The interviewers were directed not to collect these school-age prices since they did not meet the required time frame of less than 4 hours-per-day.

An additional complication included the increased use of answering machines on FCC providers' phones to block out incoming calls. Although these providers were called many times (up to 20 call-attempts), it became a challenge to actually reach them. Messages were left on their voice mail concerning the study.

Additional messages were left asking the provider to return the call to the interviewer and participate in the interview. Few of these providers did return the call. Some of these providers were ultimately contacted by calling at unusual hours.

The Analysis of the Data

The researchers were provided the interview data in an Excel file containing the interview results. They then reviewed the data, conducted data checks and deleted observations that were outliers. At that point, they proceeded to analyze the data for each county, type of care and age grouping.

Data Checks and Outliers

The researchers performed the following data checks to ensure that inaccurate or inappropriate data was excluded from the study:

1. If a provider quoted a price for care for less than 30 hours per week for infant, toddler, or preschool care, the price was removed from the data.
2. If a provider quoted a school-age price for care for 4 hours or more per day, the price was removed.
3. If a price was excessively large or small, the price was removed. (See discussion below for the criteria used.)
4. If data needed to perform conversions to daily prices was missing, prices were disregarded.

After data checks were performed and problematic observations removed, the rates were then converted to daily rates and the outliers removed. In general, the removal of outliers *does not affect price percentiles* in the study. The reason is that the study is providing percentiles, not averages, and there are generally enough observations with the same values (ties) that deleting a few observations at either end of the price distribution does not change the value of the various percentiles. They are removed solely for the purpose of improving the accuracy of the reported prices. Outliers would increase the standard errors of the estimated percentiles.

The rules the researchers used to identify outliers follows:

1. Remove daily prices below \$10 per day for full-time center and family child care prices for infants, toddlers, and preschoolers.
2. Remove prices below \$1.00 for part-day school-age care.
3. Remove prices in excess of 10 times the median deviation from the median price.

The low outlier rule is a "rule of thumb" used by the researchers in previous pricing studies. Daily prices always were \$10 per day or greater, so there were no daily prices removed based on this rule from either the FCC or center providers.

For school-age center care, where the unit is part-day, the low outlier rule was modified to exclude prices that were below \$1.00 per afternoon. This resulted in no prices being removed from center school-age data. Two prices were removed as low outliers from the FCC SA data.

The high outlier rule is a common method for determining outliers. For FCC providers, the high outlier rule generally resulted in the removal of prices in excess of \$70 per day. This occurred 5 times in 1,299 FCC full-time prices and only once in 400 CCC full-time prices.

For center part-day school-age care, there were no high outliers in the data, but for FCC part-day school-age care there were 12 high outliers. Total numbers of outliers for each region/type of care are summarized below:

2011 Outliers

Type	Prices	Usable	Kent	New Castle	Sussex	Total	n
FCC: ITP	1,300	1,299	1	1	3	5	1,294
FCC: SA	164	164	4	8	2	14	150
CTR: ITP	400	400	0	0	1	1	399
CTR: SA	96	96	0	0	0	0	96
Total	1,960	1,959	5	9	6	20	1,939

n = prices used to determine the 75th percentile prices per cell.

Note: Price counts are "per provider" prices except for FCC ITP (Infant, Toddler, Preschool) where providers can report up to 8 prices for full-time care.

For full-time center care, full-time FCC, and part-day school-age care, there were 20 outliers out of 1,959 usable prices, leading to 1% of the data being outliers and excluded from the study. In all, 1,939 prices were used to determine the 75th percentiles of prices for the 24 cells.

Conversion of Prices to Daily Prices

The researchers used the 1,939 prices reported by the respondents to analyze this data and report 75th percentile prices as daily rates. They therefore needed to convert prices reported in other pricing units into daily rates. The conversions were made in the following way:

Conversion into daily rates

- | | |
|-----------------|--|
| 1.) hourly: | hourly price X # of hours-per-day |
| 2.) 1/2 day: | price per 1/2 day / hours per 1/2 day
X hours-per-day |
| 3.) weekly: | weekly price / days-per-week |
| 4.) monthly: | monthly price / 4.33 weeks-per-month / days-per-week |
| 5.) semester: | price-per-semester / weeks-per-semester / days-per-week |
| 6.) school year | price per-school-year / days per-school-year |
| 7.) year: | price per-year / days-per-year |
| 8.) other: | price per-other / days-per-other |
-

After completing the conversions, the economists then estimated the 75th percentiles of the distribution of daily rates for each market segment. (The 75th percentile of price divides price in such a way that 75% of the prices are at or below the 75th percentile and 25% are above the 75th percentile.) Researchers estimated the 75th percentile of each type of care by county and by age group. For center care, they developed a separate percentile by county for each of the four age categories (infant, toddler, preschool, and school age). For family child care, they developed percentile prices for each of the three counties. In addition, researchers estimated a separate FCC percentile by county for the four age categories: infant, toddler, preschool and school age.

The methodology for this study maximizes the amount of pricing information obtained in order to lower sampling errors. (Sampling error is a measure of the imprecision with which percentiles are estimated using the sample data.) This is done for centers by collecting prices from providers for the various age categories served at each sample site by each provider (infant through school-age). In addition, from each family child care provider, researchers obtained prices for up to eight private-paying children attending full time, as well as a price for part-day school-age care if the provider had a private-paying school-age child enrolled. Thus, researchers extracted all pricing information available from each provider, for each county and type of care.

The Statistical Analysis

The data from the interviews were sorted using Excel; analyzed using a FORTRAN program previously developed by the researchers; compiled using a Lahey compiler.

Calculations of the 75th Percentile

The 75th percentile of daily prices was calculated for the following:

FAMILY CHILD CARE**full time***[30 hours or more per week]*

KENT COUNTY (ITP)	daily rate
SUSSEX COUNTY (ITP)	daily rate
NEW CASTLE COUNTY (ITP)	daily rate

ITP = infant, toddler and preschool prices
 full time = daily rate for a full week
 daily rate = 6 hours or more per day
 full week = 30 hours or more per week

CENTERS & FAMILY CHILD CARE**full time***[30 hours or more per week]*

KENT COUNTY	
infants	daily rate
toddlers	daily rate
preschoolers	daily rate

SUSSEX COUNTY

infants	daily rate
toddlers	daily rate
preschoolers	daily rate

NEW CASTLE COUNTY

infants	daily rate
toddlers	daily rate
preschoolers	daily rate

full time = daily rate for a full week
 daily rate = 6 hours or more per day
 full week = 30 hours or more per week

part time
[less than 4 hours per day]

NEW CASTLE COUNTY: (SA)

regular care (RC) *	part-day rate
special needs / regular care (SNC)**	part-day rate

KENT/SUSSEX COUNTIES: (SA)

regular care (RC)*	part-day rate
special needs / regular care (SNC)**	part-day rate

*RC: the provider is providing care only for children who are not diagnosed as having 'special-needs'

**SNC: the provider is providing care for children who are diagnosed as having 'special-needs' and for children who do not have 'special-needs'

IIP = infant, toddler and preschool

SA = school age care, less than 4 hours / day
