HUMAN SERVICES LICENSING
MEASUREMENT AND PROGRAM
MONITORING SYSTEMS:
ECPQI2M4©/DMLMA©

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RIKI/NARA

NARA/RIKI
National Association for Regulatory Administration
Methods for Achieving Quality Child Care

GOALS

NONREGULATORY METHODS
Public Education
Training of Caregivers & Directors
Association Membership
Newsletters, Journals & Books
Resource & Referral Centers

REGULATORY METHODS
Accreditation/CFOC
Credentialing
Rate Setting
Fiscal Regulation
Quality Rating & Improvement Systems
Stepping Stones
Environmental Health
Licensing or Registration
Building & Fire Safety
Exempt Programs
Criminal Sanctions
Illegal Unlicensed Operations
Abuse & Neglectful Care

Base line or floor of quality below which no service may legally operate

Revised from YOUNG CHILDREN Vol. 34 No. 6 Sept. 1979, pp. 22-27
Gwen O Morgan and updated by Rick Fiene, Dec 2012.
Achieving Quality Child Care

- Quality care is achieved by both regulatory and non-regulatory approaches. However, licensing provides the threshold or floor of quality below which no program should be permitted to operate.

Other regulatory approaches toward achieving quality

- **Credentialing**: A formally recognized process of certifying an individual as having fulfilled certain criteria or requisites. (PD)

- **Purchase of service contracts**: Regulation by contract in which performance standards are imposed as a contractual obligation. (PQ - QRIS)

- **Accreditation**: The formal recognition that an agency or organization has compiled with the requisites for accreditation by an accrediting body. Accreditation usually requires the organization seeking this form of recognition to pay for the cost of the process. The organization bestowing the accreditation has no legal authority to compel compliance. It can only remove accreditation. (PQ)

- **Best Practices**: Through affiliation with professional organizations, an agency becomes aware of “best practices” and establishes its own goals to achieve a higher level of care services. (PQ – CFOC)
Non-regulatory approaches to achieving quality care in human services facilities or programs

- Consultation
- Consumer Education
- Peer Support Associations
- Professional Organizations
- Resource and Referral
- Technical Assistance
- Mentoring/Coaching
- Training-Staff Development

Relationship between PC (CI) & PQ

\( PQ = \frac{ERS}{CLASS} \)

\( y = 0.0453x + 0.2246 \)

\( R^2 = 0.8983 \)

**PC = % Rule Compliance**
Comparing HSPS Violations with CLASS Scores (Fiene, 2013c)

<table>
<thead>
<tr>
<th>HSPS/CM Violations</th>
<th>IS</th>
<th>ES</th>
<th>CO</th>
<th>Number/Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (Full Compliance)</td>
<td>3.03</td>
<td>5.99</td>
<td>5.59</td>
<td>75/19%</td>
</tr>
<tr>
<td>1-2 (Substantial Compliance)</td>
<td>3.15</td>
<td>5.93</td>
<td>5.30</td>
<td>135/35%</td>
</tr>
<tr>
<td>3-8 (Mid-Compliance)</td>
<td>2.87</td>
<td>5.85</td>
<td>5.37</td>
<td>143/40%</td>
</tr>
<tr>
<td>9-19 (Lower Compliance)</td>
<td>2.65</td>
<td>5.71</td>
<td>5.32</td>
<td>28/6%</td>
</tr>
<tr>
<td>20-25 (Lowest Compliance)</td>
<td>2.56</td>
<td>5.52</td>
<td>4.93</td>
<td>3/1%</td>
</tr>
</tbody>
</table>

Significance
\[ F = 4.92; p < .001 \]
\[ F = 4.918; p < .001 \]
\[ F = 4.174; p < .003 \]

CM Violations = Compliance Measure Violations (lower score = higher compliance)/higher score = lower compliance  
IS = Average CLASS IS (Instructional Support) Score  
ES = Average CLASS ES (Emotional Support) Score  
CO = Average CLASS CO (Classroom Organization) Score  
#/% = Number of programs and Percent of programs at each level of compliance

PC & PQ Comparison of CC and PK (Fiene, 2013e)

<table>
<thead>
<tr>
<th>PC = Child Care Licensing Compliance</th>
<th>PQ = Pre-K Program Licensing Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Licensing / ECERS-R</td>
<td>□ Licensing / ECERS-R</td>
</tr>
<tr>
<td>□ 100 / 3.40 Full Compliance</td>
<td>□ 100 / 4.88 Full Compliance</td>
</tr>
<tr>
<td>□ 99 / 4.35</td>
<td>□ 99 / 4.13</td>
</tr>
<tr>
<td>□ 98 / 3.89 Substantial Compliance</td>
<td>□ 98 / 4.38 Substantial Compliance</td>
</tr>
<tr>
<td>□ 97 / 3.15</td>
<td>□ 97 / 3.99</td>
</tr>
<tr>
<td>□ 96 / 3.16</td>
<td>□ 96 / 4.36</td>
</tr>
<tr>
<td>□ 95 / 3.53</td>
<td>□ 95 / 4.60</td>
</tr>
<tr>
<td>□ 90 / 2.56 Medium Compliance</td>
<td>□ 90 / 3.43 Medium Compliance</td>
</tr>
<tr>
<td>□ 80 / 2.38 Low Compliance</td>
<td>□ 80 / 2.56 Low Compliance</td>
</tr>
</tbody>
</table>
Impact of PK on ECERS

Least Squares Means

ECERS PREK & Licensing Scores
ECERS Child Care & Licensing Scores

ECERS PRE-K Distribution
ECERS Child Care Distribution

Licensing Scores for PRE-K
**Licensing Scores for Child Care**

Impact of Pre-K & Higher Standards

- **Pre-K only ECERS average = 4.15**
  - These are classrooms funded by Pre-K.

- **Pre-K’s impact on child care, ECERS average = 3.60**
  - These are classrooms not funded by Pre-K but in the same building as a Pre-K funded classroom.

- **Child care only ECERS average = 3.26**
  - These are classrooms in programs that are not funded by Pre-K.
Impact of Pre-K on ECERS Scores

CC w/ & w/o Pre-K with ECERS Scores

Two-sample t-test
Relationship between PC (CI) & PQ


\[ PQ = \frac{ERS}{CLASS} \]

PC = % Rule Compliance

Eliminate the Plateau Effect

\[ 0 \quad 20 \quad 40 \quad 60 \quad 80 \quad 100 \quad 120 \]

\[ 0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \]

Regulatory Paradigms

Absolute (Class, 1957)
- All rules are created equal.
- 100% Compliance = Full License.
- PC + PQ = Linear.
- All rules are reviewed all the time.

Relative/Differential (Fiene, 1985)
- All rules are not created equal.
- Substantial Compliance = Full License.
- PC + PQ = Not Linear.
- Selected key rules are reviewed all the time.

CI x PQ => RA + KI => DM + PD => CO

Definitions of Key Elements:
- CI = Comprehensive Licensing Tool (Health and Safety) (Caring for Our Children)
- PQ = ECERS-R, FDCRS-R, CLASS, CPES (Caregiver/Child Interactions/Classroom Environment)
- RA = Risk Assessment, (High Risk Rules) (Stepping Stones)
- KI = Key Indicators (Predictor Rules) (13 Key Indicators of Quality Child Care)
- DM = Differential Monitoring, (How often to visit and what to review)
- PD = Professional Development/Technical Assistance/Training
- CO = Child Outcomes (See next slide for PD and CO key elements)
DIFFERENTIAL MONITORING LOGIC MODEL & ALGORITHM (DMLMA©) (Fiene, 2014): A 4th Generation ECPQIM – Early Childhood Program Quality Indicator Model

CI x PQ(PQ) => RA + KI => DM => CO

Definitions of Key Elements:

CI = Comprehensive Licensing Tool (Health and Safety) (Caring for Our Children (Structural Quality))

PQ = Program Quality Initiatives (EDERS-R, FDCRS-R, CLASS, CDPES, QRIS, Accreditation (Process Quality))

PD = Program Quality Initiatives (cont) - Professional Development/Technical Assistance/Training

RA = Risk Assessment, (High Risk Rules/Standards) (Stepping Stones)

KI = Key Indicators (Predictor Rules/Standards) (13 Key Indicators of Quality Child Care)

DM = Differential Monitoring, (How often to visit and what to review)

CO = Child Outcomes (Developmental, Health, & Safety Outcomes)

More visits, all rules

Fewer visits, key rules
Differential Monitoring Scoring Protocol (DMSP)©

<table>
<thead>
<tr>
<th>Score</th>
<th>Systems Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No systems in place.</td>
</tr>
<tr>
<td>2</td>
<td>KI or RA in place and not linked.</td>
</tr>
<tr>
<td>4</td>
<td>(KI &amp; RA in place but not linked) or (PC + PQ are linked).</td>
</tr>
<tr>
<td>6</td>
<td>(KI &amp; RA in place) &amp; (KI + RA are linked).</td>
</tr>
<tr>
<td>8</td>
<td>(KI &amp; RA in place but not linked) &amp; ((PC + PQ are linked).</td>
</tr>
<tr>
<td>10</td>
<td>All systems in place and linked.</td>
</tr>
</tbody>
</table>
Differential Monitoring Scoring Protocol (DMSP)©

Point Assignment

<table>
<thead>
<tr>
<th>Score</th>
<th>Systems Present and Point Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No systems in place.</td>
</tr>
<tr>
<td>2</td>
<td>(KI (1)) &amp; (KI -&gt; DM (1)) or ((RA (1)) &amp; (RA -&gt; DM (1))</td>
</tr>
<tr>
<td>4</td>
<td>(PC + PQ (4)) or (KI (1) &amp; (KI -&gt; DM (1)) &amp; (RA (1) &amp; (RA -&gt; DM (1)))</td>
</tr>
<tr>
<td>6</td>
<td>(KI + RA -&gt; DM (4)) &amp; (KI (1)) &amp; (RA (1))</td>
</tr>
<tr>
<td>8</td>
<td>(KI (2) &amp; RA (2)) &amp; (PC + PQ (4)).</td>
</tr>
<tr>
<td>10</td>
<td>(KI + RA -&gt; DM (4)) &amp; (KI (1)) &amp; (RA (1)) &amp; (PC + PQ (4))</td>
</tr>
</tbody>
</table>

KI (Key Indicators); RA (Risk Assessment); PC (Program Compliance/Licensing); PQ (Program Quality Initiatives); DM (Differential Monitoring).
### Program Monitoring

#### Effectiveness/Efficiency Relationship

<table>
<thead>
<tr>
<th>SYSTEMS (pts)</th>
<th>MODEL</th>
<th>GA</th>
<th>NY</th>
<th>HS</th>
<th>IL</th>
<th>KS</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>KI (1)</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>RA (1)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KI + RA -&gt; DM (4)</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KI + RA (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC + PQ (4)</td>
<td>4</td>
<td>4</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>KI -&gt; DM (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>RA -&gt; DM (1)</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL (10)</td>
<td>10</td>
<td>8</td>
<td>6</td>
<td>10</td>
<td>6</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Effectiveness (blue)/Efficiency (gold)

How Important vs. How Much in Resources
Relationship of Key Indicators (KI), Stepping Stones (RA), and Caring for Our Children (CFOC)(CI)

KI
RA
CI

Key Indicators (13)
Stepping Stones (120)
CFOC (500+)

The above diagram depicts the relationship amongst KI, RA, and CI in which the full set of rules is represented by CFOC - Caring for Our Children, followed by RA which are the most critical rules represented by Stepping Stones, and finally the predictive rules represented by the 13 Key Quality Indicators.

When Key Indicators and Risk Assessments Can Be Used

The Licensing Law:
All Rules that are promulgated based upon the Law

Compliance Decision:
100% compliance with all rules all the time.

Compliance Decision:
Substantial (96-99%) but not 100% compliance with all rules all the time.

Key Indicators are ok to use.
Risk Assessment cannot be used.
Key Indicators are ok to use.
Risk Assessment ok to use.
Validation Approaches (Zellman & Fiene, 2012)

- **First Approach (Standards)**
  - CI \times Caring for Our Children/Stepping Stones/13 Key Indicators of Quality Child Care

- **Second Approach (Measures)**
  - CI \times RA + KI \times DM

- **Third Approach (Outputs)**
  - PQ \times CI

- **Fourth Approach (Outcomes)**
  - CO = PD + PQ + CI + RA + KI
**DMLMA® Expected Thresholds**

- **.70+**
- **.50+**
- **.30+**

**DMLMA® Key Elements Examples**

- CI × KI
- RA × CI; RA × DM; RA × KI; DM × KI; DM × PD
- PQ × CI; PQ × CO; RA × CO; KI × CO; CI × CO

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**DMLMA Expected Thresholds Matrix**

<table>
<thead>
<tr>
<th></th>
<th>PQ</th>
<th>RA</th>
<th>KI</th>
<th>DM</th>
<th>PD</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>CI</td>
<td>0.3</td>
<td>0.5</td>
<td>0.7</td>
<td>0.5</td>
<td>0.5</td>
<td>NS</td>
</tr>
<tr>
<td>PQ</td>
<td></td>
<td></td>
<td>0.3</td>
<td>0.3</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>RA</td>
<td></td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>KI</td>
<td></td>
<td></td>
<td>0.5</td>
<td>0.5</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>DM</td>
<td></td>
<td></td>
<td></td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.4</td>
<td></td>
</tr>
</tbody>
</table>
Interpretation of Inter-Correlations

- Based upon recent research, the relationships between H&S (CI)(PC) and QRIS (PQ) standards and Child Outcomes (CO) is difficult to find significance.
- The relationship between Professional Development (PD) and staff interactions with Child Outcomes (CO) appear to be the significant relationship that should be explored as a Quality Intervention.
- If we want to explore H&S and QRIS standards significant relationships we may need to look at children's health & safety outcomes.

A Validation Study: State Example (Fiene, 2013e)

<table>
<thead>
<tr>
<th>Validation Approach/Research Question</th>
<th>CCC Actual (Expected*)</th>
<th>FCC Actual (Expected)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 STANDARDS/Key Indicators</td>
<td>VALIDATED</td>
<td>VALIDATED</td>
</tr>
<tr>
<td>Ki x CR</td>
<td>.49 (.50+)</td>
<td>.57 (.50+)</td>
</tr>
<tr>
<td>Ki x LS</td>
<td>.78 (.70+)</td>
<td>.87 (.70+)</td>
</tr>
<tr>
<td>2 MEASURES/Core Rules/ACDW</td>
<td>VALIDATED</td>
<td>VALIDATED</td>
</tr>
<tr>
<td>CR x LS</td>
<td>.69 (.50+)</td>
<td>.74 (.50+)</td>
</tr>
<tr>
<td>CR x ACDW</td>
<td>.76 (.50+)</td>
<td>.70 (.50+)</td>
</tr>
<tr>
<td>3 OUTPUTS/Program Quality</td>
<td>VALIDATED</td>
<td>NOT VALIDATED</td>
</tr>
<tr>
<td>ECERS-R/PK x LS</td>
<td>.37 (.30+)</td>
<td>.19 (.30+)</td>
</tr>
<tr>
<td>ECERS-R/PS x LS</td>
<td>.29 (.30+)</td>
<td>.15 (.30+)</td>
</tr>
<tr>
<td>ECERS-R/PK x CR</td>
<td>.53 (.30+)</td>
<td>.17 (.30+)</td>
</tr>
<tr>
<td>ECERS-R/PS x CR</td>
<td>.34 (.30+)</td>
<td>.14 (.30+)</td>
</tr>
</tbody>
</table>

*See below for the expected r values for the DMLMA© thresholds which indicate the desired correlations between the various tools.

**DMLMA© Thresholds**
- High correlations (.70+) = LS x Ki.
- Moderate correlations (.50+) = LS x CR; CR x ACDW; CR x Ki; Ki x ACDW.
- Lower correlations (.30+) = PQ x LS; PQ x CR; PQ x Ki.
Validation of Key Indicator Systems

<table>
<thead>
<tr>
<th>Figure 1</th>
<th>Providers who fail the Key Indicator review</th>
<th>Providers who pass the Key Indicator review</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providers who fail the Comprehensive review</td>
<td>$W$</td>
<td>$X$</td>
<td>$W + X$</td>
</tr>
<tr>
<td>Providers who pass the Comprehensive review</td>
<td>$Y$</td>
<td>$Z$</td>
<td>$Y + Z$</td>
</tr>
<tr>
<td>Column Totals</td>
<td></td>
<td></td>
<td>Grand Total</td>
</tr>
</tbody>
</table>

Annotations for Figure 1

- A couple of annotations regarding Figure 1.
- $W + Z = \text{the number of agreements in which the provider passed the Key Indicator review and also passed the Comprehensive review.}$
- $X = \text{the number of providers who passed the Key Indicator review but failed the Comprehensive review. This is something that should not happen, but there is always the possibility this could occur because the Key Indicator Methodology is based on statistical methods and probabilities. We will call these False Negatives (FN).}$
- $Y = \text{the number of providers who failed the Key Indicator review but passed the Comprehensive review. Again, this can happen but is not as much of a concern as with “X”. We will call these False Positives (FP).}$
National Validation Data

Figure 2

<table>
<thead>
<tr>
<th>Figure 2</th>
<th>Providers who fail the Key Indicator review</th>
<th>Providers who pass the Key Indicator review</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providers who fail the Comprehensive review</td>
<td>25</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>Providers who pass the Comprehensive Review</td>
<td>7</td>
<td>17</td>
<td>24</td>
</tr>
<tr>
<td>Column Total</td>
<td>32</td>
<td>18</td>
<td>50</td>
</tr>
</tbody>
</table>

Formula for Agreement Ratio

- To determine the agreement ratio, we use the following formula:

\[
\frac{A}{A + D}
\]

- Where \( A \) = Agreements and \( D \) = Disagreements.

- Based upon Figure 2, \( A + D = 42 \) which is the number of agreements; while the number of disagreements is represented by \( B = 1 \) and \( C = 7 \) for a total of 8 disagreements. Putting the numbers into the above formula:

\[
\frac{42}{42 + 8} = \text{Agreement Ratio}
\]

\[
\text{Or}
\]

\[
.84 = \text{Agreement Ratio}
\]

- The False Positives (FP) ratio is .14 and the False Negatives (FN) ratio is .02. Once we have all the ratios we can use the ranges in Figure 3 to determine if we can validate the Key Indicator System. The FP ratio is not used in Figure 3 but is part of the Agreement Ratio.
Thresholds for Validating Key Indicators for Licensing Rules

<table>
<thead>
<tr>
<th>Agreement Ratio Range</th>
<th>False Negative Range</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1.00) – (.90)</td>
<td>.05+</td>
<td>Validated</td>
</tr>
<tr>
<td>(.89) – (.85)</td>
<td>.10 - .06</td>
<td>Borderline</td>
</tr>
<tr>
<td>(.84) – (.00)</td>
<td>.11 or more</td>
<td>Not Validated</td>
</tr>
</tbody>
</table>

Differential Monitoring Model

**Key Elements**

- **Program Compliance (PC)** generally represented by a state’s child care licensing health & safety system or at the national level by *Caring for Our Children*.
- **Program Quality (PQ)** generally represented by a state’s QRIS, or at the national level by Accreditation (*NAEYC, NECPA*), *Head Start Performance Standards*, *Environmental Rating Scales, CLASS*, etc..
- **Risk Assessment (RA)** generally represented by a state’s most critical rules in which children are at risk of mortality or morbidity, or at the national level by *Stepping Stones*. 
Differential Monitoring Model (cont)

- **Key elements (continued)**
  - **Key Indicators (KI)** generally represented by a state’s abbreviated tool of statistically predictive rules or at the national level by *13 Indicators of Quality Child Care* and NACCRA’s *We CAN Do Better Reports*.
  - **Professional Development (PD)** generally represented by a state’s technical assistance/training/professional development system for staff.
  - **Child Outcomes (CO)** generally represented by a state’s *Early Learning Network Standards*.

Differential Monitoring Benefits

- **Differential Monitoring (DM)** benefits to the state are the following:
  - Systematic way of tying distinct state systems together into a cost effective & efficient unified valid & reliable logic model and algorithm.
  - Empirical way of reallocating limited monitoring resources to those providers who need it most.
  - Data driven to determine how often to visit programs and what to review, in other words, should a comprehensive or abbreviated review be completed.
Program Compliance/Licensing (CI)(PC)

- These are the comprehensive set of rules, regulations or standards for a specific service type.
- Caring for Our Children (CFOC) is an example.
- Head Start Performance Standards is an example.
- Program meets national child care benchmarks from NACCRRA’s We CAN Do Better Report.
- No complaints registered with program.
- Substantial to full compliance with all rules.

Advantages of Instrument Based Program Monitoring (IPM)

- Cost Savings
- Improved Program Performance
- Improved Regulatory Climate
- Improved Information for Policy and Financial Decisions
- Quantitative Approach
- State Comparisons
State Example of Violation Data (Fiene, 2013d)

Violation Data in Centers and Homes by Regional Location

<table>
<thead>
<tr>
<th>Region</th>
<th>Violations*</th>
<th>Number</th>
<th>Violations*</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9.30</td>
<td>109</td>
<td>2.42</td>
<td>117</td>
</tr>
<tr>
<td>2</td>
<td>8.32</td>
<td>191</td>
<td>4.63</td>
<td>120</td>
</tr>
<tr>
<td>3</td>
<td>5.31</td>
<td>121</td>
<td>3.94</td>
<td>138</td>
</tr>
<tr>
<td>4</td>
<td>5.57</td>
<td>61</td>
<td>3.02</td>
<td>125</td>
</tr>
</tbody>
</table>

* = Average (Means)

Violation Data in Centers and Homes by Type of Licensing Inspection

<table>
<thead>
<tr>
<th>License Type</th>
<th>Violations*</th>
<th>Number</th>
<th>Violations*</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>7.44</td>
<td>36</td>
<td>3.35</td>
<td>20</td>
</tr>
<tr>
<td>Renewal</td>
<td>7.07</td>
<td>368</td>
<td>3.53</td>
<td>469</td>
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<tr>
<td>Amendment</td>
<td>9.51</td>
<td>55</td>
<td>4.00</td>
<td>2</td>
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<tr>
<td>Correction</td>
<td>6.71</td>
<td>14</td>
<td>3.00</td>
<td>8</td>
</tr>
<tr>
<td>Temporary</td>
<td>11.22</td>
<td>9</td>
<td>4.00</td>
<td>1</td>
</tr>
</tbody>
</table>

* = Average (Means)

Head Start: Content Area Correlations (Fiene, 2013c)

<table>
<thead>
<tr>
<th></th>
<th>CHS</th>
<th>ERSEA</th>
<th>FCE</th>
<th>FIS</th>
<th>GOV</th>
<th>SYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDE</td>
<td>.33**</td>
<td>.26**</td>
<td>.06ns</td>
<td>.14**</td>
<td>.13*</td>
<td>.33**</td>
</tr>
<tr>
<td>CHS</td>
<td>.29**</td>
<td>.18**</td>
<td>.09ns</td>
<td>.25**</td>
<td>.51**</td>
<td></td>
</tr>
<tr>
<td>ERSEA</td>
<td></td>
<td>.15**</td>
<td>.10*</td>
<td>.27**</td>
<td>.38**</td>
<td></td>
</tr>
<tr>
<td>FCE</td>
<td></td>
<td></td>
<td>.01ns</td>
<td>.17**</td>
<td>.23**</td>
<td></td>
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<tr>
<td>FIS</td>
<td></td>
<td></td>
<td></td>
<td>.13*</td>
<td>.23**</td>
<td></td>
</tr>
<tr>
<td>GOV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.38**</td>
<td></td>
</tr>
</tbody>
</table>
### International Study of Child Care Rules (Fiene, 2013a)

#### USA vs World

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Countries</th>
<th>USA</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACR (R1)</td>
<td>1.1220</td>
<td>0.8463</td>
<td>not significant</td>
</tr>
<tr>
<td>GS (R2)</td>
<td>0.4063</td>
<td>0.5865</td>
<td>not significant</td>
</tr>
<tr>
<td>Director (R3)</td>
<td>1.5655</td>
<td>0.0000</td>
<td>t = 7.100; p &lt; .0001</td>
</tr>
<tr>
<td>Teacher (R4)</td>
<td>1.6563</td>
<td>0.0000</td>
<td>t = 7.632; p &lt; .0001</td>
</tr>
<tr>
<td>Preservice (R5)</td>
<td>0.9375</td>
<td>1.4071</td>
<td>t = 4.989; p &lt; .001</td>
</tr>
<tr>
<td>Inservice (R6)</td>
<td>1.6406</td>
<td>1.4519</td>
<td>not significant</td>
</tr>
<tr>
<td>Clearances (R7)</td>
<td>0.6094</td>
<td>1.2404</td>
<td>t = 3.705; p &lt; .01</td>
</tr>
<tr>
<td>Development (R8)</td>
<td>1.6406</td>
<td>1.4519</td>
<td>not significant</td>
</tr>
<tr>
<td>Health (R9)</td>
<td>0.9844</td>
<td>1.7404</td>
<td>t = 6.157; p &lt; .0001</td>
</tr>
<tr>
<td>Parent (R10)</td>
<td>1.5000</td>
<td>1.5385</td>
<td>not significant</td>
</tr>
</tbody>
</table>

| Parent = Parent involvement (R10)  
| Health = Health and safety recommendations (R9)  
| Development = Six developmental domains (R8)  
| Clearances = Background check (R7)  
| Inservice = 24 hours of ongoing training (R6)  
| Preservice = Initial orientation training (R5)  
| Teacher = Lead teacher has CDA or Associate degree (R4)  
| Director = Directors have bachelor’s degree (R3)  
| GS = Group size NAEYC Accreditation Standards met (R2)  
| ACR = Staff child ratios NAEYC Accreditation Standards met (R1) |
Program Quality (PQ)

- Generally Quality Rating and Improvement Systems (QRIS) and/or Accreditation systems either used separately or together.
- Program has attained at least a 5 on the various ERS’s or an equivalent score on the CLASS.
- Program has moved through all the star levels within a five year timeframe.
- Percent of programs that participate.
- Generally PQ builds upon PC/Licensing system.

Keystone STARS ECERS Comparisons to Previous Early Childhood Quality Studies (Barnard, Smith, Fiene & Swanson (2006))
# Early Childhood Environment Rating Scale

**Thelma Harms**  
**Richard M. Clifford**

<table>
<thead>
<tr>
<th>Name of Provider</th>
<th>Room</th>
<th>Age of Children</th>
<th>Name of Child</th>
<th>Position of Child</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1234567</td>
<td>1234567</td>
<td>1234567</td>
<td>1234567</td>
<td>1234567</td>
<td>1234567</td>
</tr>
</tbody>
</table>

- **Total Personal Care (Items 1-5):**
- **Total Environment (Items 6-10):**
- **Total Understanding (Items 11-12):**

© Thelma Harms and Richard M. Clifford 1991 Teachers College Press
### ECERS/FDCRS By Type of Setting (Fiene, et al. 2002)

<table>
<thead>
<tr>
<th>Type of Setting</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head Start</td>
<td>4.9</td>
</tr>
<tr>
<td>Preschool</td>
<td>4.3</td>
</tr>
<tr>
<td>Child Care Centers</td>
<td>3.9</td>
</tr>
<tr>
<td>Group Child Care Homes</td>
<td>4.1</td>
</tr>
<tr>
<td>Family Child Care Homes</td>
<td>3.9</td>
</tr>
<tr>
<td>Relative/Neighbor Care</td>
<td>3.7</td>
</tr>
</tbody>
</table>

### ECERS Distribution By Type of Service—Head Start (HS), Child Care Center (CC), Preschool (PS)

<table>
<thead>
<tr>
<th></th>
<th>HS</th>
<th>CC</th>
<th>PS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minimal</strong></td>
<td>8%</td>
<td>62%</td>
<td>35%</td>
</tr>
<tr>
<td>(3.99 or less)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Adequate</strong></td>
<td>46%</td>
<td>23%</td>
<td>44%</td>
</tr>
<tr>
<td>(4.00-4.99)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Good</strong></td>
<td>46%</td>
<td>15%</td>
<td>21%</td>
</tr>
<tr>
<td>(5.00 or higher)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## ECERS/FDCRS and Education of the Provider

- **High School Diploma (24%)** 3.8
- **Some College (24%)** 4.1
- **Associate’s Degree (17%)** 4.2
- **Bachelor’s Degree (31%)** 4.3
- **Master’s Degree (4%)** 4.7

## NECPA/ERS’s/QRIS (Fiene, 1996)

<table>
<thead>
<tr>
<th>STAR</th>
<th>STAR 1</th>
<th>STAR 2</th>
<th>STAR 1 and 2 Combined</th>
<th>STAR 3</th>
<th>STAR 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>NECPA Score (without Infant/Toddler Section)</td>
<td>n = 21</td>
<td>Mean = 647.04</td>
<td>Range: 408.99 to 887.54</td>
<td>s.d.: 163.79</td>
<td>n = 4</td>
</tr>
<tr>
<td>ECERS-R Score</td>
<td>n = 20</td>
<td>Mean: 3.92</td>
<td>Range: 2.40 to 5.68</td>
<td>s.d.: .97</td>
<td>n = 4</td>
</tr>
<tr>
<td>NECPA Score (Infant/Toddler Only)</td>
<td>n = 6</td>
<td>Mean: 83.50</td>
<td>Range: 59 to 138</td>
<td>s.d.: 30.81</td>
<td>n = 1</td>
</tr>
<tr>
<td>ITERS-R</td>
<td>n = 9</td>
<td>Mean: 3.72</td>
<td>Range: 2.81 to 5.92</td>
<td>s.d.: .706</td>
<td>n = 1</td>
</tr>
</tbody>
</table>
PC/PQ Conceptual Similarities

- 100% Compliance with child care health & safety rules = QRIS Block System.
- Substantial but not 100% Compliance with child care health & safety rules = QRIS Point.
- Both Licensing (PC) and QRIS (PQ) use rules/standards to measure compliance. Licensing rules are more structural quality while QRIS standards have a balance between structural and process quality.

Determining Compliance

- Risk assessment
  - Identify requirements where violations pose a greater risk to children, e.g., serious or critical standards
  - Distinguish levels of regulatory compliance
  - Determine enforcement actions based on categories of violation
  - Stepping Stones to Caring for Our Children is an example of risk assessment (AAP/APHA/NRC, 2013)
- Key indicators
  - Identify a subset of regulations from an existing set of regulations that statistically predict compliance with the entire set of regulations
  - Based on work of Dr. Richard Fiene (2002) – 13 indicators of quality
  - “Predictor rules”

National Center on Child Care Quality Improvement, Office of Child Care
Risk Assessment (RA)

- Risk Assessment (RA) are those rules which place children at greatest risk of mortality or morbidity.
- Stepping Stones is an example of Risk Assessment Tool and Approach.
- When Risk Assessment (RA) and Key Indicators (KI) described in next slide are used together, most cost effective and efficient approach to program monitoring.
- 100% compliance with RA rules.

State Example of Risk Assessment Tool
RA Example = Stepping Stones

13 Key Indicators/Stepping Stones
Crosswalk with State Rules Template

<table>
<thead>
<tr>
<th>13 Key Indicators/Stepping Stones Standard</th>
<th>State Licensing Rule Analysis</th>
<th>Analysis Clarification</th>
<th>Recommendation</th>
<th>Next Steps</th>
</tr>
</thead>
</table>

11/29/2015
Key Indicators (KI) (Fiene & Nixon, 1985)

- Key Indicators are predictor rules that statistically predict overall compliance with all rules.
- 13 Indicators of Quality Child Care is an example of this approach.
- Most effective if KI are used with the Risk Assessment (RA) approach described on the previous slide.
- Must be 100% compliance with key indicator rules.

Advantages of Key Indicators

- Quality of Licensing is maintained.
- Balance between program compliance and quality.
- Cost savings.
- Predictor rules can be tied to child outcomes.
Pre-Requisites for Key Indicators

- Licensing rules must be well written, comprehensive, and measureable.
- There must be a measurement tool in place to standardize the application and interpretation of the rules.
- At least one year’s data should be collected.

How to Develop Key Indicators

- Collect data from 100-200 providers that represent the overall delivery system in the state.
- Collect violation data from this sample and sort into high (top 25%) and low (bottom 25%) compliant groups.
- Statistical predictor rules based upon individual compliance.
- Add additional rules.
- Add random rules.
Criteria for Using Key Indicators

- The facility had:
  - A regular license for the previous two years
  - The same director for the last 18 months
  - No verified complaints within the past 12 months
  - The operator has corrected all regulatory violations cited within 12 months prior to inspection
  - A full inspection must be conducted at least every third year
  - Not had a capacity increase of more than 10 percent since last full inspection
  - A profile that does not reveal a pattern of repeated or cyclical violations
  - No negative sanction issued within the past 3 years

Key Indicator Systems Summary

| 1980 - 2010 | 2011+
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Time savings only.</td>
<td>Time and cost savings.</td>
</tr>
<tr>
<td>Child care mostly.</td>
<td>All services.</td>
</tr>
<tr>
<td>Child care benchmarking.</td>
<td>Benchmarks in all services.</td>
</tr>
<tr>
<td>Substantial compliance.</td>
<td>CC national benchmarks.</td>
</tr>
<tr>
<td>Safeguards.</td>
<td>Safeguards.</td>
</tr>
<tr>
<td>Tied to outcomes study.</td>
<td>Tied to outcomes study.</td>
</tr>
<tr>
<td>Adult residential – PA.</td>
<td>National benchmarks.</td>
</tr>
<tr>
<td>Child residential – PA.</td>
<td>Inter-National benchmarks.</td>
</tr>
<tr>
<td>Risk assessment/weighting.</td>
<td>Risk assessment/DMLMA.</td>
</tr>
</tbody>
</table>
Relationship of Comprehensive Reviews (CR) to Key Indicator (KI) or Risk Assessment (RA) Rule Non-Compliance

Key Indicator Rule | Both | Risk Assessment Rule
--- | --- | ---

**Prediction**

<table>
<thead>
<tr>
<th>Non-Compliance</th>
<th>Non-Compliance</th>
<th>Non-Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2+ Rules = CR</td>
<td>1 Rule = CR</td>
<td>Point System = CR</td>
</tr>
<tr>
<td>1 Rule = Section</td>
<td>Absolute scoring 1/0</td>
<td>1 Extreme Rule = CR</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relative scoring 1/9</td>
</tr>
</tbody>
</table>

**Risk to Children**

- Effective
- Efficient

Key Indicator/Non-Compliance Relationship

- Key Indicator (blue)/Non-Compliance (gold)

- Frequency
  - 12
  - 10
  - 8
  - 6
  - 4
  - 2
  - 0

- Effective
- Efficient
Key Indicator Formula Matrix

Use data from this matrix in the formula on the next slide in order to determine the phi coefficients.

<table>
<thead>
<tr>
<th></th>
<th>Providers In Compliance with specific standard</th>
<th>Programs Out Of Compliance with specific standard</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Group = top 25%</td>
<td>A</td>
<td>B</td>
<td>Y</td>
</tr>
<tr>
<td>Low Group = bottom 25%</td>
<td>C</td>
<td>D</td>
<td>Z</td>
</tr>
<tr>
<td>Column Total</td>
<td>W</td>
<td>X</td>
<td>Grand Total</td>
</tr>
</tbody>
</table>

Key Indicator Matrix Expectations

- $A + D > B + C$
- $A + D = 100\%$ is the best expectation possible.
- If $C$ has a large percentage of hits, it increases the chances of other areas of non-compliance (False positives).
- If $B$ has a large percentage of hits, the predictive validity drops off considerably (False negatives).
Key Indicator Statistical Methodology

\[ \phi = \frac{(A)(D)-(B)(C)}{\sqrt{(W)(X)(Y)(Z)}} \]

A = High Group + Programs in Compliance on Specific Compliance Measure.
B = High Group + Programs out of Compliance on Specific Compliance Measure.
C = Low Group + Programs in Compliance on Specific Compliance Measure.
D = Low Group + Programs out of Compliance on Specific Compliance Measure.

W = Total Number of Programs in Compliance on Specific Compliance Measure.
X = Total Number of Programs out of Compliance on Specific Compliance Measure.
Y = Total Number of Programs in High Group.
Z = Total Number of Programs in Low Group.

Key Indicator Coefficient Ranges

<table>
<thead>
<tr>
<th>KI Coefficient Range</th>
<th>Characteristic of Indicator</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+1.00) – (+.26)</td>
<td>Good Predictor - Licensing</td>
<td>Include</td>
</tr>
<tr>
<td>(+1.00) – (+.76)</td>
<td>Good Predictor – QRIS</td>
<td>Include</td>
</tr>
<tr>
<td>(+.25) – (-.25)</td>
<td>Unpredictable - Licensing</td>
<td>Do not Include</td>
</tr>
<tr>
<td>(+.75) – (-.25)</td>
<td>Unpredictable - QRIS</td>
<td>Do not Include</td>
</tr>
<tr>
<td>(-.26) – (-1.00)</td>
<td>Terrible Predictor</td>
<td>Do not Include</td>
</tr>
</tbody>
</table>
Examples of Key Indicator Applications

- Health and Safety Licensing Key Indicators.
- Stepping Stones Key Indicators
- Office of Head Start Key Indicators.
- Accreditation Key Indicators – NECPA – National Early Childhood Program Accreditation.
- Environmental Rating Scale Key Indicators – Centers.
- Environmental Rating Scale Key Indicators – Homes.
- Caregiver Interaction Scale Key Indicators.
- Quality Rating & Improvement System Key Indicators – QualiStar.
- Footnote: Child & Adult Residential Care Key Indicators.
- Footnote: Cruising Industry in general and Royal Caribbean in particular.

Examples of Health & Safety Key Indicators


- Program is hazard free in-door and out-doors.
- Adequate supervision of children is present.
- Qualified staff.
- CPR/First Aid training for staff.
- Hazardous materials are inaccessible to children.
- Staff orientation and training.
- Criminal Record Checks.
- Ongoing monitoring of program
- Child immunizations
Caring for Our Children Basics (2015)

- Stepping Stones 3 (2013)
- Senate Bill 1086 (2014)
- Notice for Proposed Rule Making to Amend CCDF Regulations (2013)
- 27 Indicators from Head Start Program Standards (2014)
- 15 Key Indicators from Stepping Stones 3 (Fiene) (2013)
- 77 Observable Health and Safety Standards for Early Care and Education Providers from Caring for Our Children (Alkon) (2014)

RELATIONSHIP OF KEY INDICATORS/RISK ASSESSMENT TOOLS AND CARING FOR OUR CHILDREN BASICS (2015)
Federal Legislation

- In the House of Representatives, U. S., September 15, 2014. Resolved, That the bill from the Senate (S. 1086) entitled “An Act to reauthorize and improve the Child Care and Development Block Grant Act of 1990, and for other purposes.”, do pass with the following

- SECTION 1. SHORT TITLE. This Act may be cited as the “Child Care and Development Block Grant Act of 2014”.

QRIS Key Indicators – CO. QualiStar

- The program provides opportunities for staff and families to get to know one another.
- Families receive information on their child’s progress on a regular basis, using a formal mechanism such as a report or parent conference.
- Families are included in planning and decision making for the program.
### The Key Indicators from *Stepping Stones* (3rd Edition)

- 1.1.1.2 - Ratios for Large Family Child Care Homes and Centers
- 1.3.1.1 - General Qualifications of Directors
- 1.3.2.2 - Qualifications of Lead Teachers and Teachers
- 1.4.3.1 - First Aid and CPR Training for Staff
- 1.4.5.2 - Child Abuse and Neglect Education
- 2.2.0.1 - Methods of Supervision of Children
- 3.2.1.4 - Diaper Changing Procedure
- 3.2.2.2 - Handwashing Procedure
- 3.4.3.1 - Emergency Procedures
- 3.4.4.1 - Recognizing and Reporting Suspected Child Abuse, Neglect, and Exploitation
- 3.6.3.1 - Medication Administration
- 5.2.7.6 - Storage and Disposal of Infectious and Toxic Wastes
- 6.2.3.1 - Prohibited Surfaces for Placing Climbing Equipment
- 7.2.0.2 - Unimmunized Children
- 9.2.4.5 - Emergency and Evacuation Drills/Exercises Policy

---

### Development of Head Start Key Indicators

- Interest in streamlining the monitoring protocol – Tri-Annual Reviews.
- Selected a representative sample from the overall Head Start data base.
- The Head Start monitoring system is an excellent candidate for developing key indicators and differential monitoring system:
  - Highly developed data system to track provider compliance history.
  - Well written, comprehensive standards.
  - Monitoring Protocols in place for collecting data.
  - Risk assessment system in use.
  - Program quality (CLASS) data collected.
- Example of a national system using key indicators.
- Head Start has all the key elements present from the Differential Monitoring Model as presented earlier.
Head Start Key Indicators (Fiene, 2013c)

<table>
<thead>
<tr>
<th>CM</th>
<th>Phi</th>
<th>ES</th>
<th>CO</th>
<th>IS</th>
<th>Total Violations</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDP4.1</td>
<td>.28***</td>
<td>.10*</td>
<td>ns</td>
<td>ns</td>
<td>.30***</td>
</tr>
<tr>
<td>CHS1.1</td>
<td>.39***</td>
<td>.15**</td>
<td>.16**</td>
<td>ns</td>
<td>.39***</td>
</tr>
<tr>
<td>CHS1.2</td>
<td>.33***</td>
<td>.18**</td>
<td>.15**</td>
<td>.10*</td>
<td>.36***</td>
</tr>
<tr>
<td>CHS2.1</td>
<td>.49***</td>
<td>.18**</td>
<td>.15**</td>
<td>ns</td>
<td>.54***</td>
</tr>
<tr>
<td>CHS3.10</td>
<td>.39***</td>
<td>.11*</td>
<td>.11*</td>
<td>ns</td>
<td>.24***</td>
</tr>
<tr>
<td>PRG2.1</td>
<td>.31***</td>
<td>.11*</td>
<td>ns</td>
<td>ns</td>
<td>.46***</td>
</tr>
<tr>
<td>SYS2.1</td>
<td>.47***</td>
<td>.15**</td>
<td>.16**</td>
<td>.14**</td>
<td>.55***</td>
</tr>
<tr>
<td>SYS3.4</td>
<td>.58***</td>
<td>.13*</td>
<td>.10*</td>
<td>ns</td>
<td>.36***</td>
</tr>
</tbody>
</table>

* P < .05
** p < .01
*** p < .001

Head Start Key Indicators Sample Content

<table>
<thead>
<tr>
<th>CD4.1</th>
<th>The program hires teachers who have the required qualifications, training, and experience.</th>
<th>1304.33(f), 645A(a)(1), 646A(a)(3)(B)(i), 646A(a)(3)(B)(ii), 646A(a)(3)(B)(iii)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHS1.1</td>
<td>The program engages parents in obtaining from a health care professional a determination of whether each child is up to date on a schedule of primary and preventive health care (including dental) and assists parents in bringing their children up to date when necessary and keeping their children up to date as required.</td>
<td>1304.20(a)(1)(ii), 1304.20(a)(1)(ii)(A), 1304.20(a)(1)(ii)(B)</td>
</tr>
<tr>
<td>CHS1.3</td>
<td>The program ensures that each child with a known, observable, or suspected health, oral health, or developmental problem receives follow-up and further testing, examinations, and treatment from a licensed or certified health care professional.</td>
<td>1304.20(a)(1)(iii), 1304.20(a)(1)(iv), 1304.20(c)(3)(ii)</td>
</tr>
<tr>
<td>CHS1.10</td>
<td>Maintenance, repair, safety of facility and equipment</td>
<td>1304.33(c)(7)</td>
</tr>
<tr>
<td>POS1.1</td>
<td>Members of the governing body and the Policy Council receive appropriate training and technical assistance to ensure that members understand information they receive and can provide effective oversight of, make appropriate decisions for, and participate in programs of the Head Start agency.</td>
<td>648A(g)(3)</td>
</tr>
<tr>
<td>SYS2.1</td>
<td>The program established and regularly implements a process of ongoing monitoring of its operations and services, including delegate agencies, in order to ensure compliance with Federal regulations, adherence to its own program procedures, and progress towards the goals developed through the Self-Assessment process.</td>
<td>1304.51(i)(2), 641A(a)(2)</td>
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<td>SYS3.4</td>
<td>Prior to employing an individual, the program obtains a: Federal, State, or Tribal criminal record check covering all jurisdictions where the program provides Head Start services to children; Federal, State, or Tribal criminal record check as required by the law of the jurisdiction where the program provides Head Start services; Criminal record check as otherwise required by Federal law.</td>
<td>648A(g)(3)(A), 648A(g)(3)(B), 648A(g)(3)(C)</td>
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</table>
Conceptual Similarities Between Licensing & QRIS and Key Indicator Methodology

- 100% Compliance with child care health & safety rules = QRIS Block System. *Cannot use Key Indicators.*
- Substantial but not 100% Compliance with child care health & safety rules = QRIS Point. *Can use Key Indicators.*
- Both Licensing and QRIS use rules/standards to measure compliance. Licensing rules are more structural quality while QRIS standards have a balance between structural and process quality. Both rules and standards can be used within the Key Indicator methodology.
Other Examples of Key Indicators

- **CIS**
  - Item 5 – Excited about Teaching
  - Item 7 - Enjoys Children
  - Item 12 – Enthusiastic

- **FDCRS**
  - Item 4 – Indoor Space Arrangement
  - Items 14b, 15b, 16 – Language
  - Item 18 – Eye hand Coordination

- **ECERS**
  - Item 16 – Children Communicating
  - Item 31 – Discipline

---

**Key Indicator (KI) Formula Matrix for ECERS**

**Item 16 – Children Communicating**

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These data are taken from a 2002 Program Quality Study (Fiene, et al) completed in Pennsylvania. The phi coefficient was 1.00. The first time this has occurred in generating key indicators. It was replicated in a 2006 QRIS – Keystone STARS Evaluation.
Normal & Skewed Data

ECERS Total Scores
State’s Family CC Home Licensing

![Histogram of GALSFCC with mean = 5.86, median = 5.29, and N = 147]

Head Start Performance Standards

![Histogram of CI Total Violations with mean = 3.33, median = 3.79, and N = 422]
ERS, QRIS, Licensing Comparisons

Dichotomization & Skewed Data

- When data are extremely skewed as is the case with licensing data, dichotomization of data is warranted.
- Skewed licensing data has a strong possibility of introducing very mediocre programs into the high group which will make it difficult to always identify the best programs.
- It is much easier to identify problem programs in a skewed data distribution.
Differential Monitoring Options

- Reward good compliance:
  - Abbreviated inspection – if no serious violations, for a period of time
  - Fewer full compliance reviews if compliance record is strong

- Response to non-compliance:
  - Additional monitoring visits
  - Technical assistance

- The number of core rule categories cited and the assigned risk level determines the annual compliance level. (Georgia)

- Determine how often particular rules are included in inspections. Rules that pose the most risk of harm to children if violated are reviewed during all inspections. (Virginia)

National Center on Child Care Quality Improvement, Office of Child Care

Provider Outcomes to Determine Differential Monitoring (DM)

- Fully licensed – substantial/full compliance.
- Potentially accredited (NAEYC/NECPA).
- Highest star rating.
- Cost effective and efficient delivery system.
- Little turnover of staff and director.
- Fully enrolled.
- Fund surplus.
- The above results determine the number of times to visit & what to review and resources allocated.
Differential Monitoring (DM) Allocation: An Example

- **Absolute System – One size fits all.**
  - 25% of providers need additional assistance & resources.
  - Other 75% receive the same level of monitoring services without differential monitoring based upon past compliance history. No additional services available.

- **Relative System – Differential Monitoring.**
  - 25% of providers need additional assistance & resources.
  - 25% have a history of high compliance and are eligible for Key Indicator/Abbreviated Monitoring visit. Time saved here is reallocated to the 25% who need the additional assistance & resources.
  - 50% receive the same level of monitoring services because they are not eligible for Key Indicators nor are they considered problem providers.

Monitoring Tools

- **26 States use differential monitoring**
- Increased from 11 States in 2005
- **Most States report using abbreviated compliance forms**
- **Nearly all States provide technical assistance during monitoring activities**
- 45 percent report assisting facilities to improve quality beyond licensing regulations

*National Center on Child Care Quality Improvement, Office of Child Care*
Program Monitoring Questions?

- Generalist versus Specialists Assessors.
- General (SS3) versus Special Standards (Licensing, QRIS, HSPS).
- How Key Indicators can be used?
  - KI = Generalists.
  - CI = Specialists.
- Based upon approach from previous slide, discussion should be generalist + specialist rather than generalist or specialist.

Differential Monitoring (DM) Example (Fiene, 2013e)

Compliance Decisions:
Core Indicators & Core Rules + Key Indicators = Core Indicators (100%) is the next visit to a Monitoring Visit. Every 3-4 years a full Licensing Study is conducted.
Core Indicators (not 100%) = The next visit is a Licensing Study where all rules are reviewed.
Compliance = 96% with all rules which indicates substantial to full compliance with all rules and 100% with Core Indicators. The next visit is a Monitoring Visit.
Non-compliance = less than 96% with all rules which indicates lower compliance with all rules. The next visit is a Licensing Study.
Professional Development (PD)

- All staff have CDA or degrees in ECE.
- Director has BA in ECE.
- All staff take 24 hours of in-service training/yr.
- Mentoring of staff occurs.
- Training/PD fund for all staff.
- Professional development/training/technical assistance (PD) linked to Differential Monitoring (DM) results.

Mentoring
Individualized, on-site support to help child care staff implement the knowledge and skills they are receiving in classroom instruction.
Benefits:
- Building relationships.
- Effecting long term change in best practices.
- Providing a support system.
### Relationship between Child Care Income and Quality Measures (Fiene, 2002b)

#### Correlations

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**Correlation is significant at the 0.01 level (2-tailed).**

**Correlation is significant at the 0.05 level (2-tailed).**

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### Infant-Toddler Teacher Mentoring

![Infant-Toddler Teacher Mentoring Chart]

**Pre-Test**

**Post-Test**
ITERS/HOME Post-Test Scores

- Workshops (6 hrs)
- Certificate + Mentoring (18+6 hrs)
- Mentoring Caregiver (70 hrs)
- Mentoring Director (50 hrs)
- Mentoring Parents (45 hrs)
- Mentoring Caregiver + Parent (135 hrs)
- Mentoring Caregiver + Parent + Director (225 hrs)

Child Outcomes (CO)

- **Health and safety:**
  - Immunizations (95%+).
  - Child well-being (90% of key indicators).

- **Developmental Outcomes:**
  - Social (90% meeting developmental benchmarks).
  - Emotional (90% meeting developmental benchmarks).
  - Cognitive (90% meeting developmental benchmarks).
  - Gross and fine motor (90% meeting developmental benchmarks).
Correlation of Accreditation, Licensing, & Training with Child Outcomes

<table>
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<th>Quality</th>
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* p < .05
Kontos & Fiene (1987).

Key Element Publication Summary

- **PC** = *Caring for Our Children* (AAP/APHA/NRC, 2012).
- **PQ** = *National Early Childhood Program Accreditation* (NECPA) (Fiene, 1996).
- **RA** = *Stepping Stones* (NRC, 2013).
- **KI** = *13 Indicators of Quality Child Care* (Fiene, 2002a).
- **DM** = *International Child Care & Education Policy* (Fiene, 2013a).
- **PD** = *Infant Caregiver Mentoring* (Fiene, 2002b).
- **CO** = *Quality in Child Care: The Pennsylvania Study* (Kontos & Fiene, 1997).
Outstanding Issues

- Process versus Structural Quality Indicators
- Input/Processes versus Output/Outcomes
- Impact of Pre-K and QRIS on Licensing

Core Indicators – Final Thoughts

- Childhood Immunizations (PC)
- Director & Teacher Qualifications (PC, PQ)
- Mentoring/Coaching (PQ/PD)
- Family Engagement (PQ)
- Social-Emotional & Language Learning/Competencies (ELS, PD)
Early Childhood Program Quality Indicator Model (ECPQIM) Evolution

- Nixon Veto of Comprehensive Child Development Bill 1971. (ECPQIM1)
- FIDCR Moratorium 1981. (ECPQIM1)
- Reagan Block Grant Formula 1983. (ECPQIM1)
- CCDBG enacted 1991. (ECPQIM2)
- Caring for Our Children (CFOC) 1st Edition 1993. (ECPQIM2)
- Stepping Stones 1st Edition 1995. (ECPQIM2)
- Child Care Development Fund (CCDF) enacted 2001. (ECPQIM3)
- Child Care Aware First Report Card 2007. (ECPQIM3)
- OPRE/ACF Validation Brief 2012. (ECPQIM4)
- Differential Monitoring Logic Model (DMLMA) 2012-13. (ECPQIM4)
- CCDBG Bill, CCDF Rule, CFOC-Basics, OCC Brief 2013-14. (ECPQIM4)
The following graphics represent the previous generations of ECPQIM 1-4 beginning in 1975 up to the present model (DMLMA, 2013).
**ZERO TO THREE's Better Care for the Babies Project: A System's Approach to State Child Care Planning—Griffin/Fiene (1995), (ECPQIM 2), 1995 - 1999**

**Inputs**
- Agency Rule Making Authority
- Regulations, Requirements, Codes, Funding Rules
- Monitoring System
  - Surveillance
  - Licensing
  - Registration
  - Certification
- CCR&R
  - Local CC Programs
  - CC Organizations
  - Consumers
  - Monitors

**Processes**
- Interagency Review
  - Comparison State Standards to National Guidelines Identifying Gaps & Weakness
- Compliance Study
  - Change/Clarification
  - Guidance Material Training & TA
- Weighted Indicator Checklist
- Field Survey
  - Focus Groups
  - Public Hearings

**Outcomes**
- Consistent Data Collection
  - Combined/Cost-Effective Use of Resources to Meet State Priorities
- Strength/Clarity of Rules Reduced
  - Duplication of Rules Consistency Across Agencies
- Monitoring Efficiency Program
  - Compliance Targeting Resources to Areas of Need
- Monitoring Effectiveness Training & Technical Assistance Program
  - Compliance
- Consensus-Building Increased State-Local Cooperation

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**CO + PO = (PD + PC + PQ)/PM**

Where:
- **CO** = Child Outcomes
- **PO** = Provider Outcomes
- **PD** = Professional Development
- **PC** = Program Compliance/Licensing
- **PQ** = Program Quality/QRIS
- **PM** = Program Monitoring
DIFFERENTIAL MONITORING LOGIC MODEL & ALGORITHM
(DMLMA©) (Fiene, 2012): A 4th Generation ECPQIM – Early Childhood Program Quality Indicator Model

C1 x PQ => RA + KI => DM + PD => CO

Definitions of Key Elements:

C1 = Comprehensive Licensing Tool (Health and Safety) [Caring for Our Children]
PQ = ECERS-R, FDCRS-R, CLASS, CPES (Caregiver/Child Interactions/Classroom Environment)
RA = Risk Assessment, [High Risk Rules] (Stepping Stones)
KI = Key Indicators (Predictor Rules) (13 Key Indicators of Quality Child Care)
DM = Differential Monitoring, (How often to visit and what to review)
PD = Professional Development/Technical Assistance/Training
CO = Child Outcomes (See Next Slide for PD and CO Key Elements)

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Early Childhood Program Quality Improvement and Indicator Models (ECPQI2M0–4©)


ECPQI2M1©: 1975 – 1994. Qualitative to Quantitative; focus on reliability; data utilization; distinctions between program monitoring and evaluation; Key Indicators, Weighted Rules, & principles of licensing instrument design introduced. (Fiene, 1981; Fiene & Nixon, 1985).


Fiene (2013c). Head Start Key Indicators. Middletown, Pennsylvania, Research Institute for Key Indicators.

Fiene (2013d). Kansas Child Care Key Indicators. Middletown, Pennsylvania, Research Institute for Key Indicators.


Fiene (2002b). Improving child care quality through an infant caregiver mentoring project, Child and Youth Care Forum, 31(2), 75-83.


Fiene, Greenberg, Bergsten, Carl, Fegley, & Gibbons (2002). The Pennsylvania early childhood quality settings study, Harrisburg, Pennsylvania: Governor’s Task Force on Early Care and Education.


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