

**FAMILY AND GROUP CHILD CARE HOMES:
FACTORS UNDERLYING QUALITY OF CARE -- PA 2002**

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EXECUTIVE SUMMARY

The first five years of a child's life is a period of incredible cognitive, emotional and social growth. Pennsylvania's Governor created the Early Childhood Care and Education Task Force in 2002 to develop a system of early care and education that will meet families' needs today and help prepare a sophisticated educated workforce of the future. It commissioned the Universities Children's Policy Collaborative (UCPC) to produce a coordinated series of primary research efforts. The UCPC is comprised of three research institutions from Penn State University, University of Pittsburgh, and Temple University

The University of Pittsburgh, Office of Child Development (OCD) designed and conducted a telephone survey of early care and education providers to develop baseline information on program content, staff characteristics, enrollments, capacities, children served and costs. It covered six legally distinct types of center and home providers -- child care centers, preschools/nursery schools, and Head Start centers; and group home child care providers, family home child care providers, and legally unregulated home providers.

Subsequently, the Penn State University, Prevention Research Center, Capital Area Early Childhood Training Institute (CAECTI) determined by direct on-site observation the quality of care being rendered by many of these same providers. It used two tools: 1) The Family Day Care Rating Scale (FDCRS) which is very comprehensive and, despite its title, applicable to both family and group homes. 2) The Arnett/Caregiver Interaction Scale (CIS) which looks for the presence of warm, effective, positive physical and verbal communication with the children, and for the absence of negative, ineffective, insufficient communication

This report combines the information for providers participating in both studies. It covers group and family homes. Another report will cover child care centers and nursery schools, and a potential third report would cover Head Start centers.

The purpose of this homes report is to compare key provider "structural" characteristics and practices from the telephone survey with the level of quality actually observed in the "process" of delivering the care on site. This report is intended to aid in the on-going development of public policy concerning research-backed requirements, incentives, and programs for quality maintenance and improvement in the care and education of our youngest citizens. For 314 providers of all types, including 35 group homes and 92

family homes, there is both telephone provider data and on-site quality data. This allows analysis of the relationships among factors that impact quality and the observed on-site quality level.

Family homes and group homes had similar average quality scores on FDCRS of 4.0 halfway between 3 = minimal and 5 = good. Among their differences are the wider range of family home quality from poor to high and which factors best relate to the quality of each.

Nine factors from the telephone survey were combined into a structural quality index (SQI) prior to knowing the actual quality outcomes.

- education level of the provider
- hours per year of in-service training
- career horizon perspective
- use written guides/curriculum
- # of 13 specific skills taught
- use of a cognitive assessment tool
- accredited or working toward accreditation
- # of parent activities
- # of transition to public school activities

Another factor which showed a relationship to quality and is analyzed is:

- number of children subsidized,

Other factors ruled out from further analysis include:

- percentage of budget from parent charges, public subsidy/government, and private sources
- percentage of families struggling economically
- ages served
- children's race/ethnicity
- child:adult ratios
- Experience in the field
- Internet access

The factors analyzed did, at least, usually work in the anticipated direction. All nine structural factors were positive for family homes for both FDCRS and CIS, and for group homes for FDCRS. However, in most instances, these factors were not so strongly positive in these studies to be used as predictors of quality.

Use of a curriculum was the best predictor of higher quality for both family and group homes – as measured by the comprehensive Family Day Care Rating Scale (FDCRS).

In-service training up to 18 hours per year appeared to enhance the likelihood of higher FDCRS quality for family homes. And for group homes, the relationship was in the positive direction but weak.

Providers with higher general education levels delivered higher quality care, at least for family homes and FDCRS.

Parent involvement and education activities were the only factor for group homes that predicted FDCRS quality well. An explanation of this linkage is wanting.

The higher the number of subsidized children, the lower the quality for both home types and both quality measures. For three of these four combinations, this negative relationship is statistically significant (not due to the luck of the draw as to which PA homes landed in the sample).

INTRODUCTION

The first five years of a child's life is a period of incredible cognitive, emotional and social growth. Experiences during these years can set children on pathways that have lifelong emotional, social and academic consequences.

How can we invest in our children's early development to ensure subsequent academic, social and emotional success? This question is attracting widespread attention from Pennsylvania policy makers. Their goal: to develop a system of early care and education that will meet families' needs today and help prepare a sophisticated educated workforce of the future.

Toward this goal, in April 2002, Pennsylvania's Governor created the Early Childhood Care and Education Task Force and commissioned the Universities Children's Policy Collaborative (UCPC) to produce a coordinated series of primary research efforts. The UCPC is comprised of three research institutions from Penn State University, University of Pittsburgh, and Temple University

As part of this collaborative effort and under commission from the Governor's Office:

- The University of Pittsburgh, Office of Child Development (OCD) designed and conducted a telephone survey of early care and education providers to develop baseline information on program content, staff characteristics, enrollments, capacities, children served and costs. This study collected information from approximately 700 providers of all types for which government assumes some degree of oversight -- child care centers, preschools and nursery schools, Head Start centers; group home child care providers, family home child care providers, and legally unregulated home providers. *A Baseline Report of Early Care and Education in Pennsylvania: The 2002 Early Care and Education Provider Survey* was released in September 2002 as part of the UCPC work for the Task Force and may be found at www..Pitt.edu/~ocdweb/policy21.htm. An executive summary of this provider telephone survey report is in the November 2002 *Quality Study* report of the Task Force.
- The Penn State University, Prevention Research Center, Capital Area Early Childhood Training Institute (CAECTI) determined by direct observation the quality of care being rendered by approximately half of these same providers. *The*

Pennsylvania Early Childhood Quality Settings Study is found in the same *Quality Study* report of the Task Force and at www.prevention.psu.edu/ECE .

- Now, to build on and supplement these initial provider telephone survey and quality observation reports, the information for providers participating in both studies has been combined. This report covers group and family homes, an upcoming related report will cover child care centers and nursery schools, and a potential third report on Head Start centers may be produced.

The purpose of this homes report is to compare key provider “structural” characteristics and practices from the telephone survey with the level of quality actually observed in the “process” of delivering the care on site. This report is intended to aid in the on-going development of public policy concerning research-backed requirements, incentives, and programs for quality maintenance and improvement in the care and education of our youngest citizens.

Other research reports completed in 2002 by the UCPC for the Task Force include:

- *Benchmarking Early Care and Education in Pennsylvania: The 2002 Family Survey*, (Temple University, Center for Public Policy)
www.temple.edu/ CPP/current_proj14.htm
- *The State of Early Care and Education in Pennsylvania: The 2002 Higher Education Survey*, (University of Pittsburgh, OCD)
www.pitt.edu/~ocdweb/policy21.htm
- *From Science to Policy: Research on Issues, Programs and Policies in Early Care and Education*, (University of Pittsburgh, OCD)
www.pitt.edu/~ocdweb/policy21.htm

In addition, all UCPC research reports are available at www.prevention.psu.edu/ECE .

Types of Providers The Pennsylvania Department of Public Welfare defines licensed child care centers, licensed group child care homes and self-registered family child care homes in state regulations. Preschools/nursery schools meet Department of Education regulation requirements. Head Start centers meet federal Head Start requirements.

- *Group Homes* serve 7 – 12 unrelated children (7-15 if school age).
- *Family Homes* serve 4, 5, or 6 unrelated children.

“Unrelated” means children who are not the provider’s or a staff member’s own children. Child care centers serve 13 or more children.

Relative/neighbor child care providers are legally unregulated because they take in 3 or fewer children. Though many participated in the telephone survey, almost all refused to participate in the on-site observation. Therefore, relative/neighbor home providers are not included in this report on homes.

Readily Surveyed Quality Factors (Telephone Survey) The provider telephone survey interviewed approximately 700 early care and education providers all across Pennsylvania using an extensive questionnaire. This instrument gathered detailed

information on many characteristics and practices potentially related to higher quality of care and education, including many proven so by other studies.

OCD developed 16 indicators of quality and a summary statistic or index. All 16 were used for centers; nine were both amenable to homes' situations and research warranted testing them for homes. These nine indicators rate programs on "structural" characteristics, including provider's highest level of education attained, annual in-service training hours, use of a curriculum, and accreditation. In addition, The telephone survey covered many other aspects of the provider's program content and demographics of the children served.

What is observed quality and how is it measured? The observed quality study sent trained observers to close to half of the same providers interviewed by telephone. They had been trained in the application of two well-developed quality measurement tools standard in the field, and they visited providers for a full day to score their actual care on:

- The Family Day Care Rating Scale (FDCRS). This instrument is a wide-ranging comprehensive rating scale applicable to both family and group homes. (The similar ECERS-R was used for centers). The scale consists of 40 items, including 3 items with separate criteria for infant/toddlers and preschool age children, and 8 supplementary items for programs serving children with disabilities. Items covering the needs of children from infancy through kindergarten are organized into 7 subscales: (1) Space and furnishings for care and learning, (2) Basic care, (3) Language and reasoning, (4) Learning activities, (5) Social development, (6) Adult needs, (7) Provisions for exceptional children.
- The Arnett/Caregiver Interaction Scale (CIS). This measure of caregiver sensitivity and competence looks for the presence of warm, effective, positive physical and verbal communication with the children, and for the absence of negative, ineffective, insufficient communication. It has four sub-scales: permissive, harsh, detached, and sensitive.

For 314 providers of all types, including 35 group homes and 92 family homes, there is both telephone provider survey data and on-site quality observation data. This allows analysis of the relationships among the reported structural factors and the observed on-site quality level.

Determining the structural characteristics and various practices for individual providers is relatively easy and inexpensive to accomplish using a telephone survey or other similar survey method such as having providers fill out a hard paper or internet form. Sending a trained observer out to a provider site for an entire day is expensive. Thus, exploring the associations between structural characteristics and actually observed care for a large statewide sample of providers including group and family homes is important.

Sector Size Pennsylvania in 2002 had about 800 licensed group homes and over 4,000 registered family homes. In turn, *these providers are responsible for the care and*

education of about 9,000 and 25,000 Pennsylvania children respectively. Thus, the children served by providers studied in this homes report represent roughly one out of every 25 Pennsylvania children under 6 years of age.

DESIGN AND METHOD

Population Statisticians at the Pennsylvania State University obtained lists of all the licensed and registered providers in the Commonwealth from the databases of the Department of Public Welfare (DPW) supplemented by Keystone University Research Corporation, the Department of Education, and the Pennsylvania Head Start Association.

Samples The unit of analysis was the provider site. The statisticians randomly selected sites to interview based on the distribution of types of providers in the Commonwealth, stratified by urban area, small city area, or rural area. Three to five replacement sites were identified for each site to be interviewed if the initial site was not reached or, infrequently, if it refused the telephone interview. Data collection ran from May 28, 2002 to July 17, 2002. The provider telephone survey obtained an initial sample of 637 sites.

From these 637 providers observational sites were drawn. However, an additional 121 sites were contacted because of the high refusal rate of the original 637 to participate in the on-site observations. A large percentage of the home based providers declined participation -- 64% for group and 79% for family; child care centers had a very low refusal rate of 8%. In all, PSU observed 372 providers during July-September 2002. Where PSU had to expand the sample, Pitt was able to do additional telephone surveys of most.

Both the telephone survey and the on-site quality observation samples are truly statewide; for example the 372 observed on-site were located in 64 of Pennsylvania's 67 counties. However, the sample did not turn out to be precisely proportional with regard to provider type. Also, of course, sites of different types serve different numbers of children, so it is not proportional to children served.

Children Not Covered by the Sample The Family Survey by Temple found that one out of every three Pennsylvania children under six are in parental care only. This quality study does not measure the quality of parental care. Likewise, many children are cared for informally by adults who are not required to be registered or licensed by the state, because they take on three or fewer children who are not their own. The number of Pennsylvania children in non-parental non-regulated care is not known.

Instrumentation

Telephone Provider Survey The researchers developed two almost identical questionnaires -- one for centers and one for homes -- to be completed by the directors of center-based sites and by the owners of home-based sites. (See Appendix A Survey Instruments of Baseline Report on the Provider Survey referenced above for complete

copies of the questionnaires.) The surveys cover funding, charges, ages served, staffing levels, staff education and demographics, wages, benefits, training areas and needs, turnover, child and family demographics, and many aspects of program content and practices.

Family Day Care Rating Scale (FDCRS) The FDCRS measures quality broadly with 40 items in 7 subscales. (See the Appendices of the Quality Settings study in the Quality Study report of the Task Force for complete copies of both the FDCRS and the CIS instruments.)

FDCRS scoring runs from 1-7 with: poor = 1; minimal = 3; good = 5; and excellent = 7. For any item, if a home meets all of the criteria for e.g. a 3 and over half of the criteria for a 5, they may receive a 4; similarly for a 2 or 6. Most item scores are 3, 4, or 5, some are 2 or 6, and very few are 1 or 7. This spreads the item scores and also the average scores out in a normal bell-shaped curve. This report analyzes the average score across all relevant items for the 92 family home providers and the 35 group home providers.

Examples of a few of the FDCRS items illustrate the quality expected for the different score levels. A minimal score of 3 for helping children 2 years and older *understand language* means that at least 10 children's books are available and some picture games and records are also -- and that the caregiver uses such materials with the children at least 3 times a week (e.g. reads a story or plays a record and sings along). For a 5=good, 20 books and several games need to be accessible daily for independent use -- and the caregiver does one or more planned language activities daily.

A score of 5=good on the *active physical play* item means safe outdoor space is used 1-3 hours daily year-round, except in bad weather when indoor physical activity is provided; 3=good is met with same at least 3 times per week. Homes scoring 1=inadequate have little or no safe outdoor or indoor space used for active physical play, for example, no space for tricycle riding, ball playing, climbing, or infants not taken outdoors, or materials in poor repair.

A 3=minimal score on the activity items, such as *art, eye-hand coordination, sand/water play, and blocks*, means that some materials were accessible but the materials were not organized to encourage self help, the caregiver did not help children develop skills, and the materials were not well organized for independent use. For example, sand or water play at least once a week with a variety of toys such as cups, funnels, trucks, pots, scores 5=good.

Caregiver Interaction Scale (CIS) Positive behaviors include speaks warmly to the children, encourages the children to try different experiences, and talks to the children on a level they can understand. Negative behaviors include places high value on obedience, seems emotionally distant, routine or mechanized teaching style, and finds fault easily with children.

CIS scoring runs from 1-4 with: not at all/never (0%) = 1; few instances/somewhat (1-30%) = 2; many instances/quite a bit (about 50%) = 3; consistently/very much (60-100%) = 4. If this behavior is observed about 50% of the time, the provider is scored a 3. A high score of 4 on positive items would mean that the behavior occurred 60-100% of the time. A score of 2 for any of the negative items would mean that negative behavior was observed in 1% to 30% of relevant instances. A high performing score on negative items would mean that the behavior being observed was never occurring and therefore a 1.

To calculate a single statistic summarizing scores on the 18 CIS positive items (where the best score is 4 meaning most of the time) and the 13 CIS negative items (where the best score is 1 meaning never), each of the negative scores was converted to a corresponding positive number to make the total CIS average score run from 1 or worst to 4 or best.

The CIS scoring does not distinguish between good versus very good providers. So the distribution of average CIS scores from low to high does not rise to a peak and then fall to make a hill or bell shape; instead, the CIS distribution begins with a very few providers with a low average score and then climbs at a faster and faster rate up to the top score of 4.0, and stops at this ceiling. In statistical language, the CIS distribution is not “normal” which means that in some instances modified statistical techniques are used.

The CIS scoring mechanism does not distribute providers along a bell-shaped curve as does FDCRS; rather *most providers receive the best possible score on most items and a relatively small drop in average CIS score below 4.0 signals a decline in the quality of interactions.*

Data Collection

Telephone Survey To help respondents, OCD developed separate worksheets for center- and home-based providers to use to gather information that required prior research such as annual operating budget and number of subsidized. These worksheets were mailed with an introductory information letter explaining the study and encouraging participation. The University Center for Social and Urban Research (UCSUR) conducted the telephone interview with its trained staff. Sites that completed interviews were sent a check for \$25 as a token of appreciation.

On-site Observations The Capital Area Early Childhood Training Institute (CAECTI www.caecti.org), a division of the Prevention Research Center at the Pennsylvania State University, is a training and research institute to improve the quality of services to infants, toddlers and preschoolers regardless of setting through mentoring programs for infant and toddler caregivers and parents and early childhood certificate programs. Data on the FDCRS (and the ECERS-R for centers) and Caregiver Interaction Scale (CIS/Arnett) were collected by 21 data collectors with extensive experience and expertise in the early childhood field, many as Institute staff. Debby Cryer, one of the authors of these scales provided training and reliability testing on the tools with four senior data collectors who then served as group leaders for the 4 weeks of extensive training for the remaining data collectors. Later five more data collectors were hired and

trained for two weeks. Data were collected during a 12-week period (July 1, through September 30). Reliability between observers was monitored throughout the study.

Additional Information gathered by Observers The on-site observers asked a handful of duplicate questions not part of FDCRS or CIS for verification or additional information, including whether the caregiver used a curriculum and their level of formal education completed.

Combining Datasets Subsequent to the individual reports on telephone survey results and observed quality average for different provider types, the data for providers participating in both studies was combined, linking such characteristics as staff annual in-service hours and number of subsidized children enrolled with actual quality observations. Both datasets were rechecked to verify the provider matches and a few were eliminated as unconfirmed. A few of the observational sites added to the sample did not receive telephone interviews. The on-site quality sample of 372 becomes a sample of 314 certain matches with type sample sizes of 41 Head Start centers, 38 nursery/preschools, 100 child care centers, 35 group homes, 92 family homes, and 8 unregulated relative/neighbor homes.

FINDINGS - PART I

Introduction The initial quality report analyses of FDCRS and CIS concluded that generally the most important factor related to quality was the type of provider. This is less the case for group child care homes versus family child care homes, compared with the differences across Head Starts, nursery schools, and child care centers. That is, in general, the more regulated group homes do not consistently score higher than family homes across quality measures, including when controlling for various underlying factors.

This might mean that the two types could be combined for analyses, which would give a larger sample size. However, since Pennsylvania policy treats group homes very differently from family homes, the two types will generally be analyzed separately. In Pennsylvania, some requirements are more stringent for group homes, and group homes are licensed, initially inspected, and annually re-inspected. In contrast, family home providers, who in Pennsylvania care for 4, 5, or 6 children beyond their own, are registered with the state based on self-declared adherence to fewer and sometimes lower requirements. And the state inspects only a random few each year for compliance.

In Pennsylvania in 2002, 791 licensed group homes cared for 9,264 children and 4,110 registered family homes cared for 24,660 children. The vast majority of children are below school age.

Total Quality Measures: Distributions, Means, and Relationships

- *The Structural Quality Index (SQI) predicts higher quality for group homes than family homes based on their higher provider characteristics, but in fact*

group and family homes had the same average scores on the FDCCRS and CIS observational quality measures.

Total Structural Quality Index (SQI) The total quality index, SQI, is the percentage of nine different quality thresholds met, or more precisely, the number of thresholds met divided by the number for which the data contains a score. All but two group homes and all but nine family homes had scores on all nine thresholds. The SQI is a “bell-shaped” curve for both group and family homes. In statistical terms, it has a “normal” distribution, with most falling somewhere in the middle and a few at either the high or low end.

Group homes on average met over half of the nine quality thresholds, 54 percent, while family homes met under half, 43 percent. This difference is statistically significant, which means that it is not likely to be a freak result of which group and family homes happened to land in the sample, but rather reflects some real difference in the provider characteristics of these two types.

Family Day Care Rating Scale (FDCRS) The “Family” rating scale is really a homes rating scale and Pennsylvania group and family homes both averaged very close to 4.0 which is half-way between 3 = minimal and 5 = good. Table # shows the group homes’ mean = 4.03 and family homes’ mean = 3.97, virtually no difference. This despite SQI’s prediction that group homes would score higher.

Caregiver Interactions Scale(CIS) The CIS scoring mechanism does not distribute providers along a bell-shaped curve like the FDCRS is; rather *most providers receive the best possible score on most items and a relatively small drop in average CIS score below 4.0 signals a decline in the quality of interactions.* Group homes’ CIS mean = 3.69; family homes’ mean is very slightly higher at 3.76 but not significantly higher. Thus, again, despite SQI’s prediction based on all nine characteristics or factors that group homes would score higher, they do not.

See Table 1 for family and group homes’ mean scores on the two on-site (FDCRS and CIS) and one structural quality index. Group and family homes average scores are very close for FDCRS and close for CIS. For the Structural Quality Index (SQI) which was aiming to be a predictor of quality, though, the group homes mean was significantly higher than family homes mean.

Table 1 Family & Group Homes Average Scores on 3 Quality Measures				
		<u>On-site Measures</u>		<u>Provider Characteristics Measure</u>
	Sample Size	FDCRS	CIS	Structural Quality Index (SQI)
Family Homes	92	3.97	3.76	0.43
Group Homes	35	4.03	3.69	0.54
<i>Difference</i>		<i>0.06</i>	<i>-0.07</i>	<i>0.11 **</i>

** The SQI difference is statistically significant at .01.
 Note: The t test was used for the FDCRS and SQI differences. The nonparametric Mann-Whitney test was used for CIS (M-W =.075 or not quite significant).

This hints that SQI, as a whole and as initially constituted, does not work well as a predictor of average quality for group versus family homes. But some of its nine factors may link with actually observed quality, and Part II will examine the factors individually and in smaller groups.

Relationships among FDCRS, CIS, SQI. Instead of comparing only averages as above, this section looks across the entire distributions of these three measures to see if a general relationship obtains of the higher one quality measure is, the higher the other.

- The three quality measures are all related for family homes; for group homes only the structural quality index and FDCRS are related.

Since the SQI is an attempt to predict the quality of care actually rendered from attributes of the provider, and since there are two different measures of the quality of care rendered, a first question is how similar are homes results on the two observational measures themselves. Secondly, how well does the SQI with its pre-chosen thresholds predict the spectrum of FDCRS and CIS scores for group and family homes.

The two observational measures FDCRS and CIS are not at all related for group homes, but for family homes, FDCRS and CIS are strongly correlated. See Table 3 below. About one-third of the variation in FDCRS or total program quality is predicted by CIS or the quality of the caregivers interactions and vice versa.

The structural quality index (SQI) of factors theoretically related to quality is actually associated with the spectrum of observed quality for three of the four setting/measure combinations seen in Table 2 below. For group homes, the SQI is related to the FDCRS but not CIS. For family homes, the SQI is correlated with FDCRS and weakly associated with CIS. Thus, the overall SQI does relate to observed quality especially FDCRS, the more comprehensive on-site quality measure. The higher the structural index, the higher the observed quality, not for all providers, but as a rough pattern. Part II will explore the nine component factors of SQI for homes to see which factors among the nine are most helpful in establishing these various relationships.

Table 2	Comparing the Two On-site Quality Measures.	Comparing Structural Quality Index with FDCRS and with CIS	
	<u>CIS & FDCRS</u>	<u>SQI & FDCRS</u>	<u>SQI & CIS</u>
Family Homes	Yes, strong relationship	Yes related	Yes, weak relationship
Group Homes	No relationship	Yes related	No relationship

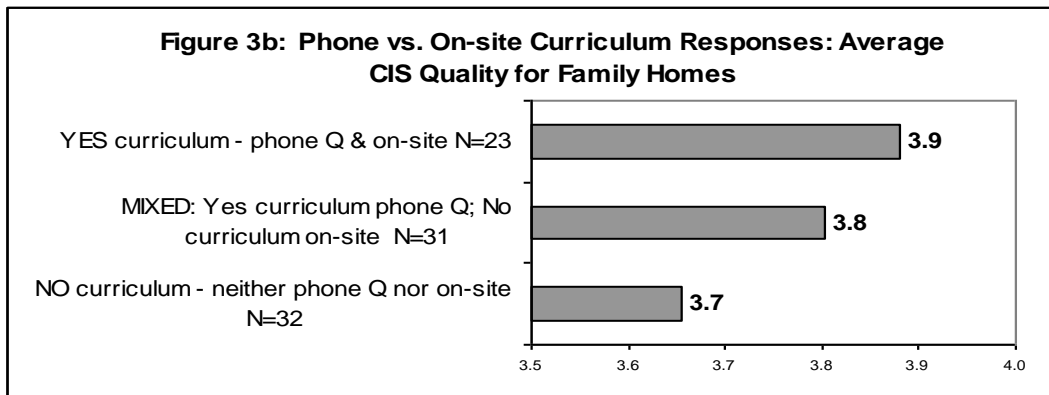
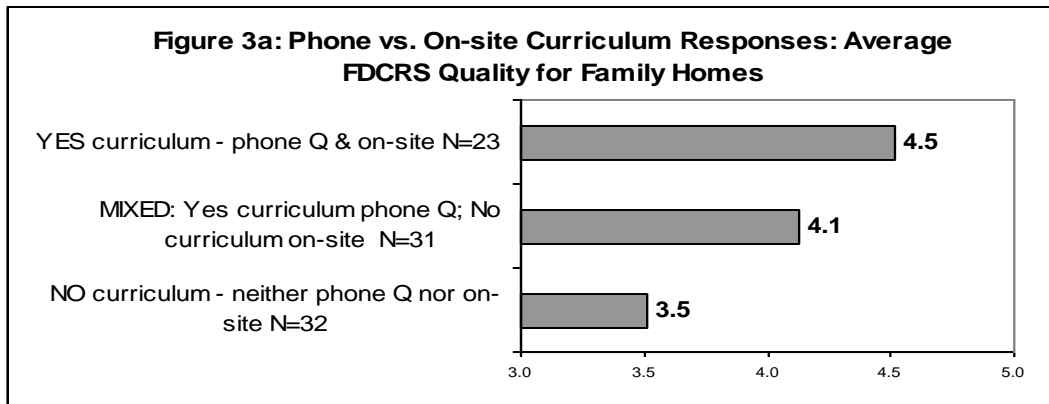
Comparison of Similar Questions: Phone Survey Versus On-Site

- *Responders gave divergent answers to the two studies much more often on the curriculum question than on their highest level of education.*
- *The analyses use a curriculum variable based on the provider’s responses to each of the two studies.*

Curriculum The Telephone Survey asked the provider over the phone, “Do you regularly use a manual, program guide, curriculum, parts of a curriculum, or written plans? Yes or No” as part of a long questionnaire. The PSU observer asked the provider a similar question, “Do you use a curriculum”, face-to-face during their visits (which were up to a few months later). Not too surprisingly, providers’ answers did not always agree, and more said yes in the telephone survey than yes to the on-site observer. The on-site wording may have been unintentionally narrower; people are more apt to give a response they judge to be desirable to an interviewer over the phone than face-to-face. Perhaps clarification discussions with one or both studies led to different responses.

Use of curriculum will turn out to be one of the most important variables in the structural quality index, so the divergence in responses and their associated observed quality levels needs to be examined.

Both group and family homes had quite a divergence between phone and on-site responses; 20 out of 35 group homes, and 3a and 3b show the differences in average FDCRS and CIS observational quality scores for family home providers who responded yes to both, providers with yes to phone and no on-site, and providers with no to both. The quality differences for group homes were smaller, highest for the no to both, and easily due to chance, so are not presented.



For family homes, yes to both scored a whole FDCRS point higher than no to both (4.5 compared with 3.5), and the mixed response was in-between. CIS scores exhibited the same pattern. These yes to both versus no to both results for both FDCRS and CIS are statistically significant, meaning we can be confident that they reflect real differences in quality associated with curriculum use. The cause or mechanism of the quality differences, however, probably involves more than simply introducing curriculum to a home previously operating without one.

Information is easier and less expensive to obtain using a phone survey or self-reporting via application form than by the observational on-site method. Therefore, in the future, one remedy might be to refine the telephone or self-report approach by asking one or more follow-up questions about the curriculum after the “Do you use... yes or no” question.

In the Part II analyses, a new variable for curriculum will be created and used -- Yes to both, Mixed, and No to both. This is done with the idea that future telephone or application questions will be able to gather more precise information on curriculum.

Caregiver Education levels Home providers were asked their highest level of formal education attained, both via telephone and on-site, and a high degree of consistency obtained. The two studies had slightly different response categories below the bachelor degree level. Over 80% of group home providers and over 90% of family home providers gave not inconsistent responses to both studies. The most noticeable divergence was for the bachelor level where seven family providers responded bachelor to both, three said bachelor on the telephone versus some college or Associate degree on-site, and two said certificate, credential, or associate’s on the phone versus bachelor on-site. Group homes had a similar pattern. Thus telephone surveys gained sound information on highest level of education attained, but future telephone surveys might try a follow-up question about major for the bachelor’s degree or about the name of the credential or certificate as a way of checking degree level and clarifying the answer.

Future telephone surveys might also use a combination of the categories used by these two studies. However, experiments with 8-10 educational categories, across the two studies, typically did not improve simple or multiple regressions results, so the original telephone education variable is the one used in Part II analyses.

Other Factors (Non-Structural Quality Index Variables) for Homes There are factors with potential social or policy interest, that were surveyed by telephone but were not included in the SQI. This section checks to see if any of these were in fact associated with higher or lower quality of care for children.

- *The more homes had children paid for by the government, the lower the quality, on average.*

Number of children subsidized The number of subsidized children is negatively associated with quality. The relationships are not strong or uniform, but exist as a general

trend and are statistically significant for three of the four combinations of two types of homes and two measure of quality as shown in Table 4 below.

Table 4: Number of Subsidized Children and Home Quality		
	<u>Family Day Care Rating Scale</u>	<u>Caregiver Interaction Scale</u>
Family Homes	More subsidized children, lower quality *	More subsidized children, lower quality
Group Homes	More subsidized children, lower quality *	More subsidized children, lower quality *
	* relationship significant at the .05 level	

Percentage of budget from parent charges, public subsidy/government, and private sources Family home results showed a negative relationship between FDCRS and percentage from government funding. This means that on average, the more the government is the financier of the care, the lower the quality. Correspondingly, the greater the percentage of funding coming from the parents, the higher the FDCRS quality. Group homes exhibited the same negative pattern, but possibly due to chance.

Thus, this source of funding variable parallels the number of children on government subsidy variable above, with slightly less pronounced results. However, the number of children on subsidy is more straightforward and reliable information to obtain than budget-based variables. Therefore, the percentage of budget variable need not be analyzed further for group or family homes. Instead, number of children on government subsidy will represent this concern.

Percentage of Families Struggling Economically The higher the percentage of families that the providers classified as economically struggling in a family home, the lower the FDCRS score on average. CIS scores were similarly negative for family and group homes also, but possibly due to chance. Again, this variable parallels the number of children on subsidy variable and is a less precise piece of information, so this report will not analyze it further.

Other factors examined but little relationship with quality found

- Ages served - serving infants and toddlers
- children's race and ethnicity
- child:adult ratios
- length of experience in the field

Ages Served Not one statistically significant relationship emerged examining the 12 combinations of group, family, FDCRS, CIS, infants, toddlers, and preschool. And these nonsignificant relationships for each age group and each home type were a mixture of weak positive and weak negative.

Children's Race/ethnicity The telephone survey gathered information on the race/ethnicity of the children. Two statistically significant relationships did emerge from the 32 combinations of group, family, FDCRS, CIS, Black, White, Hispanic, Asian/Pacific Islander, Other, Black and Hispanic, White and Asian, and all Nonwhite. FDCRS and the number of Asian children cared for bore a small positive relationship for

family homes; six family homes had Asian children. CIS and the number of white children cared for bore a small positive relationship for family homes; no similar relationship for FDCRS. Only a handful of homes of each type had Asian and Hispanic children. On the whole, the race/ethnicity results were varied, weak, and not significant, so this report will not analyze race any further.

Child:Adult Ratios For both group and family homes, a few of the calculated child-staff ratios appeared to exceed regulatory standards, but most were within. Though related children do not count toward the regulatory maximums of homes, related children for group homes related infants and toddlers for family homes are counted for staffing ratio requirements. Eleven of the 92 family homes had assistants. This data showed weak or no relationship between child-adult ratios and FDCRS or CIS quality, except that group home staffing ratios and CIS exhibited the perverse result of higher ratios of children to adults, higher CIS quality.

Experience in the Field Half of family home and two-thirds of group home providers had been in the home care business for 5 or more years. A provider's number of years in home care showed no significant relationships with either of the two observational quality measures. Those operating group homes longer had higher CIS scores, but possibly due to chance.

Internet Access The two-thirds of group homes and three-fourths of family homes with internet access scored slightly higher on the FDCRS, but not significantly so. Moreover the mechanism for any relationship is very unclear.

Other factors that do not pertain homes though they may to centers include:

- profit versus nonprofit status
- dual registration with both the Departments of Public Welfare and Education
- whether the home provider site is located in a public school, private school, child care center, home, or church, synagogue, other religious site, or other. The providers own private home was the setting for 31 of the 35 group homes and 90 of 92 family homes.

Conclusion *The only non-SQI factor definitely and close to consistently related to quality is the number of subsidized children the family or group home serves.*

FINDINGS-PART II: STRUCTURAL PROGRAM QUALITY INDICATORS VERSUS ACTUAL OBSERVATIONS

Introduction Pitt's 16 quality indicators rate centers or homes on "structural" characteristics and practices using a dichotomous or "binomial" approach of either meeting a threshold level on each individual indicator or not meeting it. Nine of the 16 indicators are used for group and family homes. The total quality index already examined, SQI, is the percentage of indicators meeting the threshold. This dichotomous strategy achieves equal weighting of each factor in the index despite their differing categories, variabilities, and averages. Many of these structural characteristics

data have a range of values; for example, the education levels of all providers and any assistant were categorized in six diploma/degree levels.

This Part II examines the nine structural quality factors relevant to homes and the number of subsidized children from Part I. Using the underlying variable with its larger number of categories or values, Part II looks at the nature, strength, and interrelationships between the individual factors and measures of actual quality now available and reports on any strong relationships. For example, *the total SQI explained about one-eighth of the variation in FDCRS quality scores for family homes. Using only those factors that now show themselves to be good predictors and in their full spectrum of categories may increase predictability. In fact in some instances it does, explaining about one-third of the FDCRS quality variation for family homes.*

The analysis includes searching for good cut-off points or threshold levels, keeping in mind where Pennsylvania regulations currently stand and common policy proposals.

The nine structural factors relevant to group and family homes alike are:

- education level of the provider
- hours per year of in-service training
- career horizon perspective
- use written guides/curriculum
- # of 13 specific skills taught
- use of a cognitive assessment tool
- accredited or working toward accreditation
- # of parent activities
- # of transition to public school activities

See Table 5 below detailing the variables analyzed.

Table 5 Factors Analyzed			
SQI Factors used for Group & Family Homes	Threshold	Underlying variable	Recorded Variable, if one used
General Education	BA or higher	h20 1=<8th; 2=8-12; 3=HS/GED; 4=AA,certif, cred,CDA; 5=BA; 6=MA	
In-service Training	18 or more hrs/yr	h26a Hours/year in training	trainr6 1= 0, 2=1-6 hrs, 3=7-12, 4=13-18, 5=19-24, 6= 25 & over.
Career Tenure Expectation	(Interviewee) Expects to continue long term	h38 1= long-term; 2= temporary; 9=no answer	h38carrv 1=temporary, 2=long-term (Recorded into "the more, the more".)
Planned Curriculum	Uses written manual, guide, lesson plans	h43 1= yes; 2= no; 9=no answer Try a recode of Pitt & PSU	curricr1 1=No to both phone & on-site, 2=Mixed responses, 3=Yes to both
Teach Specific Skills (social, emotional, cognitive, & physical)	10 or more of 13	countskl Count of 13 specific skills taught	
Use Developmental or Achievement Assessment Tool	Uses formal assessments (e.g. Denver, Early Learning Accomplishment Profile, Bayley)	h45 1=use; 2=don't use; 9= no answer	h45assrv 1 = Don't use, 2 = Use
Accreditation Status	By National or Professional group (e.g. NAEYC, Nat. Assoc. Family Child Care)	h5 1=yes; 2=working toward; 3=no	h5accrv 1=No, 2= Working toward, 3= Yes
Parent Involvement Activities	Encourages 3 or more of 4 activities (e.g. parent-teacher conferences, specific learning activities for home)	countpar Count of 4 of 6 parent involvement activities	
Transition to Public School Activities	4 or more of 8 Links to local kindergartens	countsch Count of 8 transition to school activities	

NON-SQI VARIABLE: h13 Number of children who receive subsidy (paid for fully or partly by government or other agency).

Basic Information on Factor Responses

Education Formal education achievement level of the home owner-provider: Both family and group homes had only one provider with a masters degree. Family homes had four with less than a high school diploma, and group family homes had none. Thus, these studies' results will best apply to the three middle categories of high school versus post-secondary (certificate, CDA, or associate degree) versus a bachelor's. High school was the highest completed level for over half of the providers for both family and group homes. Those home providers post-high school with information on their major were sparse, so majors such as AA or BA degree in elementary or early childhood education will not be analyzed.

Assistants' education For family homes, only 11 had one or more assistants and most were high school graduates. Almost all group homes had assistants full-time and/or part-time, typically one or one and one-half FTE. Eleven, or close to a third had assistants with post-high school CDA, certificate, AA, or higher; however, assistants' education and will not be included in the factor-quality analyses.

Hours per year of in-service training Only 3 family home providers replied they had not taken training. The number of hours bunched up at 6, 12, and 24 and three-fourths of the family providers had 24 hours or fewer. The rest were sprinkled at 30, 40, 50, ...100 and more. Group providers had similar bunching at multiples of 6 and some with very high hours. Perhaps these very high training hour providers were actively

pursuing post-secondary coursework. For the analyses, a redefined training variable with categories is used -- namely 0 hours, 1-6 hours, 7-12, 13-18, 19-24, and 25 and over. See Table 5.

Career horizon perspective For family homes, only 1 in 8 respondents considered themselves temporarily in this field and the remaining 7 in 8 expected to continue in this line of work in the long term. For group homes only one provider was temporary. This variable never rises to significance in the analyses.

Use written guides/curriculum See section above.

Teaching of 13 specific skills or behaviors Almost all of the family home providers taught each of the 13 specific skills which ranged from recognizing feelings and working independently to moving to music and recognizing letters of the alphabet. The only two skills not nigh universally addressed were “Read many words” (2/3 yes; 1/3 no) and “Appreciate their culture and other cultures” (3/4 yes; 1/4 no). (One might wonder if family homes not teaching these two skills did not do so because they only served infants and toddlers, but virtually all family homes responding to the skills questions did have 3-5 year olds enrolled, so lack of appropriate ages to teach these two skills to is ruled out.) Thus the structural quality variable counting the number of skills/behaviors taught was the full 13 for close to half of the family providers, 12 out of 13 for one-third, 11 for 1 in 8, 10 for 1 in 12, and the lowest count was 9 for one provider.

The situation was very similar for group homes, with the same two skills -- reading and cultural diversity -- being the only ones not taught by almost all; almost all group providers scored 12 or 13 on this factor.

Use of a cognitive assessment tool One-third of family home providers used an assessment tool such as the Denver developmental or Bayley scales of infant development; however, most who said they used one could not identify it by name. One-half of group providers used an assessment tool and again two-thirds of these could not identify it by name.

Accreditation The vast majority of homes are neither accredited nor working toward accreditation. Of the 88 out of 92 family homes replying to the accreditation question, 5 were accredited and 8 were working toward it. Of the 35 group homes, 5 responded that they were accredited and another 5 said they were working toward it.

Number of 4 different types of activities to involve parents Most family providers regularly discussed children’s progress with parents. Half regularly suggested activities to complete at home to expand on what had been taught during the day, and half connected parents with parent education workshops. Only one-fifth regularly asked parents to attend parent meetings. Thus, the count of parent activities was spread quite evenly over 1, 2, 3, and 4 for family homes. More group homes did each of these parent activities in a similar pattern; two-thirds of group homes did either 2 or 3 out of the four.

Number of 8 transition to public school activities Four out of five family home providers did none of the possible activities. In contrast, over half of group home providers did something here with the two most often done being: Talking with public school teachers to teach the social and academic skills that will be needed in school and informing parents of kindergarten expectations and readiness. Two-thirds of group providers did 3 or fewer of the 8 transition activities surveyed.

Note: The categories of several of the nine underlying structural quality variables were re-ordered to be of ascending likely quality, so interpretations are always “the more, the more” if the direction of the relationship is as expected or as other studies would indicate. For example, use a formal assessment tool variable was recoded so that 1=no assessment done and 2= yes.

PA Department of Public Welfare Requirements State regulations requires minimum levels for one or two of these nine factors. Group home operators must have at least a high school education and take 6 hours of relevant training each year. Family home operators do not have minimum education requirements, but they must take relevant training at the equivalent rate of 12 hours every two years.

There are many more very important regulations, including some that touch on other SQI factors, but not enough to deem them fully equivalent to the factors being studied in this report. [Title 55; Chapters 3280 and 3290] Likewise, there are many regulations that relate to items that make up the FDCRS and CIS.

Keystone Stars Three of the nine factors are specifically related to Department of Public Welfare, Commonwealth of Pennsylvania, “Keystone Stars” program of 2002. As of 2002, Keystone Stars is available to group home but not family home providers.

- education level of the provider -- progressively more Early Childhood Education requirements for group home operators for 3 and 4 stars.
- hours per year of in-service training -- increases in hours for 2, 3, and 4 stars; for group home operators 12 hours for 2 stars, 18 for 3 stars, and 24 for 4 stars. Assistants’ hours requirements increase to 9, 12-15, to 15-24.
- # of parent activities – progressively more parent activities are part of Administrative requirements for 2, 3, and 4 stars.

In addition, meeting some of the Program requirements for 2, 3, and 4 stars would be facilitated by using a curriculum. Also, Keystone Stars includes a focus on early literacy which directly relates to some of the individual items of the FDCRS quality measure.

Family Homes and FDCRS

Introduction The analysis begins with FDCRS because it is a more comprehensive quality measure than CIS and also SQI was more strongly related to FDCRS. And it looks first at family homes since their sample size of N=92 is larger than

group homes with N=35, and earlier reports found stronger factor relationships for family homes.

Also, the analysis begins straight off with the underlying variables rather than the index's threshold variables; there is more information in their several values and the threshold level may or may not have been the best selection prior to having the FDCRS and CIS data available. Also some variables may add little to the relationship or even make it worse and these can be omitted.

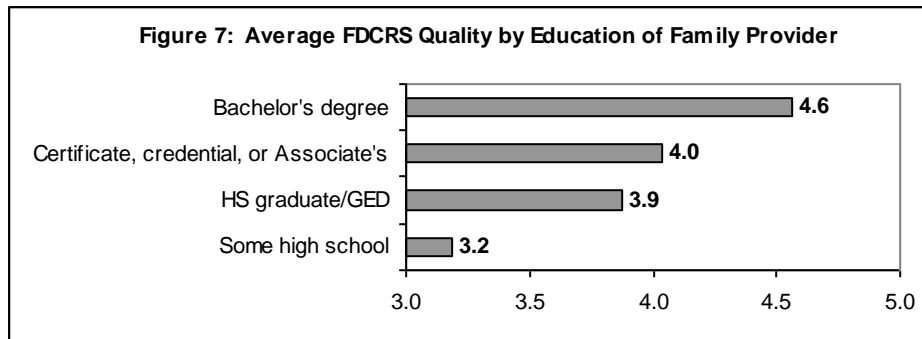
Individual Structural Quality Indicators and FDCRS See Table 6 below. This section analyzes factors individually --one-by-one – to see which ones prove to be related to FDCRS quality for family homes. The next section will try multiple regression prediction of quality using two or more factors in their combined configuration in the study data.

Table 6: FAMILY HOMES & FDCRS: INDIVIDUAL VARIABLES			
	Does average FDCRS quality score differ significantly amongst different values of the factor?	Is there a <i>significant</i> relationship across the spectrum of values of the factor with FDCRS quality?	Portion of relationship predicted by factor (considering factors one-by-one).
General Education	Yes*, for less than HS vs. Bachelor's degree.	Yes**, small-to medium relationship.	One-twelfth (8 percent)
In-service Training	Yes*, quality rises to 18 hours of training per year. See Figure # _.	Yes*, small-to medium relationship.	One-twelfth (7 percent)
Career Tenure Expectation			
Planned Curriculum	Yes**, a full point difference with curriculum. See Figure #.	Yes**, medium-to-large relationship.	One-fifth (19 percent)
Teach Specific Skills	No, but it does for 1 of the 13 skills - teach appreciation of own & other cultures	Yes*, small relationship	One-twentieth (5 percent)
Use Assessment Tool			
Accreditation Status			
Parent Involvement Activities			
Transition to Public School Activities			
NON-SQI: # Subsidized Children		Yes*, small relationship.	One-twentieth (5 percent)
* significant at the .05 level; ** significant at the .01 level.			

Use of Curriculum Using the combined factor information 1=No to both studies; 2=Yes on telephone and no on site; and 3=Yes to both, *curriculum is the factor with the strongest relationship to FDCRS for family homes. It predicts one-fifth of the variation in quality.*

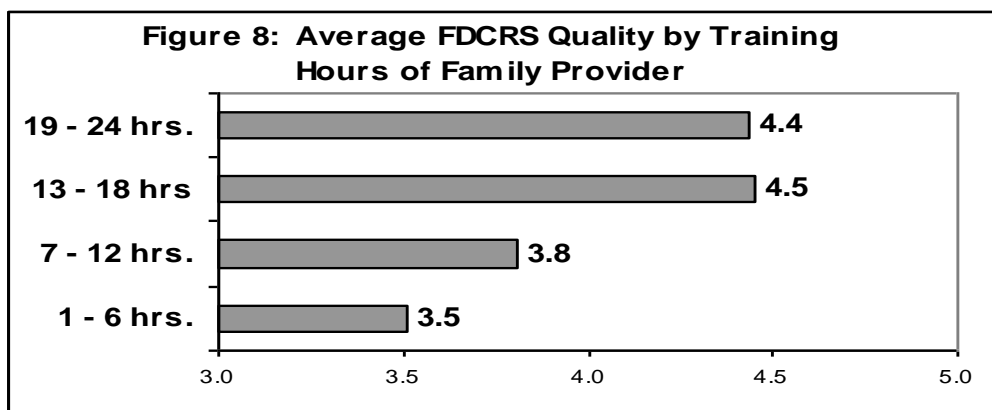
The differences in mean FDCRS scores between No to both and mixed is significant at the .05 level and between No to both and Yes to both at the .01 level. See curriculum first column in Table 6 above. Of course, use of curriculum alone does not necessarily cause the improved scores, it could be a strong predictor of providers who make a wide variety of efforts to enhance the care they provide to children.

Formal Education Level of Family Provider



The level of *formal education is the 2nd strongest predictor of FDCRS quality for family homes. It predicts one-twelfth of the variation in quality.* Figure 7 shows the average quality scores for the four education levels that most family providers have. Although the *averages* look and are far apart, the only gap that is significant (almost surely not due to the luck of the draw on which family homes ended up being sampled) is less than high school graduate (3.2) versus bachelor's degree (4.6). See first cell of Table 6. The other differences appear substantial but do not reach significance, because the spread in quality for each of these education levels is almost evenly spread out over a wide range. Some bachelor's degree providers score as low as 2.0 and some high school providers score as high as 5.5.

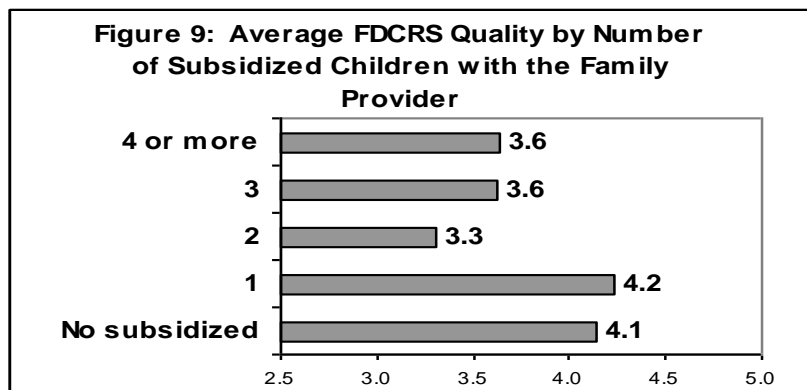
In-service training hours per year Whether a provider takes 0, 6, 12, 18, 24, or more hours of training a year (approximately 1, 2, 3, or 4 training days) is ***the 3rd best predictor of FDCRS quality for family homes. Like education, it predicts almost one-twelfth of the variation in quality.*** Figure 8 shows the average quality scores for the four training hour categories taken by most family providers. None of these gaps is significantly different from any other, but the variation amongst the whole group is. See average score difference cell for training in Table 6.



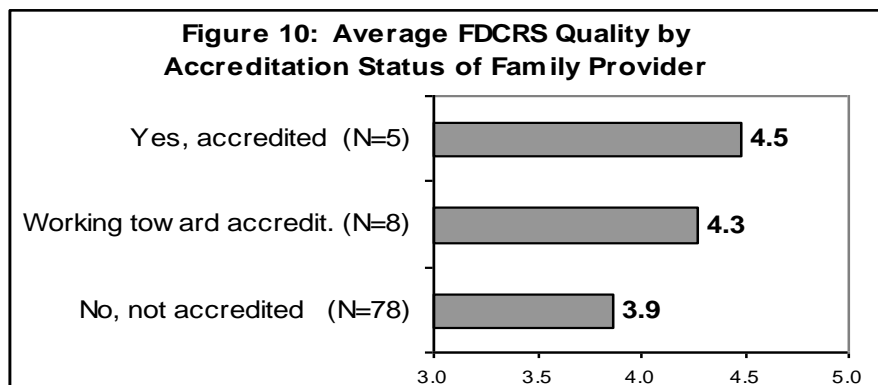
Number of 13 Skills Taught Comprehensive skill teaching is the 4th best predictor of FDCRS quality for family homes. It also predicts almost 5 percent or one-twentieth of the variation in quality.

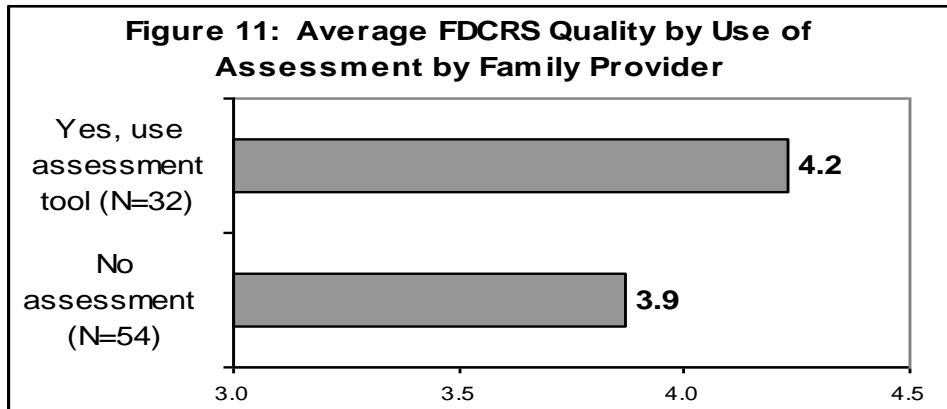
Recall that reading and cultural diversity were the only two skills not taught by most family homes. The teaching to “read many words” skill is not related to FDCRS, but teaching the children to “appreciate their culture and other cultures” skill is related to FDCRS. The differences in average score of 4.2 versus 3.5 is significant and this one skill “predicted” one-tenth of the FDCRS variation. Again, the causal mechanisms associating the teaching of cultural diversity with higher quality overall remain a mystery, but it does seem to select somewhat for providers who no doubt make a wide variety of efforts toward quality care for children.

Number of Subsidized Children This one non-SQI variable with explanatory power is the 5th best predictor of FDCRS quality for family homes. Like the skills factor above, it predicts almost 5 percent or one-twentieth of the variation in quality. Figure 9 shows the average quality scores by number of subsidized children. These averages do *not* steadily decrease, but nonetheless illustrate some general likelihood of worsening quality with more children paid for by the government. The 59 family homes with no subsidized children averaged 4.1 while homes with 2, 3, and 4 or more subsidized children averaged in the neighborhood of 3.5.



Accreditation and use of a formal developmental Assessment The results for these two factors were in the anticipated direction, as shown in Figure 10 and Figure 11 below. However, both are merely close to significant, so the differences shown could be due to chance and in any case these two factors would have predicted even less of the variation in FDCRS quality.





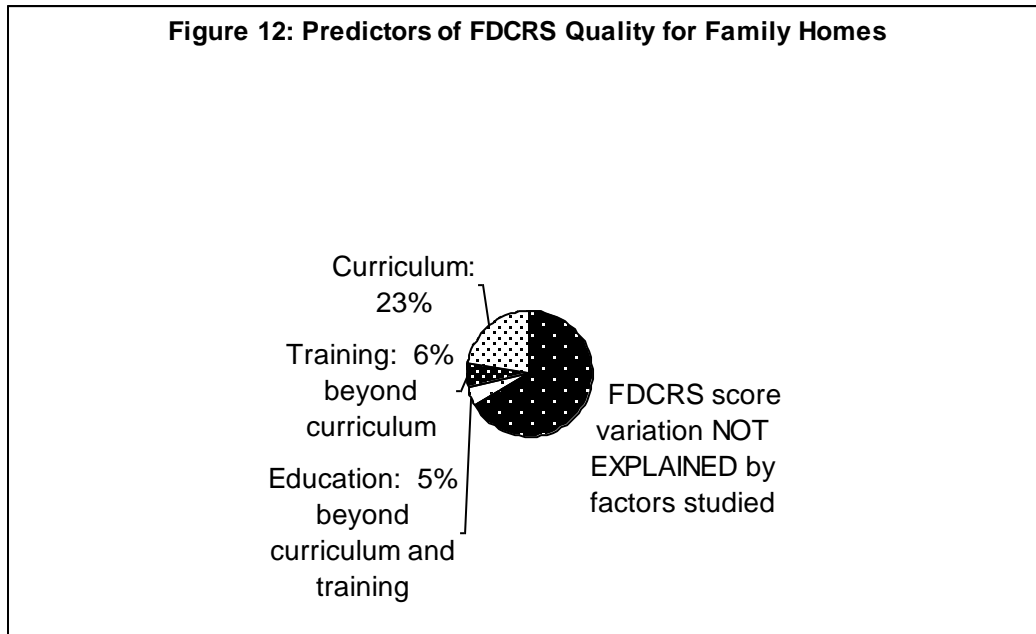
Parent Involvement, Career Tenure, and Transition to School These final three factors bore small and uncertain relationships to FDCRS.

FH & FDCRS Multiple Regressions Analysis The factors taken one-by-one above predicted 19% (curriculum), 8% (education), 7% (training) and so on of the variation in FDCRS quality. But to see how several factors might work in combination, one uses a statistical technique called multiple (linear) regression. The predictive power of the group of factors will exceed that of the single factor with the highest percentage, but because there is some “overlapping” of information, it will be less than the sum of the separate percentages of all significant factors. This section analyzes which several factors bear the strongest relationship to FDCRS and how much of FDCRS quality variation they can explain in combination.

Stepwise multiple regression searches amongst all the factors entered into the analysis for the single one that best predicts FDCRS. This analysis will use the 11 factors in Table 6 - - nine relating to SQI plus number of subsidized children and teaching cultural diversity. Next it searches the remaining 10 factors to see which one *adds* the next most power to the prediction, given that the first one has already been selected. It stops when adding the next variable would make the group no longer statistically significant.

The result for family homes and FDCRS is that the combined curriculum variable predicts 23 percent of the quality variation, training in 6 hour increments adds another 6 percent bringing the total for the two to 29 percent, and finally education adds another 5 percent, bringing the final total to 34 percent. And that is as far as all the factors can get us, in this study, in predicting average FDCRS quality from knowing relevant characteristics of the family provider. See Figure 12. *Curriculum, in-service training, and general education predict one-third of the quality variation; two-thirds of the variation cannot be explained by the very large number of factors studied.*

Figure 12: Predictors of FDCRS Quality for Family Homes



These are the same three factors with the strongest individual results in Table 6 considering both significant score differences and one-by-one predictions. In fact, the sum of the 19%, 8% and 7% equals the 34% and the multiple regression results tell us that, due to duplication or overlap imbedded in the information, one cannot get beyond the one-third by considering more weakly related factors. Their contribution has already been picked up by the primary three.

The SQI index based on nine thresholds predicted 12 percent of FDCRS variation; rcent, and curriculum plus training plus education level predicted 34 percent. Thus, the SQI index attempt is out-performed and some other predictor can be developed and tested in future studies.

Relationships among the factors Relationships between pairs of factors yield clues to their partial duplication of information. If all 11 variables are analyzed, they make 110 possible pairs. Only 16 of these pairs were significantly related, involving a total of 8 variables. Of the three key variables, education level was the most independent of the others. No other variable was significantly related to it. Training too was relatively separate from the rest, bearing a modest relationship with parent involvement activities, assessment use, and curriculum. Several variables not entering the multiple regressions were related to curriculum – number of skills taught, number of parent involvement activities, teaching the cultural diversity skill, assessment use.

Teaching cultural diversity related not only to total number of skills taught, as would be anticipated, but also to curriculum, parent involvement, career tenure, and assessment use. Perhaps this gives clues as to how this narrow – meaning non-comprehensive -- factor gets modestly related to quality.

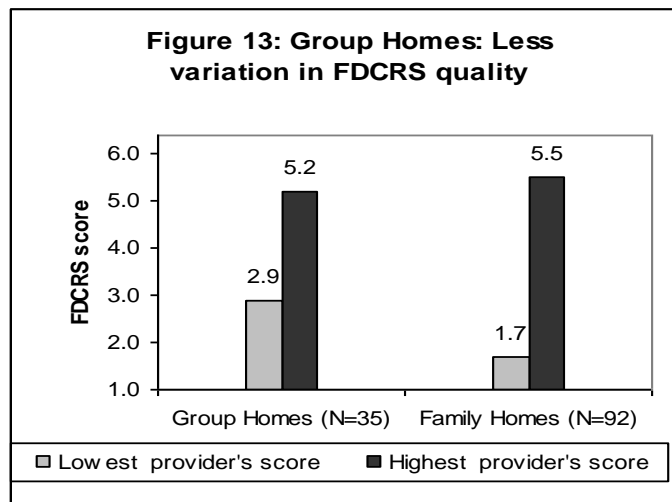
Group Homes and FDCRS

Introduction To review, highlights of information on the basic distribution of the structural factors for the sample of 35 group homes are as follows:

- education level of the provider – over half high school graduates, one masters, rest college at certificate, credential, AA, or BA level.
- hours per year of in-service training -- all 6 or more hours per year; use 6 hour categories with 25 and over being the highest category since some providers have extremely high hours.
- career horizon perspective – all but one provider saw self as long-term (so virtually no variation for prediction).
- use written guides/curriculum -- 20 of 35 said yes on phone versus no on site.
- of 13 specific skills taught -- almost all taught 12 or 13 out of the 14. Read many words and cultural diversity were the only two skills not taught by almost all providers.
- use of a cognitive assessment tool -- half of group providers used.
- accredited or working toward accreditation – 5 accredited; 5 working toward
- # of parent activities -- more group than family homes did these; most did 2 or 3 out of 4 possible.
- # of transition to public school activities – most did 3 or fewer out of 8 possible.

The SQI nine-threshold index predicted 13 percent of the FDCRS variation for group homes.

Individual Structural Quality Indicators and FDCRS: Group homes, with their higher degree of state regulation, would be expected to have at least a higher “floor” of quality, and in fact they did in this study. The smaller sample size of group compared with family homes sets the bar higher for results achieving statistical significance. In line with these two facts and perhaps additionally, *group homes did not have as wide or as much variation in FDCRS quality as did family homes*. One way to see this readily is to notice in Figure 13 below that the difference between the highest and lowest scoring provider is a little over 2 FDCRS points for group homes, while the difference between the highest and lowest scoring provider is approaching 4 FDCRS points for family homes.



This does not necessarily mean that it will be more difficult to find factors that predict well the lesser amount of group home variation, but it is likely to, and in fact it does.

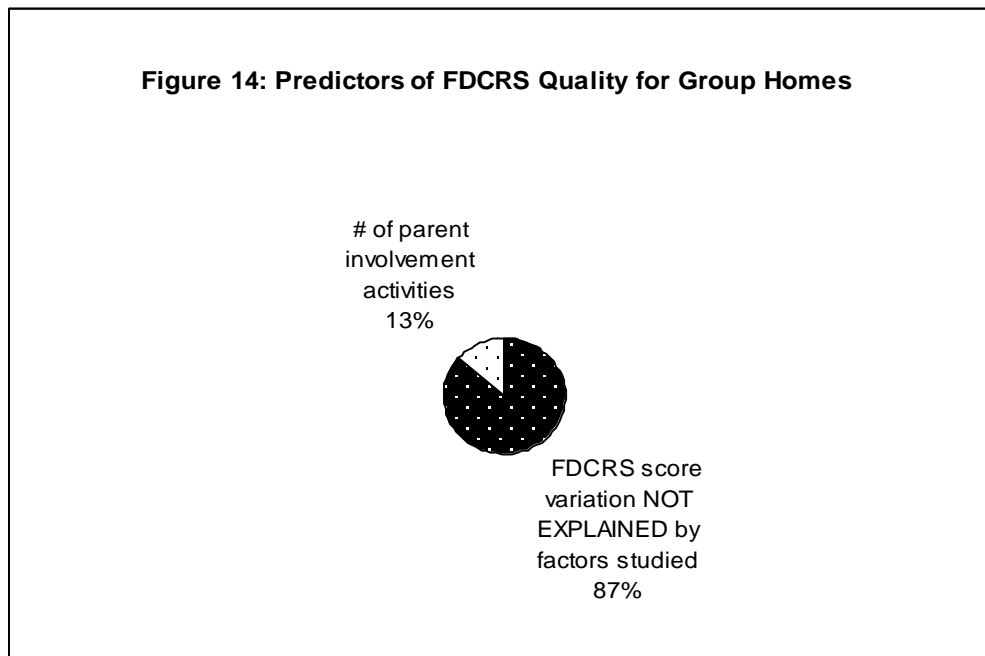
The individual structural variables did not predict nearly as well for group homes. *In fact only one factor, number out of 4 specific activities with parents, had a relationship, predicting 13 percent of group homes' FDCRS variation.* While none of the nine factors, nor the number of subsidized children factor, had a perverse relationship with FDCRS, none had significant differences in average scores for their various factor values, and only the parent involvement factor had a significant regression relationship. This parent involvement factor predicting 13 percent of the FDCRS variation happens to be very close to what the threshold-based SQI total index predicted.

The individual parent activities surveyed were:

- regularly ask parents to attend parent meetings;
- regularly discuss children's progress with parents (all 35 in sample did this one);
- regularly suggest activities to complete at home that expand on what had been taught during the day; and
- regularly provide or connect parents with parent education workshops or activities.

The three activities with varying responses each had a positive but weak relationship with FDCRS for group homes; their count did better, with scoring 4 better than 3, and 3 better than 1 or 2.

GH & FDCRS Multiple Regressions Analysis Analyzing more than one factor at a time changed nothing. Not one variable besides parent involvement bore a strong and independent enough relationship to FDCRS to enter a multiple regression. This result is consistent with the individual analyses immediately above that looked for significant score differences and significant single factor predictors. See Figure 14 below.



Parent Involvement Factor This parent involvement, though commendable, would not intuitively seem to be a factor that would relate well to a very comprehensive measure of quality such as FDCRS is, compared with factors like provider education level and curriculum. So the nature of the connection between parent involvement efforts and overall quality remains hidden. In this study, the parent involvement factor did bear a strong relationship to three other *factors* -- provider education, teaching more of the 13 skills, and using an assessment tool such as the Denver developmental, but none of these factors predicted FDCRS quality for group homes nearly so well.

Notably, the state's *Keystone Stars includes parent involvement* in its administration requirements:

- For 2 stars: Providers must encourage parental and community involvement in the delivery of services to the children.
- For 3 stars: Provider continues to increase the involvement of parents with more parental meetings, activities, and information sessions. Parents and staff are informed of community resources available to them.
- For 4 stars: Parental and community resources are used effectively in the delivery of quality child care.

The activities surveyed by this study parallel the 3 stars requirement most closely.

Summary for Factors Relating to FDCRS Quality Thus, using a curriculum to develop program, in-service training beyond the 6 hours per year now required, and the general education level of the owner predict higher FDCRS quality for family homes – but are only weakly related for group homes. For group homes only parental involvement efforts predict FDCRS quality well -- and here the mechanism is elusive or questionable.

All nine structural factors studied – curriculum, training, education, parent involvement efforts, range of skills taught, assessment, accreditation, career tenure expectation, and transition to school efforts – were in fact positive for both family and group homes, but in most instances not so strongly positive to be used as predictors.

Family Homes and CIS CIS is not as comprehensive a measure as FDCRS, but it portrays how children are treated which is critical to social and emotional development and is a very important element in parents' choice of provider. The CIS measure does not distinguish between good versus very good providers; this may make some factors may lose predictive power, and in any case sometimes calls for modified statistical techniques.

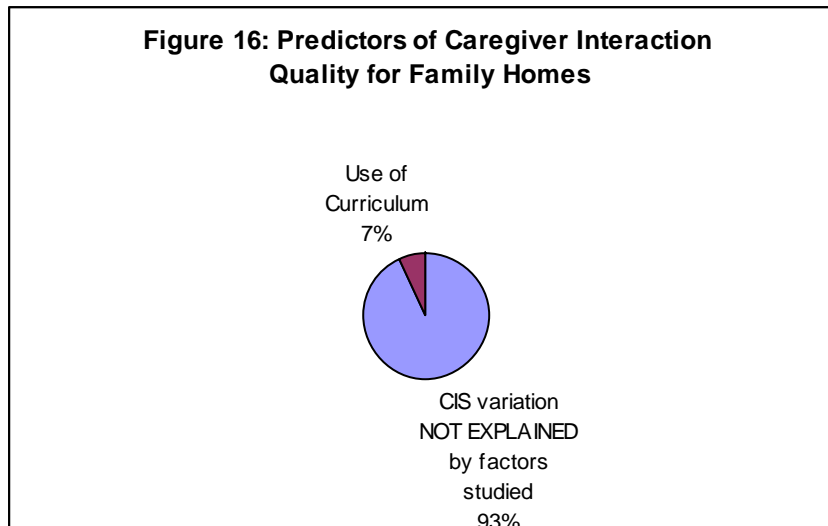
The SQI explained 4 percent of CIS variation for family homes, compared with 12 percent with FDCRS. This 4 percent is smaller than one would hope for; perhaps dropping the threshold approach will increase it.

Individual Structural Quality Indicators Again, all the factors were as anticipated in direction, but not many were statistically significant. See Table 15 below:

Table 15: FAMILY HOMES & CIS: INDIVIDUAL VARIABLES			
	Does average CIS quality score differ significantly amongst different values of the factor?	Is there a significant relationship across the spectrum of values of the factor with CIS quality?	Portion of relationship predicted (considering factors 1-by-1).
General Education			
In-service Training			
Career Tenure Expectation			
Planned Curriculum	Yes*, 3.9 yes to both signif. higher than 3.7 no to both. See Figure #.	Yes**, small relationship.	7 percent
Teach Specific Skills	No; the 39 who teach all 13 have an ave CIS score higher than those teaching 12, 11, 10, and 9, but not significantly higher.	Yes*, small relationship.	4 percent
Teach to Appreciate Own and Other Cultures	Yes*, 3.80 ave CIS for the 65 who taught cult. divers. signif. higher than 3.67 for the 20 not teach. Other 12 skills, no signif. diff.	Small relationship; not quite significant.	
Use Assessment Tool			
Accreditation Status			
Parent Involvement Activities			
Transition to Public School Activities			
NON-SQI: # Subsidized Children		Yes*, small relationship; negative.	4 percent
	* significant at the .05 level; ** significant at the .01 level.		

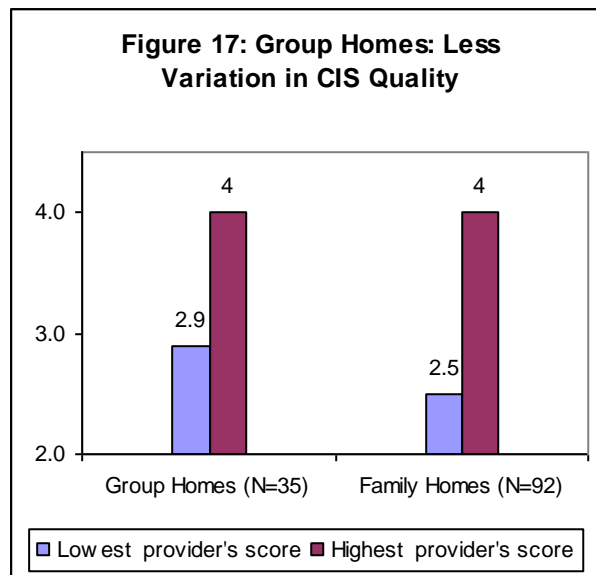
As in FDCRS for family homes, the factor most strongly related to CIS quality is the combined curriculum variable. The range of skills taught and the number of subsidized children were also factors that bore a small but definite relationship to CIS quality.

FH & CIS Multiple Regressions Analysis The SQI index based on nine thresholds predicted 4 percent of CIS variation. The factors above taken one-by-one without thresholds predicted 7% (combined curriculum factor), 4% (number of skills taught), and 4% (number of subsidized children) of the variation in CIS quality. In stepwise multiple linear regression, however, only curriculum entered. Since none of the other factors can contribute beyond curriculum use, there is no increase in the percentage of CIS variation predicted beyond 7 percent This leaves over nine-tenths of the variation unexplained by the very large number of factors studied.



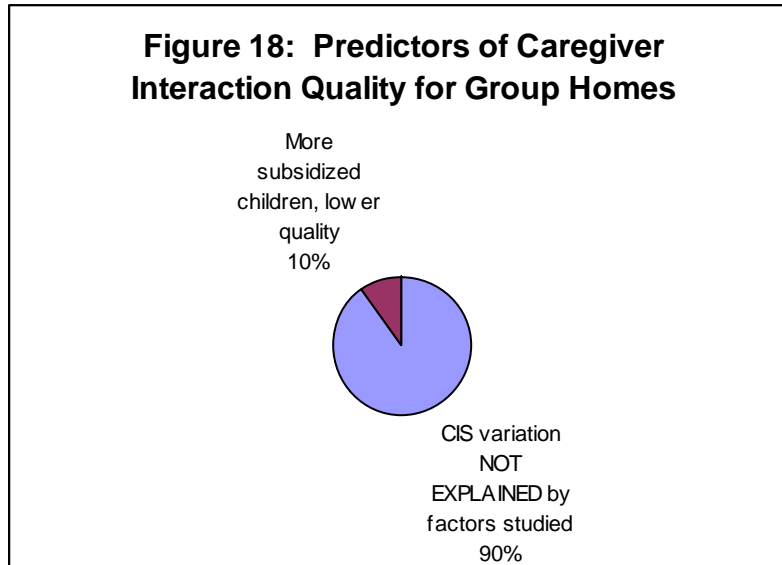
Note: The 7% for curriculum is from the nonparametric Kendall tau_b. Pearson is 11.5%. The stepwise multiple, based on the same Pearson parametric, has the same 11.5%, but the 7% is the result reported.

Group Homes and CIS One goal of state regulation is to put a floor on how low quality is allowed to go. This goal is born out with the higher low score for group homes compared with family homes – 2.9 compared with 2.5 in Figure 17 below.



Recall Table 2 in Part I where only family and not group homes had a relationship between SQI and CIS. Dropping the threshold approach and analyzing the factors one-by-one did not change much. None of the nine structural factors had a significant relationship with CIS quality for group homes. Moreover, several had their weak insignificant relationships in the negative or unanticipated direction. *For group homes, the only situation with a predictive relationship, is the lower quality associated with more subsidized children. The number of subsidized children factor explained 10 percent of the CIS variation.*

GH & CIS Multiple Regressions Analysis The results are the same; see Figure 18 below.



FINDINGS - PART III: COMPARISON TO OTHER STUDIES OF FAMILY HOME QUALITY

North Carolina Smart Start North Carolina found that the following factors included in the telephone survey positively associated with home quality:

- General education and FDCRS;
- General education and CIS; and
- Training and FDCRS.

Accreditation was somewhat related to FDCRS but did not reach statistical significance. The study observed 151 North Carolina Smart Start homes including both “group” and “family” homes as defined by Pennsylvania, with the average study home caring for 8 children if any were school age and 5 if none were school age children.

[Source: *Smart Start: Family Child Care in North Carolina* by Ellen Peisner-Feinberg et. al.; University of North Carolina Frank Porter Graham Child Development Center; August 2000]

	<u>Family Day Care Rating Scale</u>	<u>Caregiver Interaction Scale</u>
<i>Family Homes</i>	Use of Curriculum In-service Training Provider Education	Use of Curriculum
<i>Group Homes</i>	Parent Involvement	More subsidized children, lower quality

- *Pennsylvania’s results repeated the two North Carolina FDCRS results with education and training being positively related to FDCRS quality – for the 92 family homes. See Table 19.*

CONCLUSIONS

What makes for quality in early care and education is varied and complex. Quantifying many and very different factors with the potential to influence quality left more of the variation in quality unexplained than explained.

Factors did usually work in at least the anticipated direction. All nine structural factors studied – use of a curriculum, amount of in-service training, provider’s level of formal education, various parent involvement efforts, range of cognitive and other skills taught, use of a developmental assessment tool, accreditation, career tenure expectation, and various transition to school efforts – were in fact positive for family homes for both FDCRS and CIS, and for group homes for FDCRS. However, in most instances, these factors were not so strongly positive in these studies to be used as predictors.

When a factor is a proven predictor, the mechanisms of the factor’s relationship with quality is not revealed. We may hypothesize that there would be a causal link between a factor and quality meaning that if an individual begins to use a curriculum, or gets more education, or participates in more training that they will then deliver better care. But maybe the individuals that chose more education, using a curriculum, and getting more training would have given the better quality care anyway for other reasons. Thus, a factor may “predict” or “explain” quality without proving that moving providers up a notch in this factor’s scale of values will improve their quality.

In this study, use of a curriculum was the best predictor of higher quality for both family and group homes – as measured by the comprehensive Family Day Care Rating Scale (FDCRS).

Additional training up to 18 hours per year appeared to enhance the likelihood of higher FDCRS quality for family homes. And for group homes, the relationship was in the positive direction but weak.

At least for family homes and FDCRS, providers with higher general education levels delivered higher quality care.

Parent involvement and education activities were the only factor for group homes that predicted FDCRS quality well. The nature of the linkage is elusive. Suppose for example, for whatever variety of reasons a particular group home is higher quality. Suppose its quality attracts particular parents to choose it, and then these parents demand or are at least responsive to the involvement activities, and so the provider does more or maintains a high level of parent involvement.

The only non-SQI factor related to quality is the number of subsidized children. This negative relationship holds for both home types and both quality measures and is statistically significant for three of the four combinations. This is the opposite of what lower-income children who are potentially at-risk for school failure need.