Modeling the Cost of Quality in Early Achievers CENTERS and FAMILY CHILD CARE

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The purpose of this project is to assist the Washington State Department of Early Learning to develop a set of dynamic models for estimating the cost of operation of early learning programs at various levels of quality consistent with Early Achievers to inform the design of a set of financial incentives in support of the state's participation goals for programs and children.

Methodology

The approach to understanding and estimating the cost of operating early learning programs is similar to methods used in K-12 education cost studies to determine the adequacy and/or equity of school funding. The two major methods used to determine the cost of education are "professional judgment" and "successful school district" approaches. The first method asks educators to review the standards to be met by schools and then to specify the resources they believe are needed for different size schools and districts to educate students to meet those expectations; this method works for both current and future (projected) expectations. In the second method, schools that are successful in meeting current student expectations are identified and their actual costs are analyzed. If feasible (e.g., student test scores are available, expectations are well-specified), both methods can be employed.

Early learning programs are somewhat more complicated than public schools, since expectations are multi-level, e.g., Early Achievers has five levels of quality rather than one set of expectations; the focus is on program and practitioner standards. Our approach is informed by both the professional judgment and successful school district models. We review the standards to be met, the anticipated costs, and combine this with existing data on actual costs of current programs meeting the various levels of Stars.[1]

[1] In future, when there a large enough number of providers at the highest levels of Early Achievers, a true "successful 'schools' method" could be employed. Data on the actual expenses of Level 4 and Level 5 programs could be collected and analyzed.

Data on current expenditures are available for Washington-specific salaries and wages from the federal Bureau of Labor Statistics[2]; Non-personnel costs have been collected from providers in many states by the consultant leading this project. These data have been adapted for Washington based on the professional judgment of and data collected from directors and owners of early learning programs and family child care homes on Washington-specific operational practices and costs.
The Puget Sound Education Service District was very cooperative in collecting provider data. Four of the centers with which PSESD has Head Start contracts submitted revenue and expense data along with 6 family child care providers with whom PSESD has Head Start contracts. These are in King and Pierce counties. The Service Employees International Union 925 (SEIU) cooperated in family child care data collection, reaching out to family child care providers in King, Snohomish, Spokane and Whatcom counties. The SEIU added 6 more providers to the data set. These data were used to adjust the nonpersonnel costs for centers and operating costs in the model for family child providers.

The Cost of Quality Model for Programs

The interactive model is a set of annual revenue and expense budgets that incorporate Washington-specific data on expenses and revenues for center-based and home-based programs. The cost of operating any early learning program is driven largely by labor costs: the number of staff (determined by staff:child ratios) and staff compensation (salary and benefits). The baseline in the model is an annual revenue and expense budget that meets the requirements in licensing rules, followed by annual revenue and expense budgets meeting the expectations of Washington Early Achievers at the successive four levels. These budgets represent a reasonable estimate of the cost of ongoing operation at a given level, not the cost to reach a particular level.

Cost Drivers

Constructing a model of the cost of operating a center or family child care home at different levels of quality begins by distinguishing between one-time costs and ongoing or recurring ones. The cost model is concerned with the on-going costs of operations at each of the levels of the Quality Rating Improvement System (QRIS) in a state. The cost drivers in a QRIS tend to fall into three categories:

- **Qualifications:** Nearly all QRIS have increasing qualifications by level; some QRIS require employee benefits. Both the increased wages and any additional or expanded benefits are ongoing costs.
- **Ratios:** Reduced ratios for all, or for younger age children, are in some QRIS; these are often at the higher levels. Reducing ratios reduces revenue (increases cost per child), since costs are spread among fewer children.

[2] Occupational Employment and Wage Estimates for Washington, http://www.bls.gov/oes/current/oes_wa.htm

- **Time**: Most QRIS include some criteria that add staff time beyond what state regulations require, e.g., staff meetings, paid planning time, child assessment, parent engagement, transition activities. In addition to time, some QRIS requirements have ongoing costs, e.g., child assessment systems have an annual cost per child and take time for staff to conduct/record/report.

Cost drivers for Washington's QRIS, Early Achievers, are either related to qualifications or to time. Ratios and group sizes set in Washington's regulations are reasonable and thus are not addressed in Early Achievers. Early Achievers relies heavily on Environment Rating Scales (ERS) and Classroom Assessment Scoring System (CLASS) scores. Both of these measures are associated with the skills, abilities and intentional practices of practitioners. These characteristics may be somewhat related to practitioner qualifications (education levels and content specificity of preparation and continuing education).

Early Achievers Costs by Level

Level 1: Costs are associated with meeting licensing requirements mainly determined by requirements for group sizes and ratios by child ages and the staff qualification minimums specified in regulations. This is the foundation of the cost-of-quality model.

Level 2: A program is expected to:

- Complete the 6 topics in the professional training series (director, owner and/or program supervisor, FCC provider/owner)
- Get all staff into MERIT (Managed Education and Registry Information Tool), the professional qualifications registry
- Complete facility profile and self-assessment with ERS and 'state standards' (Early Achievers standards)
- Submit profile and self-assessment with Early Achievers application (online within MERIT)
- Work with technical assistance specialist to prepare file of supporting materials and prepare for rating

Level 2 cost is time for the director (20 hours of training, half are online, all are free plus additional hours to work with the TA specialist) but not necessarily much additional time. Assuming this is within their usual duties, it is a one-time effort over a year, not ongoing additional work activity. For a FCC provider, this will add 20 or so hours over a year to the extra hours a provider works beyond time with children (adding approximately 1/2 hour per week).

Determining cost drivers for Levels 3-5 depends on points earned across four standards (45 points possible) and points earned for CLASS and ERS after meeting thresholds for ERS and CLASS scores (minimally worth 25 points to maximum of 55 points).

- Level 3 = 30-69 points
- Level 4 = 70-90 points
- Level 5 = 91-100 points

Head Start and Early Childhood Education Assistance Program (ECEAP) sites, based on Reciprocity Pilot results, enter Early Achievers at Level 3 with 45 points automatically given (the maximum for the standards area points other than scores on ERS and CLASS). These programs are then rated and must meet minimum thresholds on the ERS and CLASS to earn points to reach Level 4 or Level 5, through the ERS and CLASS assessments.

Other program types enter at Level 2. To advance to Level 3, they must meet the ERS and CLASS threshold scores, for which they will receive 25 points. Thus to reach Level 3, these programs only need to earn an additional 5 points across other categories (for a total of 30 points). To advance to higher levels, programs must accumulate the required number of points for Level 4 or Level 5.

Early Achievers Standards and Associated Costs

This section summarizes each standard area in terms of program operational impact and potential costs. The analysis is based on the professional judgment of the consultant informed by data from the *Head Start, ECEAP & Early Achievers Pilot Project Report and Reciprocity Plan* completed in July 2013.[3] The Pilot data are referenced in this section and discussed in more detail in a later section.

1. Quality Standard Area: Child Outcomes (10 points possible)

Item	Regs/Level 1 & Level 2	Level 3-5	Comments
Developmental screening w/in 90 days and reported to family	NA = Not Addressed in regulations	1 point	Initial: choose tool, train staff, establish practices Ongoing: part of program practice, teachers' regular work, once per year so little/no additional time once established, <u>may be ongoing cost for screening tool</u> if choose one other than free ones (which are accepted). No cost to program if WA DOH establishes universal child screening via health professionals.
Daily individual child experience: • Language	NA	1 point each (2 max)	Initial: may need training/staff meeting discussion, supervision Ongoing: basic good practice

[3] Head Start, ECEAP & Early Achievers Pilot project report and reciprocity plan is at http://www.del.wa.gov/publications/elac-qris/docs/Early_Achievers_pilot_report_HS_ECEAP.pdf

• Engagement			
Ongoing assessment of children (formal, informal, initial w/in 90 days, 3 x year, used to inform curriculum and planning)	NA	2 points	Initial: choose methods, train staff, establish practices Ongoing: part of program practice, teachers' regular work, 3 x year, <u>some additional time for teachers</u>, ongoing cost for assessment tool is probably about $25/child per year. Many use Teaching Strategies-GOLD now. The State has contract for GOLD for ECEAP, and may be able to expand contract to include Early Achievers, reducing costs to programs.
Share data with families	NA parent-teacher conferences	1 point	Initial: establish formal family conference policy, including informal communication Ongoing: basic good practice, may add <u>some additional time for teachers</u>. FCC working alone may need occasional sub.
Use WA-KIDS or aligned process	NA	1 point	Interacts with "ongoing assessment" above – if choose to use WA-KIDS, get this point, too. Process for getting approval of 'aligned process' is somewhat complex.
Individualized instruction	NA	1 point	Initial: may need training/staff meeting discussion, supervision Ongoing: basic good practice, not a cost driver
Use child assessment for program improvement	NA	1 point	Initial: may be new practice to aggregate data Ongoing: some director time to support practice, mainly teaching teams use of planning time (interacts with staff meeting item below)

Note: Analysis of the lowest point scores for 60 programs in the Pilot shows that earning 2-3 points in this area is feasible. The average for centers in the Pilot rated Level 3 was 6 points.

2a. Quality Standard Area: Facility Curriculum and Learning Environment and Interactions [Environment: 55 points possible]

Item	Regs/Level 1 & Level 2	Level 3-5	Comments
CLASS Instructional Support	NA	Up to 20 points: 2-3.4 (10) 3.5-4.4 (15) 4.5 &up (20)	Initial: explore CLASS domain, train staff, establish practices Ongoing: becomes typical program practice, teachers' regular work
CLASS Emotional Support	NA	Up to 20 points: 3.5-4.9 (10) 5.0-5.9 (15) 6.0 &up (20)	Initial: explore CLASS domains, train staff, establish practices Ongoing: becomes typical program practice, teachers' regular work
CLASS Classroom Organization	NA	Scores are combined	
ERS		Up to 15 points: 3.5-4.9 (5) 5.0-5.9 (10) 6.0 &up (15)	Initial: explore ERS, train staff, establish practices, acquire durable goods referenced in ERS (costs related to scores) Ongoing: becomes typical program practice, teachers' regular work Note: Achieving score of 6 may be difficult to obtain since requires meeting all criteria for score of 5 plus half of items for score of 7.

Note: This area is the most significant factor in determining rating Levels. CLASS itself does not present obvious cost drivers; it measures practices which may or may not be related to education qualifications, which do have costs. The ERS does require certain initial materials and equipment. Most programs already have much of what is necessary; the additional items have a modest acquisition cost and become an ongoing cost as a small increase in the typical annual expense for replacement of materials and equipment (indoor and outdoor).

2b. Quality Standard Area: Facility Curriculum and Learning Environment and Interactions [Curriculum and Staff Supports: 15 points possible]

Item	Regs/Level 1 & Level 2	Level 3-5	Comments

Curriculum profile	Lesson plan, daily schedule with range of activities required	1 point curriculum 2 points ELGs	Initial: written philosophy, curricula aligned with it and with WA Early Learning &Development (EL&D) Guidelines, accessible/shared with staff & families Ongoing: part of program practice, teachers' regular work
Training	NA	2 points curriculum 3 points ELGs	Initial: training on curriculum and WA EL&D guidelines for director and lead teachers, all staff trained to implement both. ELG training is online and free. Ongoing: train new staff
Ongoing Mentoring	1/4ly staff meetings and annual ongoing training required	3 points	Initial: this is an emerging practice, in-service training and annual staff observation likely are common, mentoring may not be part of typical supervision/support practice, need to establish support for this (e.g., via regional resource centers) Ongoing: program practice, teachers' regular work, supervisor's regular work, <u>some additional time</u> if mentoring is monthly
Dedicated weekly staff planning time	NA	2 points	Initial: may be new practice to dedicate time weekly, assume some planning time is available currently. Ongoing: additional time for weekly planning (supports item above on use of assessment data) – assume this is paid planning time, so cost for any <u>additional time</u>
Dedicated staff time for reflective practice monthly	1/4ly staff meetings	2 points	Initial: likely peer group reflection time is not common practice unless part of planning time or staff meetings Ongoing: <u>additional time</u> monthly for teaching teams

Note: This area seems to be directly related to program practices that support intentional teaching and would likely lead to higher scores on ERS and CLASS. Pilot data show centers earning on average 11 to 13 points in this area. Earning 5-6 seems feasible.

3. Quality Standard Area: Professional Development and Training (10 points possible)

Item	Regs/Level 1 & Level 2	Level 3-5	Comments
Director/Supervisor	CDA or college credits in ECE	AA 1 point BA 2 points MA 4 points	Initial: depends on current composition of workforce by position and Career Lattice Levels to establish whether there are additional costs. Ongoing: assume higher compensation to attract/retain higher qualified staff. This standard area is potentially a significant cost driver for Level 5, since need nearly all these points to reach Level 5.
Lead Teachers	NA	25% CDA 1 point 25% AA 2 points 25% BA 3 points	Initial: 1 lead per classroom is used in calculation (the <u>highest level</u> is counted for each individual, so reasonable to designate that person as 'lead.') Ongoing: assume higher compensation to attract/retain higher qualified staff. This is potentially a significant cost driver for Levels 4 and 5
All other teaching staff	NA	25% CDA 1 point 50% CDA 2 points 25% AA 3 points	Initial: All assistants and aides and teachers not designated as lead used in calculation (the <u>highest level</u> is counted for each individual) Ongoing: assume higher compensation to attract/retain higher qualified staff. This is potentially a significant cost driver for Levels 4 and 5.
FAMILY CHILD CARE	High school or GED	CDA 3 points AA 5 point BA 7 points MA 10 points	Ongoing: Similar impact for FCC as for centers, except not wages per se but their net annual revenue for Levels 4 and 5.

Note: This area is difficult to predict without data on the actual qualifications of the current early childhood workforce in Washington. Data from MERIT or another source are needed to estimate typical points in PD & Training. The Reciprocity Pilot did not score this area. While not complete, preliminary MERIT data suggest that centers will likely score 8-9 points. Family child care homes are likely to score 3 or 5 points. See Appendix for preliminary MERIT data supporting this judgment.

4. Quality Standard Area: Family Engagement and Partnership (10 points possible)

Item	Regs/Level 1 & Level 2	Level 3-5	Comments
Strengthening Families self-assessment (modified to add Health Literacy)	NA	1 point	Initial: May be new practice, but not time consuming for director Note: Strengthening Families assessment involves families and staff completing surveys – one-time, annual, very modest time, online CSSP data system is no-cost currently. Ongoing: becomes part of programs' culture of continuous quality improvement (CQI). Note: The items in this standard are inter-related, if do one, likely to do most.
Develop plan based on assessment	NA	1 point	Initial: Modest time to write plan (one-time) Ongoing: modest effort to revise, update plans
Plan of Action (feedback and improvement)	NA	1 point	Initial/ongoing: Likely to involve changes in practices, depending on content of plan may need modest staff time
Provide parenting support and education program	NA	1 point	Initial: select program, train director and/or teachers Ongoing: modest additional staff time to implement and cost of program if choose other than free one.
Provide info on community programs for families in applicable languages	NA	1 point	Initial: may already be available, or modest time to compile, translate Ongoing: update as needed, not an ongoing cost driver
Transition policy & plans	NA	3 points	Initial: develop policies and implement, may be common practice or may need initial support to establish

			Ongoing: implementing may not be time-consuming, depends on complexity of policy
Partner with parents/families	NA	2 points	Initial: may need training to establish, depends on philosophy of program Ongoing: these are typical good practices (gather information from families and engage families re child strengths and needs); are part of staff work, may be modest additional time if program chooses to add many family activities.

NOTE: The average for centers in the Pilot rated Level 3 was 8 points in this area, so earning 4-5 points seems feasible.

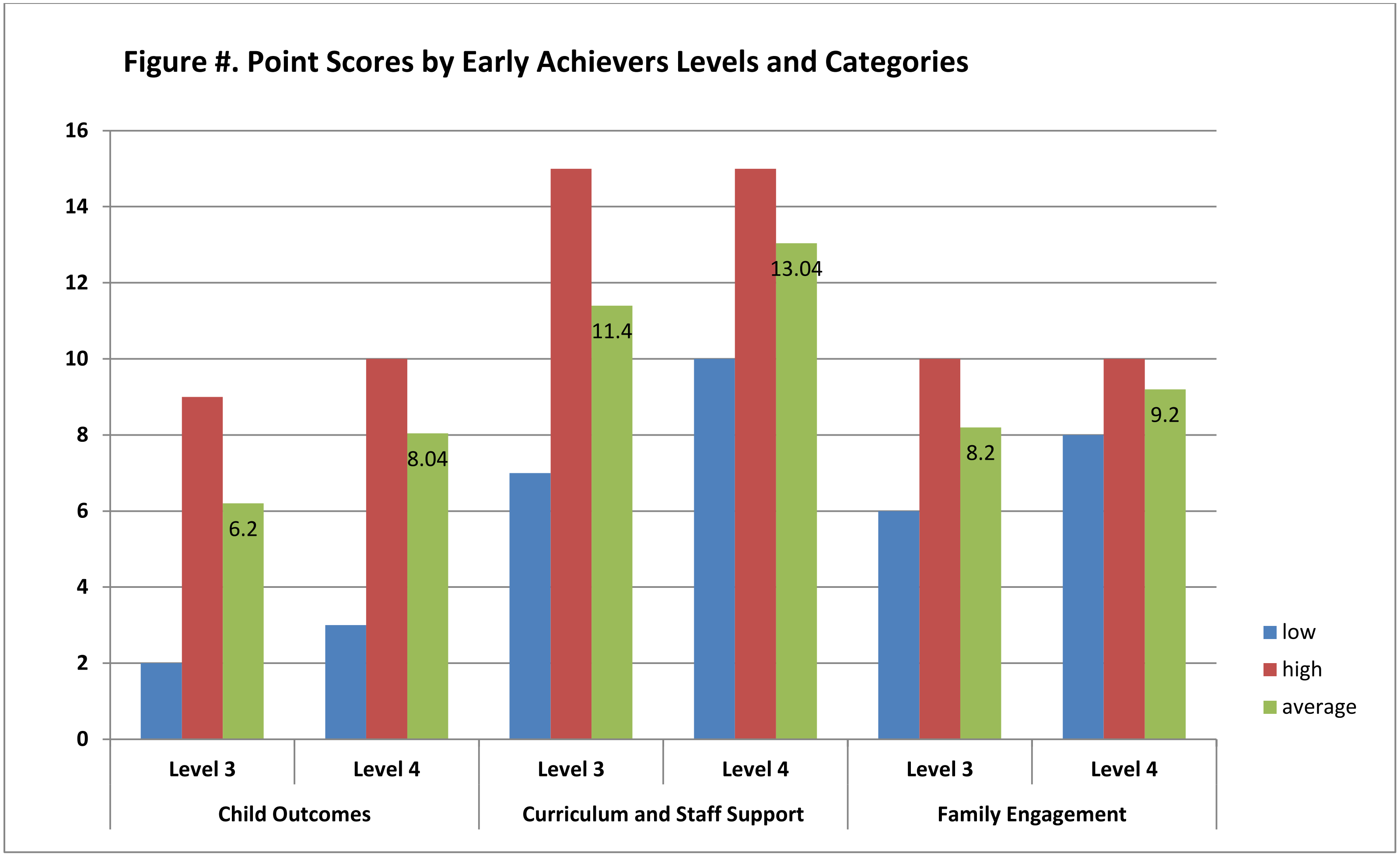
The Pilot Data on Points Earned by Category

Anonymous data from the Head Start Early Childhood Education Assistance Project (ECEAP) Pilot were analyzed to inform the understanding of Early Achievers cost drivers. Of the 123 programs in the pilot, 60 programs (all centers) had ERS and CLASS scores and checklist scores by category (not by item) for 3 of the 4 categories. The Professional Development and Training category was not scored in the pilot; all centers received the maximum 10 points. The assessment and checklist scores were used to compute the Early Achievers Level; 25 programs earned Level 4 and 35 earned Level 3 (none earned Level 5).

Examining these scores by category can help determine the categories that centers are meeting and those that are more challenging. Without item scores, we cannot determine exactly which items are met within a given category.

- The total *Child Outcomes* scores averaged 6 points for Level 3 centers (range 2-9) and 8 points for Level 4 centers (range 3-10).
- The total *Curriculum and Staff Supports* scores averaged 11 points for Level 3 (range 7-15) and 13 points for Level 4 (range 10-15).
- The total *Family Engagement* scores averaged 8 points for Level 3 (range 6-10) and 9 points for Level 4 (range 8-10)

These patterns imply that in two categories – Curriculum and Staff Supports, Family Engagement – Level 3 programs are scoring fairly high averaging 73-80% of possible points while Level 4 are scoring slightly higher with 87-90% of possible points. Child Outcomes is slightly more differentiated between Level 3 (60%) and Level 4 (80%). The graphic below is a visual representation of these patterns.



A final point of interest: for those programs in the pilot that did not make one or both of the ERS/CLASS threshold scores, the range of total checklist scores was 27 to 44 (of possible 45) with an average checklist score of 35. The range was exactly the same (27 to 44) for those programs that did meet the ERS/CLASS thresholds with an average total checklist score only slightly higher at 38. This may indicate that the checklist items do not differentiate strongly between Levels 3 and 4. The significant factor determining Level 4 (and Level 5) is the ERS and CLASS scores. A program with minimum threshold ERS/CLASS scores would need to earn 100% of points in all four of the other categories to reach Level 4 (25 + 45 = 70). It seems much more likely that programs with minimum threshold ERS/CLASS scores would be rated Level 3, which only requires 5 additional points (25 + 5 = 30).

Understanding more precisely what cost drivers are associated with ERS and CLASS scores would be helpful for understanding the cost of operating programs at Level 4 and Level 5. Given that both these measures, and especially the CLASS, focus on teacher-child interactions in specific domains, it seems reasonable that a teacher's depth of knowledge of child development and teaching and learning approaches is a key factor as well as the nature of the work environment in which teachers practice.

Summary: Cost Drivers in Early Achievers

Based on review of the Early Achievers areas and the pilot data, it appears that costs for Levels 1 and 2 are similar. The Level 1 costs are associated with meeting licensing requirements. Level 2 costs are primarily time for the director or family child care provider to complete 20 hours of no-fee training, and work with a TA specialist over the course of a year. This is a one-time effort over a year. For a director, this is part of regular work activity. For a FCC provider, this will add 25 or so hours over a year, about 1/2 hour per week, to the extra hours a provider works beyond time with children.

Assumption: *Level 1 and Level 2 programs are essentially similar in terms of operations and costs.*

Determining cost drivers for programs at Levels 3-5 depends on points earned across four standards (45 points possible) and points earned for CLASS and ERS scores (55 points possible). Assuming the threshold scores can be achieved; reaching Level 3 only requires a few points in the other standards areas. Some items in these areas require additional practitioner time and a few have material costs:

Area	Time	Materials, equipment
Child Outcomes	Assessment 3 times per year, sharing data with families, using data to inform instruction	Cost of child assessment system (data and reporting)
Environment		ERS requires indoor and outdoor materials and equipment -- replacement is an ongoing cost
Curriculum and Staff Support	Mentoring, weekly staff planning, monthly	

	meetings for reflective practice	
Family Engagement and Partnership	Family activities may add time	

Based on this summary, it seems reasonable to assume that maintaining quality at Level 3 will require some additional time and some costs. Time is assumed to be additional staff time beginning at Level 3 and increasing through Level 5. The cost of a child assessment system is a set expense calculated per child for each Level 3-5. Replacement of educational equipment and materials is an expense item beginning with Level 3 and modestly increasing through Level 5. The amount of these increases is related to the actual cost of specific materials required for ERS scores of 3, 5 and 7. See Appendix for specifics.

The Professional Development and Training area is not a large source of points (10 maximum) making it appear to be a weak driver of costs. However, there is likely a relationship between personnel qualifications levels and scores on the CLASS. To attain higher scores, practitioners with higher qualifications will be needed and will command higher compensation, both wages and benefits. This is relevant for Levels 4 and 5 which cannot be attained without high CLASS scores.

The Cost of Quality Model: Structure and Assumptions

Annual revenue and expense budgets, one for each Level 1-5, are the foundation for the cost model. There is one set of five budgets for centers and one set of five budgets for homes. Both sets are informed by data collected from programs in Washington, both centers and homes, as well as the professional judgment of directors and other experts. The basic budget in the cost of quality model meets Washington regulations (Level 1). Salaries are informed by data for Washington from the Bureau of Labor Statistics (BLS) and data collected from programs in Washington. Benefits are based on data provided by Washington programs.

Two models were constructed: one for the Seattle-Tacoma-Bellevue region and one for Yakima County. The structure of each is the same; the difference is the data are adjusted to match as closely as possible the cost of operations in these two different areas of the state.

Structure: Center Staffing Pattern

The staffing pattern in all center budgets is based on the data collected from centers and discussions with several program experts.

- Director full-time
- Program Supervisor (Assistant Director) - 50% time if <75 children, then 100%
- Administrative assistant - 50% time if <50 children, then 1/75 children
- Health Consultant (if > 3 infants, 1 day/month)

- Lead Teachers & Assistants (1 of each per classroom)
- Additional Floater-Assistants to cover breaks and opening and closing hours

Assumption: *This staffing pattern is sufficient to operate a high quality program, given adequate compensation of staff.*

Personnel Expenses

Compensation (salary and benefits) is the major expense of a center budget, usually accounting for 60-75% of total expenses. The assumption in the model is that both compensation and the amount of staff time needed to maintain quality increase with Early Achievers Level.

Salaries in the center budgets are based on the most recently available data (May 2012) from the US Bureau of Labor Statistics (BLS) for Washington. The model mainly uses mean annual wage for 3 occupations; the definitions of these occupations are:

- Child Care Workers (Standard Occupational Code [SOC] 39-9011) Attend to children at schools, businesses, private households, and childcare institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play. Excludes "Preschool Teachers, Except Special Education" (SOC 25-2011) and "Teacher Assistants" (SOC 25-9041). Used for assistant teachers in the model.
- Preschool Teachers, Except Special Education (SOC 25-2011) Instruct preschool-aged children in activities designed to promote social, physical, and intellectual growth needed for primary school in preschool, day care center, or other child development facility. Substitute teachers are included in "Teachers and Instructors, All Other" (SOC 25-3099). May be required to hold State certification. Excludes "Childcare Workers" (SOC 39-9011) and "Special Education Teachers" (SOC 25-2050). Used for Lead Teachers in the model.
- Education Administrators, Preschool and Child Care Center/Program (SOC 11-9031) Plan, direct, or coordinate the academic and nonacademic activities of preschool and childcare centers or programs. Excludes "Preschool Teachers" (SOC 25-2011). Used in the model for directors and program supervisors or assistant directors.

Assumption: *Compensation increases with higher Early Achievers Level.* Wages in the center budgets are set at a percentage of the mean annual BLS occupational category relevant to each position. Level 1 and Level 2 use mean wage, Level 3 sets wages at 5% above the mean, Level 4 is set 15% above the mean and Level 5 is set 25% above the mean. This progression is intended to reflect that expectations for Levels 1 and 2 are roughly equivalent. A center will likely need somewhat better qualified staff to maintain operations at Level 3. Because the expectations (CLASS and ERS scores) are much higher for programs at Level 4 and Level 5, they will likely have some staff with bachelor's degrees (Level 4) and some with master's degrees (Level 5). Attracting and retaining staff with these qualifications will require higher wages. The wage progression described above is presented below in dollar amounts.

Table #. Annual Teacher Salaries by Early Achievers Level (Region 4)

Early Achievers Level	*Lead Teacher*	*Assistant Teacher*
Level 1-BLS mean	$29,155	$23,565
Level 2-BLS mean	$29,155	$23,565
Level 3-105% BLS mean	$30,613	$24,743
Level 4-115% BLS mean	$33,528	$27,100
Level 5-125% BLS mean	$36,444	$29,456

Table #. Annual Teacher Salaries by Early Achievers Level (Region 2) (to come)

Assumption: *Benefits increase with Early Achievers Level*. Federal and state mandatory benefits (payroll taxes) are included in the personnel calculations in all budgets; Social Security and Medicare (FICA) are at the current federal rates, Unemployment and Workers Compensation use Washington rates. Additional benefits in the center budgets consist of paid time off and insurance and retirement contributions. Level 1 and Level 2 benefits are 8 paid holidays, 10 days of paid leave and $1,000 paid by the employer for other benefits (typically health and dental insurance and retirement contributions). The benefits increase gradually up to Level 5 which includes 8 paid holidays, 20 days of paid leave and $5,000 paid by the employer for other benefits.

Assumption: *Teaching staff time increases with Early Achievers Levels.* Several items in the Early Achievers standards require additional staff time as noted above. Any program needs about 20% more staff time than the typical 8-hour work day of teaching staff to cover the typical 10-11 hour day of a center for breaks and opening and closing. The Level 1 budget includes 20% additional staff time. Each budget (Levels 2-5) includes further hours of floater-assistant time to provide release time for the lead and assistant classroom teachers. A Level 2 program will need some staff time for interaction with the technical assistance consultant working with the program. To account for the additional time needed for programs operating at higher Early Achievers levels (3-5), the center budgets include more hours of floater-assistant time to provide time for the lead and assistant classroom teachers to do the additional child assessment and family engagement work and for all staff to have planning and meeting time. The Level 2 budget has 22% additional time to cover the technical assistance time. The additional time is set at 25% for Level 3, 35% for Level 4 and 40% for Level 5.

For homes, the primary personnel expenses are for an assistant when the number of children requires one and for substitutes. Substitutes are needed for the provider and assistant to attend required training, engage in technical assistance and for the provider to have some time off. The subs are paid at minimum wage at all Levels. The assistant in a home is paid minimum wage at Levels 1 and 2, 105% of minimum wage at Level 3, 115% at Level 4 and 125% at Level 5. These amounts match the data reported by WA providers. All mandatory federal and state payroll taxes are included in the budgets.

Table #. Annual FCC Assistant Salaries by Early Achievers Level

Early Achievers Level	FCC Home Assistant
Level 1	$19,115
Level 2	$19,115
Level 3	$20,071
Level 4	$21,027
Level 5	$23,894

Nonpersonnel Expenses

The major categories of nonpersonnel expenses in the center budgets are occupancy, program, and office. The default amounts in the budgets are based on the average annual expenditure for these items across many sizes and types of programs, collected from a dozen states over many years. The data provided by Washington centers informed the default amounts used in the model. Non-personnel items are grouped into three categories:

- Those that vary by the <u>number of children</u> (e.g., classroom materials, food, office supplies);
- Those that are related to the <u>number of classrooms</u> in a site (e.g., occupancy costs including rent, utilities and maintenance);
- Those that are <u>site-wide</u> (e.g., audit, permits/fees).

For homes, the main expenses are non-personnel. Homes are small for-profit businesses; the provider's income is the net revenue after expenses; the business is paying for part of the home expenses. Family child care homes have direct business expenses (education supplies and materials, food, office supplies, etc.) and shared business expenses (cost of maintaining their home). Direct expenses are fully deductible; shared expenses are reduced by the time-space percent. The time percent is calculated by dividing the total hours per year that the home is used for child care by the total hours in a year. Providers typically work with children (usually 50-55 hours per week) plus spend time on business activities such as purchasing food or doing bookkeeping (usually another 4-5 hours). The space percent is calculated by dividing the amount of the home used for child care in square feet by the total space in the home. Space used for child care means all the rooms that are used for child care; most providers use about half of their home regardless of how large the home. Washington providers reported working longer hours[4] than the national average and using more of their homes for their child care business: on average 70 hours per week and 60% of their homes for child care. This results in a time-space percent of 24% which is applied to the shared expenses.

Assumption: *The cost driver of Early Achievers for homes is time.* The model increases the provider's time to 71 hours per week for Level 2 to account for the time needed to complete the training series and receive technical assistance. To account for the time needed at higher levels to do child assessment and family engagement work and for curriculum and other planning, the provider's time increases to 72 hours per week for Level 3, 74 hours per week for Level 4 and 75 hours per week for Level 5.

Assumption: *For both centers and homes, scores on the ERS are related to the presence of specific items such as books, science materials, gross motor equipment, etc. and in sufficient number relative to the number of children.* For both centers and homes, beginning at Level 3, the model includes as an expense item the ongoing cost of replacing materials and equipment necessary for the ERS.

Assumption: *For both centers and homes, maintaining Levels 3, 4 or 5 requires using a child assessment system.* For both centers and homes, beginning at Level 3, the model includes as an expense item the cost of a child assessment system.

All of these budgets assume that children with disabilities could be integrated into any classroom or home and that the costs of their additional special education are paid by early intervention/preschool special education funding sources that follow the child and may or may not pass through the center. Thus these additional costs do not appear in these budgets.

Revenue

The primary revenues sources available to support the cost of operating any early learning program in a center or home are:

1. private tuition paid by families,
2. public state and federal funds for child care subsidy Working Connections Child Care (WCCC), and
3. public federal funds for food/food service (USDA Child and Adult Care Food Program [CACFP] reimbursement for all children).

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[4] SEIU speculates that the longer hours reported may be related to the odd hour jobs many families have. Providers respond to consumer demand by working longer hours, e.g. into the evening, to accommodate family needs.

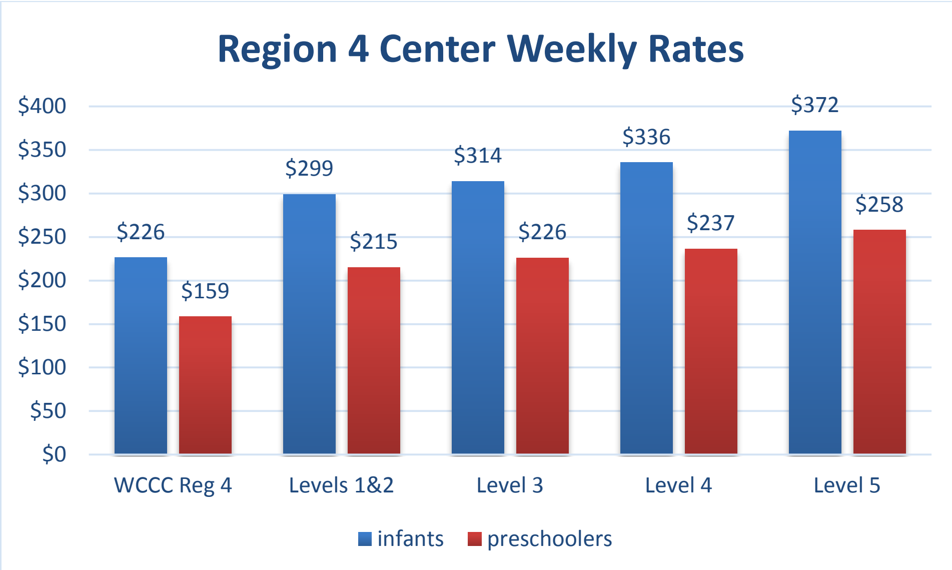
For programs in Early Achievers, two additional revenue sources are the 2% bonus on subsidy payments and the Early Achievers Quality Improvement Awards. The annual Quality Improvement Awards are available to all programs in Early Achievers and are currently set at the rates below:

	Centers	*Homes*
Level 3	$5,000	$2,000
Level 4	$7,500	$2,250
Level 5	$9,000	$2,750

Assumption: *Private tuition rates increase with Early Achievers levels.*
Private tuition rates paid by families are generally assumed to have at least some relationship to quality level as well as to the demographics of both the program's location and the families enrolling children in the program. Tuition can be modeled several ways. One is to use the data from the most recent market rate study, which yields rates by age, care type and county from a sample of providers. These are used by the state in setting WCCC base rates. Another approach is to use data reported from the child care resource and referral database. Both were used to construct the private tuition rates for the cost model.

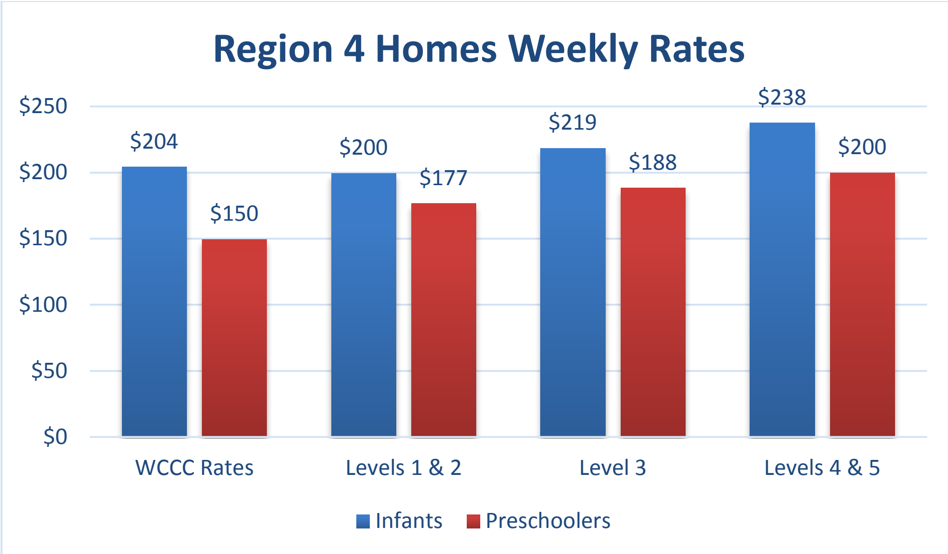
Private tuition in the model is based on data from the 2012 Child Care Survey Report. For centers, the model uses median tuition rates and the 75%ile tuition rates for Region 2 (or Region 4). Levels 1 and 2 use the median regional rates, Level 3 uses 105% of the median regional rates, Level 4 uses the midpoint between 105% of median regional rate and the 75%ile regional rate. Level 5 uses the 75%ile regional rate.

Figure #. Center Private Tuition Rates by Level Compared to WCCC Subsidy Rates (Infants and Preschoolers)



For homes, the model uses a similar pattern of proportional increases in private tuition by Level. Levels 1 and 2 use the average rates collected from Washington providers in Region 4 (or Region 2), Level 3 uses the average of the collected rates and the relevant regional 75%ile rates for homes. Level 4 and Level 5 use the 75%ile regional rate for homes (Region 2 or Region 4).

Figure #. Home Private Tuition Rates by Level Compared to WCCC Subsidy Rates (Infants and Preschoolers)



The subsidy rates used in the model are the WCCC rates that took effect in September 2013 with the Early Achievers Bonus (2%), and the family child care 'young toddler bonus'. Subsidy rates used are the appropriate regional rates (Region 2 or Region 4). Subsidy rates are derived from biennial surveys of private tuition rates and vary regionally. The model uses the full subsidy rate and does not separate out the family co-pay. The assumption is that for a subsidy child the program collects the WCCC payment and the family co-pay.

According to DEL data, the average Washington center or home enrollment is about 30% children receiving WCCC. The family incomes of these children are in the following ranges (DEL data August 2013):

- 36% at or below 82% of the federal poverty level (FPL),
- 40% between 82% and 137.5% of FPL, and
- 24% between 137.5% and 200% of FPL.

Assumption: *The CACFP is a valuable revenue source and is used in the model for both centers and homes.*
The only programs not eligible for CACFP are for-profit centers that enroll fewer than 25% low-income children. Since the average center in Washington enrolls 30% subsidy children, it seems reasonable that the average for-profit center is eligible to participate in

CACFP. The 2013 rates for centers and homes for the federal Child and Adult Care Food Program (CACFP) in the contiguous states are used in the model. The assumption is that breakfast, lunch and two snacks are served daily. Rates for centers depend on the family income of the children in three ranges: free meal (highest reimbursement rate) for children whose family income is below 130% of the federal poverty level (FPL); reduced-price rate for children whose family income is between 130% and 185% of FPL; and paid meal rate (lowest reimbursement rate) for children whose family income is above 185% FPL. Family child care homes receive their CACFP reimbursement through a sponsoring organization, and rates for homes are determined slightly differently than for centers but use the same family income ranges. [5]

Assumption: *The income range of families affects revenue.*
The model is set up with family income ranges that match the CACFP family income eligibility and payment rate structure. The three family income ranges for CACFP are used in the model to calculate both CACFP revenue and WCCC revenue. For the WCCC revenue calculation, all children with incomes below 185% of FPL are assumed to be receiving WCCC. All children with family incomes above 185% are assumed to be paying private tuition rates. The proportion of families in these three income ranges (family income mix) is a variable in the model. It can be adjusted to model different situations. For example, to model programs with no subsidy revenue the family income mix is set to 100% above 185% FPL.

Assumption: *The Early Achievers Annual Quality Improvement Award amounts are an ongoing revenue source.*
The Quality Improvement Awards at current levels are included in the model as revenue for centers and homes at Levels 3-5.

Size, Age and Efficiency Factors

Assumption: *The number of children and the ages of children served affect revenue.*
The age mix of children and enrollment size of a center or home are variables in the model. Larger programs are more cost-efficient than smaller ones in that fixed costs such as administration are spread among more children. The average size center in Washington is 69 (licensing capacity data). The model uses as the 'base case' an average size center of 72 children, 4 classrooms at the regulated group sizes: 1 infant room (8 children), 1 toddler room (14 children, 1 preschool room (20 children) and 1 school-age room (30 children).

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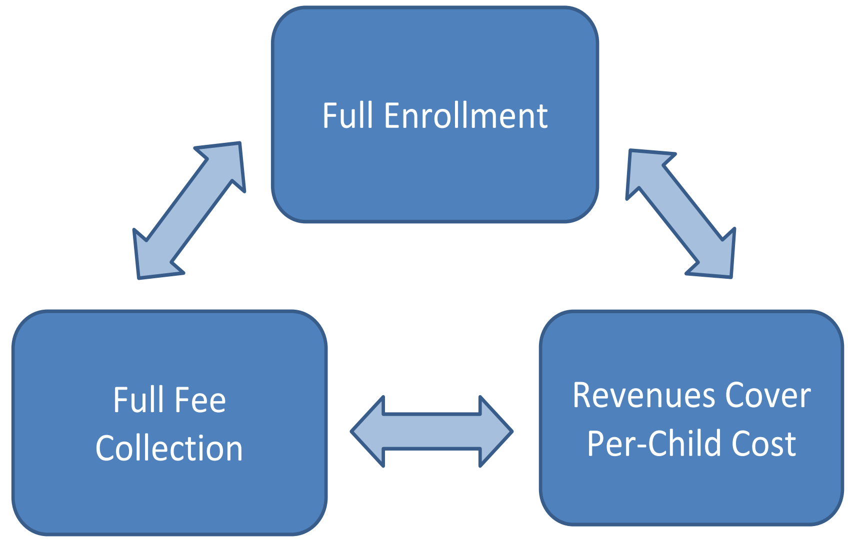
[5] Family child care homes receive their CACFP reimbursement through a sponsoring organization, and rates for homes are determined differently than for centers. Generally a home will be paid one or the other of two rates: Tier I and Tier II. A Tier I home is located in a low-income area, or the provider's household income is at or below 185% FPL. The sponsoring organization determines which areas are low-income. Tier II homes are those family child care homes which do not meet the location or provider income criteria for a Tier I home. The provider in a Tier II home may elect to have the sponsoring organization identify income-eligible children, so that meals served to those children who qualify for free and reduced price meals would be reimbursed at the higher Tier I rates.

Family child care home providers in Washington working alone can enroll up to 10 children, if none are under age 3. A provider working alone can enroll up to 8 children if there are children under age 3 and two are not walking (infants). Homes can enroll up to 12 children with an assistant (only 4 of the children can be non-walking). Most Washington homes are licensed for up to 12 children. The model includes budgets for homes with and without assistants. The 'base case' for home providers is the provider working alone with 8 children (2 non-walkers, 2 walking toddlers and 4 preschoolers); the provider with an assistant has 12 children (2 non-walkers, 2 walking toddlers and 8 preschoolers).

Financial sustainability for a center or home is largely determined by three factors, sometimes called the 'iron triangle' of financial sustainability.[6] To be financially viable, a provider must strive for full enrollment every day, in every classroom of the center; collect tuition and fees in full and on-time; and make sure the annual revenue will cover annual expenses. Setting tuition rates to cover costs is key.



Tuition rates vary by child age in both centers and homes; infant tuition rates are higher than toddler rates, which are higher than preschool rates. However, rates do not correspond to the actual cost of serving children of a given age. Typically infant and toddler rates are lower than actual cost and are 'cross-subsidized' by preschool and school-age rates which are higher than actual cost. This kind of pricing structure is designed to reduce the 'sticker shock' of infant care tuition and ease the financial burden of families over time, as they will pay less later on when the child is a preschooler.

Assumption: *Full enrollment and timely collection of all revenue are essential to a program's financial sustainability.*
Efficiency factors apply to both centers and homes. In each budget, the maximum potential revenue from all sources is calculated and then reduced by a percentage to model the fact that 100% enrollment (and 100% revenue receipt) is not typically achievable. In practice, this factor depends on a center or home's ability to quickly fill vacancies and to collect full payment from all payers. The

[6] http://www.earlychildhoodfinance.org/downloads/2010/IronTriangle_10.2010.pdf

enrollment efficiency factor is set initially at 85% in all budgets and can be varied. To illustrate a situation with low enrollment compared to capacity (a home licensed for 12 but only serving 6 children), the enrollment efficiency percent can be reduced to 50%.

The proportion of revenue that is uncollectible, commonly called ‘bad debt’, can be varied in the model. The industry standard is to keep bad debt to less than 3% of revenue; programs with clear tuition payment policies and effective collection practices may do better. The *revenue collection efficiency factor* is set at 3% for family child care and 2.5% for centers based on the data collected in Washington. It can be varied to reflect better or worse revenue collection.

Using the Cost of Quality Model: Implications

The model can be used to illustrate the financial effects of size, age, income mix and efficiency on program operations. It can also be used to model changes or additions to the financial incentives associated with Early Achievers and changes in subsidy rates. The output of the model is the annual net revenue of a center, displayed as total annual net revenue in dollars and percent and annual net revenue per child. The model output for homes is total net annual revenue in dollars.

Implications: The Early Achievers Standards

In analyzing Early Achievers cost drivers to set up the model, a different sort of issue stood out: Early Achievers sets out a high definition of quality. Level 5 is a high functioning educationally effective early childhood program. Reaching Level 5 is difficult; note that no programs in the Reciprocity Pilot were rated Level 5 and only one program has achieved Level 5 to date. This does <u>not</u> imply that Early Achievers standards should be lowered. Rather, it means that communication will need to be clear and consistent on why the Early Achievers standards are high (e.g., intent to affect child outcomes, improve school success, set standard for all types of early learning programs) and why few programs have achieved the highest level yet (the status of current practice and public investment are not sufficient yet and significant improvement takes time and effort). It also means recognizing and appreciating that programs will need time and effort to reach the higher levels of Early Achievers. At this point, getting to Level 3 is a notable achievement and reaching and maintaining Level 4 is truly excellent; both should be publicly celebrated. Going public with ratings will need careful messaging and might need to wait until there are some Level 5 programs in at least a couple of regions.

If some moderation of the point values of Early Achievers standard areas is considered, the data in the Early Achievers rating database could be used to model changes and the effects changes would have on the proportion of programs at each Level. Kentucky did a similar exercise when it was considering revision of Stars for Kids. See the 2012 report *Alternative Rating Structures for Kentucky STARS for KIDS NOW* at http://www.kentuckypartnership.org/starsevaluation.

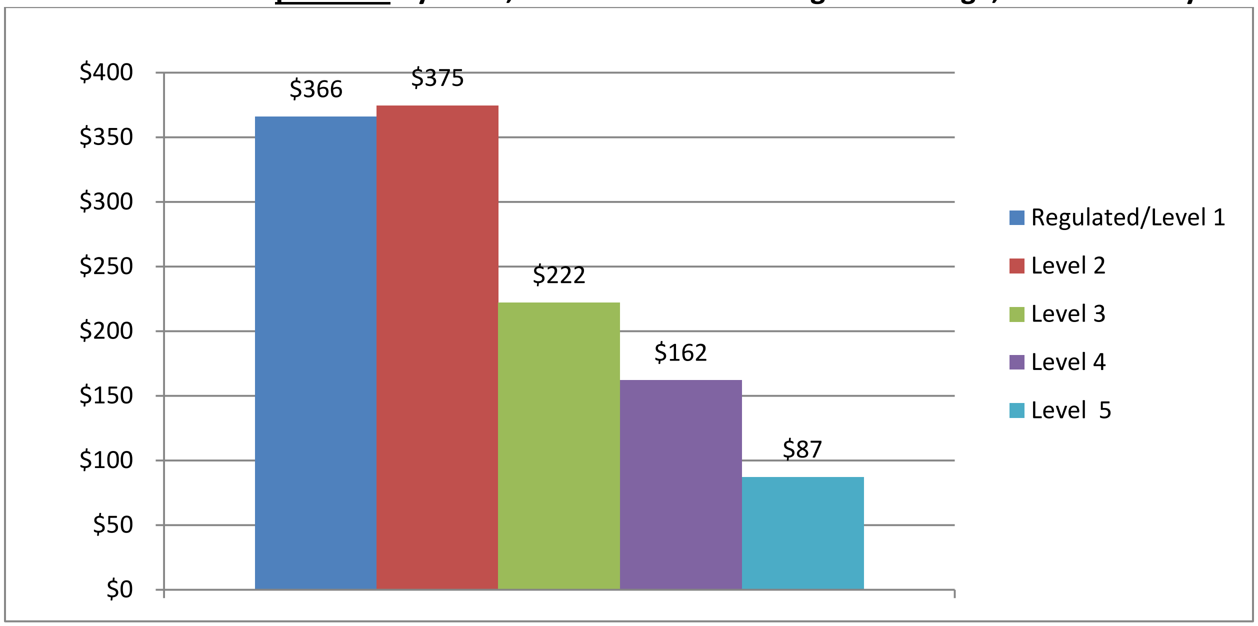
Implications: Financial Sustainability of Higher Quality Programs

The model output for centers is net annual revenue. This shows in a familiar way whether centers are financially sustainable: the annual profit/loss statement showing net annual revenue in the positive range. Barely breaking even is not a healthy financial situation. A healthy profit for a small business, whether it is organized as for-profit or not-for-profit, is in the 7-10% range. Modest profit allows a center to contribute to a reserve fund, which is a good business practice.

The model output for family child care homes is not as familiar a format. The provider does not have a statement of annual profit/loss. The provider's net annual income is the remainder of revenue after subtracting all operating expenses. The model output for homes is net annual revenue (the provider's annual income). One way to gauge the adequacy of a family child care provider's net income is to compare their net annual income to minimum wage for annual hours worked (with time and a half for all hours over 40 in a week). Another is to compare their net annual income to annual wages for a similar occupation such as preschool teacher or center director, understanding that teachers and directors do not work 65 hours a week as family child care providers do.

Below is the net annual revenue per child by Level for the 'base case' center.

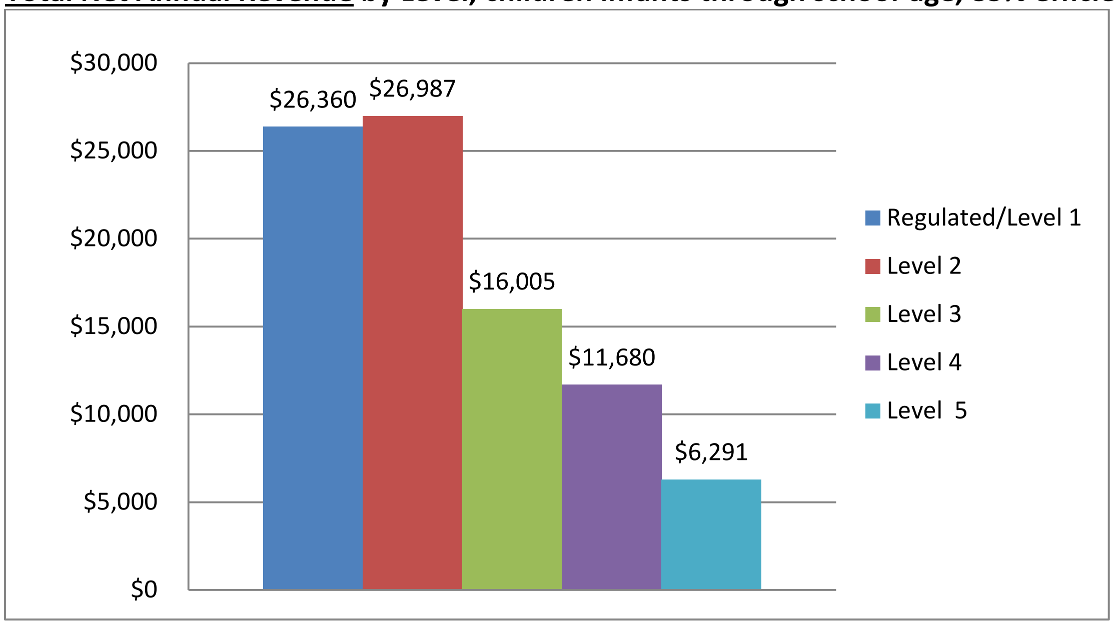
Figure #. Average Size Center (72 children), 30% WCCC revenue, 70% private tuition revenue
Net annual revenue <u>per child</u> by Level, children infants through school-age, 85% efficiency



Early Achievers Level	Total Annual Net Revenue	Percent Net Revenue
Level 1	$26,360	4.4%
Level 2	$26,987	4.5%
Level 3	$16,005	2.6%
Level 4	$11,680	1.7%
Level 5	$6,291	0.9%

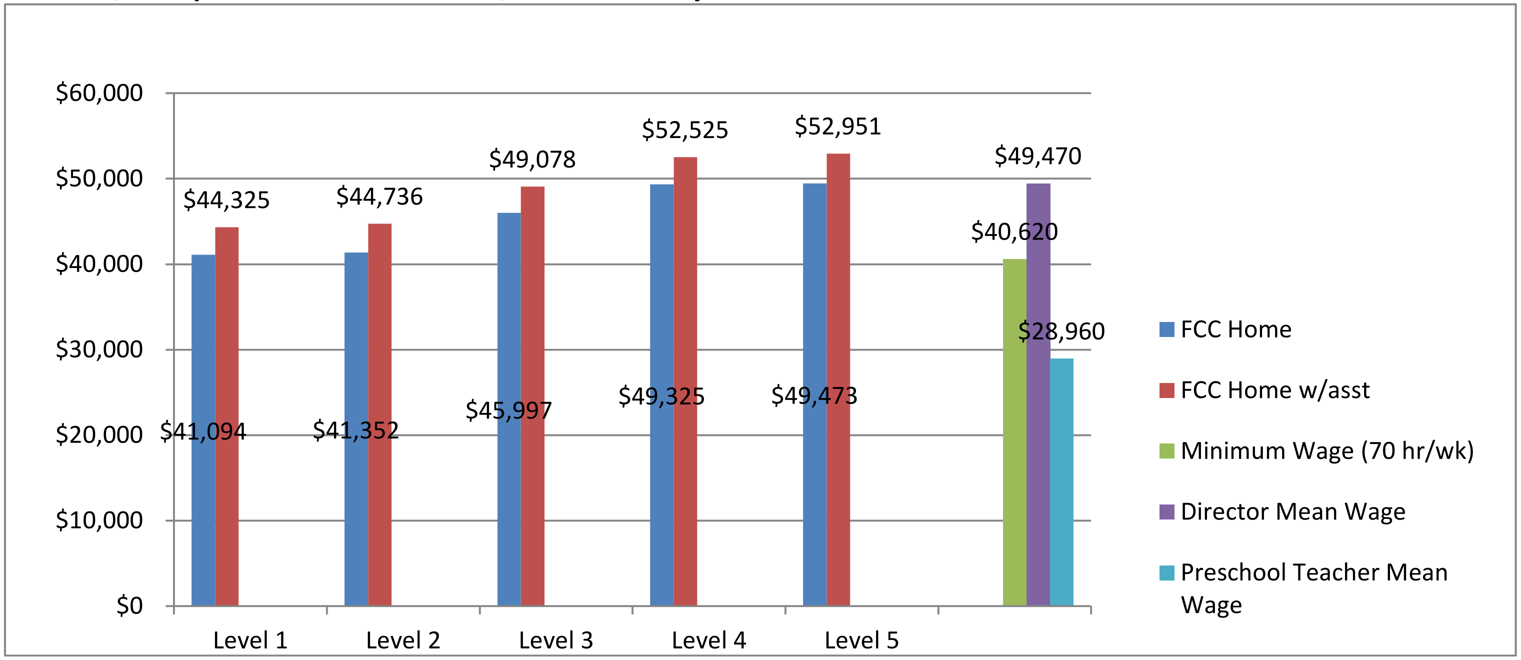
None of the centers is in the financially healthy range of annual 'profit' (7-10%) but all are breaking even. Levels 1 and 2 are financially sustainable. Level 4 and Level 5 are barely in the positive range.

Figure #. Average Size Center (72 children), 30% WCCC revenue, 70% private tuition revenue
Total Net Annual Revenue by Level, children infants through school-age, 85% efficiency



The situation for the 'base case' for homes is displayed below with the same revenue and efficiency conditions.

Figure #. Net Annual Revenue for Family Child Care Home Providers with 8 or 12 children, infants through school-age, 30% WCCC revenue, 70% private tuition revenue, 85% efficiency



At all quality levels, home providers are making more than the minimum wage for all hours they work, with time-and-half for hours worked over 40 in a week. At all quality levels, the provider either with or without an assistant is earning more than the average preschool teacher, and at Levels 4 and 5 the provider either with or without an assistant is earning more than the average center or preschool director in Washington.

Implications: Financial Incentives

A key goal of DEL and EA is to increase the number of programs that are high quality, meaning ones resulting in improved child development and learning, readiness for school success at kindergarten entry, reading by the end of third grade, etc. The top Levels of Early Achievers embody the program and practitioner characteristics that lead to the desired outcomes. Ideally in future every high-need child will be in a program at Level 4 or Level 5. The cost model illustrates whether current revenue sources are sufficient to support the highest quality programs. For the 'base case' center at Levels 4 and 5, more revenue per child is needed to be financially healthy.

Financial Support in State QRIS

Financial incentives within a state QRIS are monetary awards which are generally intended to help support the costs of improving program quality and of maintaining program quality. For any child enrolled in a program to experience quality the entire program must improve to and maintain a given level of quality. Awards can be structured to encourage programs to participate in a QRIS, to create incentives for programs to serve low-income children, and/or generally to promote and sustain improvement in overall quality. Awards can help parents access higher quality programs, and/or promote educators to seek higher qualifications and help support educator compensation commensurate with qualifications. There are several common types of incentives in place in QRIS systems throughout the U.S., including quality improvement grants, quality achievement awards, wage and retention awards, higher education scholarships and reimbursements, and tiered subsidy bonuses.

An adequate package of financial supports can be delivered either as funding offered directly to a program to offset the costs of operation, or as funding paid on its behalf (i.e., no direct cost to program). Most states use both approaches to deliver funding.

The overall package a state creates for its QRIS should focus squarely on quality and address:

- The cost of improving from one level to the another,
- The cost of maintaining quality (i.e., cost of annual operations at a given level taking into account what the genuine cost drivers are in the QRIS at that level), and
- The provision of sufficient funds to incentivize behaviors and practices that are in the best interest of children's learning and development and their future outcomes. For example, negotiating price discount on child assessment systems or targeting subsidy funds and policy to ensure high-need children have sufficient duration and intensity of experience in higher quality programs.

Early Achievers Supports for Improving Quality

To support the costs and the process of improving, Early Achievers offers several supports to participants entering at Level 2 at no cost to participants. While the actual value of these services will vary based on the needs of individual providers, below is an average value of the Level 2 benefits of Early Achievers participation:

- **Level 2 Trainings**: all Early Achievers participants must complete 6 required trainings known as the "Professional Training Series" to build a foundation of knowledge for QRIS and prepare for rating and coaching. Includes trainings on the ERS/CLASS, Cultural Competency, School Readiness, Early Learning Guidelines, Strengthening Families and the Core Competencies. The trainings are intended for child care center directors and family child care primary providers and are offered free of charge. This training is valued at $218.80 per facility.
- **Level 2 Technical Assistance and Consultation**: all Early Achievers Level 2 participants receive individualized, on-site assistance to help guide participants through Level 2 including follow-up on level 2 trainings, in-depth guidance on the quality standards, and preparation for rating. The average value of this Technical Assistance and Consultation is $2,904 per facility.
- **Professional Development Scholarships**: Early Achievers participants are eligible to apply for scholarships for staff to support attainment of a CDA, certificate or higher degree. There are two scholarship programs in Washington: Washington Scholarships (average $1,800/person/year) and Opportunity grants (average $6,000/person/year). All Early Achievers participants are eligible; as more sites are rated these funds may be targeted to Levels 3-5

Programs that complete the Level 2 requirements are eligible for additional supports through Early Achievers, including:

- **Coaching:** after completing the Level 2 requirement and receiving an Early Achievers rating, participants will receive one-on-one coaching to support further quality improvements based on the ratings data. The average value of the coaching is $6,890 per facility.

Early Achievers Supports for Maintaining Quality

Washington currently offers two financial incentives that support the ongoing costs of maintaining quality and are paid directly to a program. **Early Achievers Quality Improvement Awards** are annual payments to programs at Levels 3-5. The annual amounts are:

	Centers	*Homes*
Level 3	$5,000	$2,000
Level 4	$7,500	$2,250
Level 5	$9,000	$2,750

For the average size center (72 children), the value of these awards ranges from $69 per child per year for the Level 3 center to $125 per child per year for the Level 5 center. For a home with 8 children, the value of these awards ranges from $250 to $344 per child per year.

The **2% Subsidy Bonus** for programs in Early Achievers at Levels 2-5 is applied to the child care subsidy payments. The value of the Early Achievers Bonus is the same for all Levels but varies by age of child and region. For a Region 4 center, it is worth $235 per year per infant and $165 per year for a preschooler. For a Region 4 home, the value of the bonus is $212 per year per infant and $156 per year for a preschooler. Because the bonus is the same percentage for all Levels, it functions as a modest support for maintaining a quality Level, not an in incentive to improve quality. It may encourage programs that serve subsidized children to participate in Early Achievers.

These supports for ongoing operation of quality programs are a good foundation for developing incentives to encourage and support higher quality programs. For example, the Quality Improvement Awards could be increased in value to maintain Level 4 and Level 5 average size centers in the same financially healthy range of net annual revenue as the Level 3 centers. The Level 4 Annual Award amounts would need to be increased to about $14,000 and the Level 5 Annual Award to about $18,000.

Implications: Base Subsidy Rates

There is much discussion of whether the WCCC 'base subsidy rates' are sufficient. One way to see if base subsidy rates are adequate to sustain a basic regulated program is to set up the cost model for 100% subsidy revenue. This is an unlikely scenario in reality; Washington centers and homes enroll on average about 30% subsidy children. If the data and assumptions described above are reasonably accurate, the figure below presents net annual revenue at the current subsidy rates (September 2013 with the base increase and 2% Early Achievers bonus). The revenue is all from subsidy and CACFP (no private tuition); this is the average size 'base case' center with average efficiency.

Figure #. Average Size Center (72 children), <u>100% WCCC revenue, no private tuition revenue</u>
Net annual revenue per child by Level, ages infants through schoolage, 85% efficiency

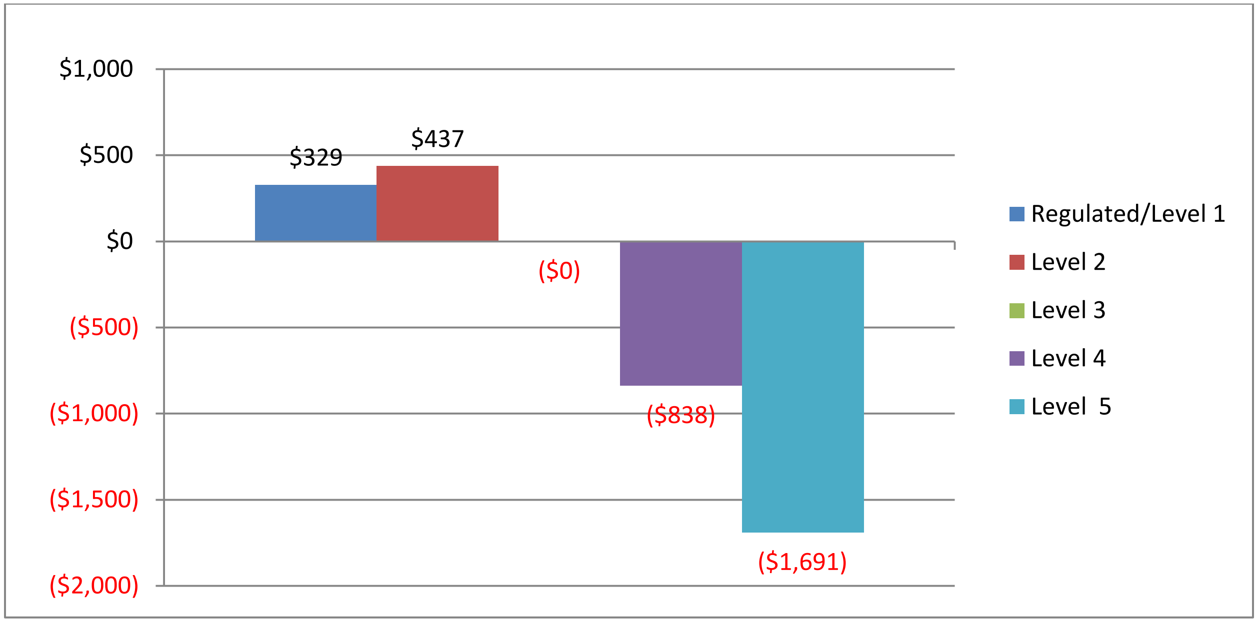
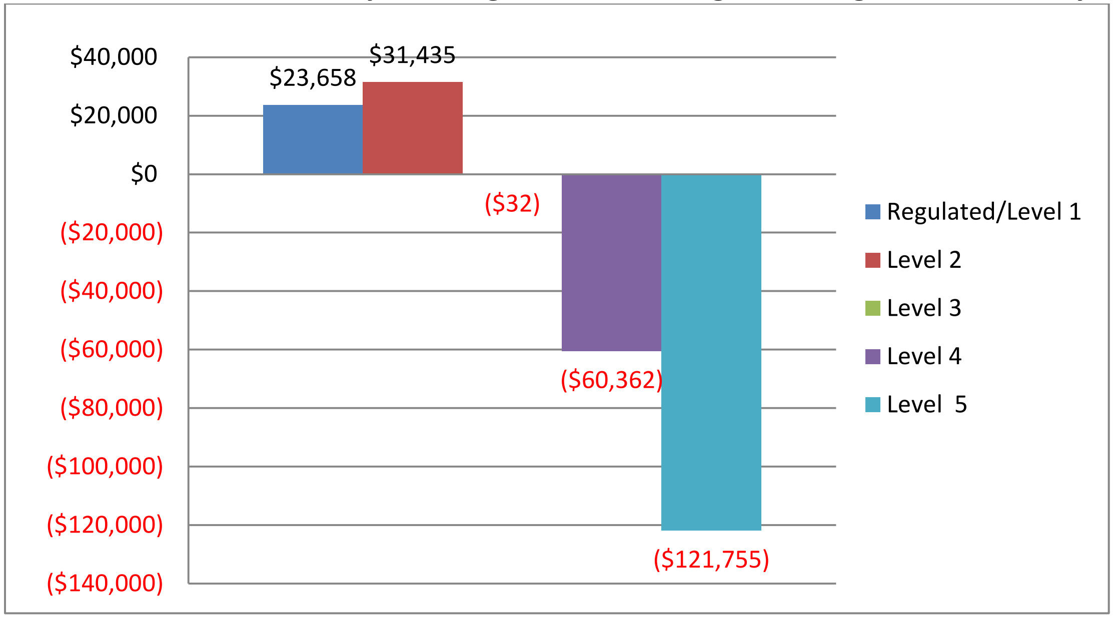


Figure #. Center Total Annual Net Revenue by Early Achievers Level

Early Achievers Level	Total Annual Net Revenue	Percent Net Revenue
Level 1	$23,658	4.0%
Level 2	$31,435	5.2%
Level 3	($32)	0.0%
Level 4	($60,362)	-9.9%
Level 5	($121,755)	-19.9%

Figure #. Average Size Center (72 children), <u>100% WCCC revenue, no private tuition revenue</u>
Total net annual revenue by Level, ages infants through schoolage, 85% efficiency

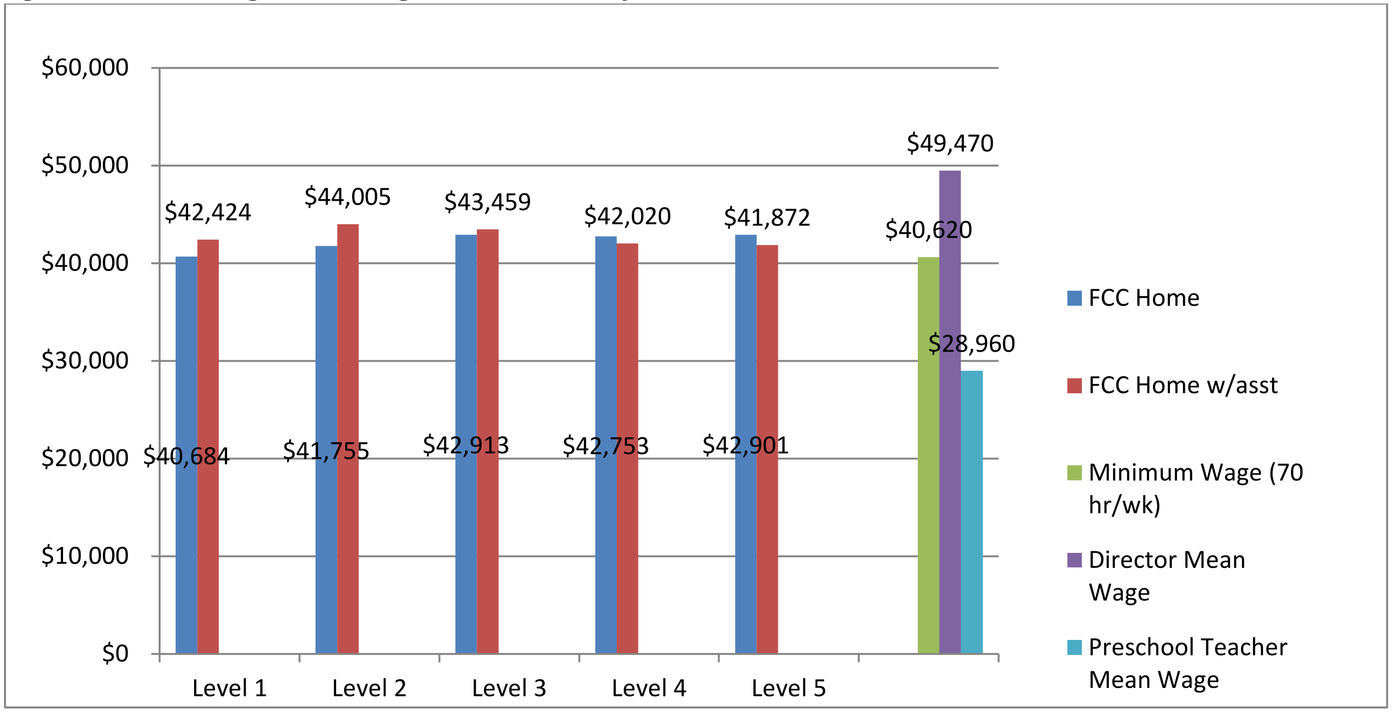


Centers at Levels 1 and 2 are in reasonable financial condition meaning the base WCCC rates are sufficient to support their operational costs. The Level 3 center is not breaking even and the highest quality centers Levels 4-5 are clearly financially unsustainable. This illustrates that the problem is <u>not</u> the base WCCC rates because the Level 1 and 2 centers are financially sustainable. What is needed is a set of financial supports, especially for the Level 4 and 5 centers.

Because no center actually enrolls 100% subsidy children, the conditions illustrated in the base case figure above with 30% WCCC subsidy revenue need to be considered in any discussion of rate changes.

The situation for the homes is consistent with centers. To illustrate the adequacy of base subsidy rates, the model is set up with 100% WCCC revenue, for homes enrolling either 8 or 12 children (with assistant) and average efficiency. At all Levels, the home providers are making more than minimum wage for all hours worked except the home without an assistant at Level 5.

Figure #. Average Home Net Annual Revenue by Level with 8 or 12 children, <u>100% WCCC revenue, no private tuition revenue</u>, ages infants through school-age, 85% efficiency



These results show that base subsidy rates do not need to be increased, rather financial supports of various types for Level 4 and Level 5 centers and homes are needed. Financial incentives need to be carefully calibrated to incentivize centers and home to progress toward higher quality rather than overly rewarding programs for entering Early Achievers. Setting time limits on awards at lower levels is one approach.

Appendix

Charts to come (homes and centers)

ERS: Increased Cost Implications of ECERS Levels per Classroom

ERS: Increased Cost Implications of ECERS Levels for Homes

MERIT Data

MERIT data 2013-08-14

Education Levels	Director/ Supervisor		Lead Teachers		All other teaching staff		Family Child Care		Grand Total	
CDA	29	15%	73	26%	56	44%	46	52%	**204**	30%
AA	51	26%	82	29%	27	21%	23	26%	**183**	27%
BA	65	33%	103	37%	35	28%	11	13%	**214**	31%
MA	50	26%	22	8%	8	6%	8	9%	**88**	13%
Total	195		280		126		88		**689**	
		100%		100%		100%		100%		100%