THE DIFFERENTIAL MONITORING MODEL: RETHINKING HOW TO BEST MONITOR QUALITY IN EARLY CARE AND EDUCATION

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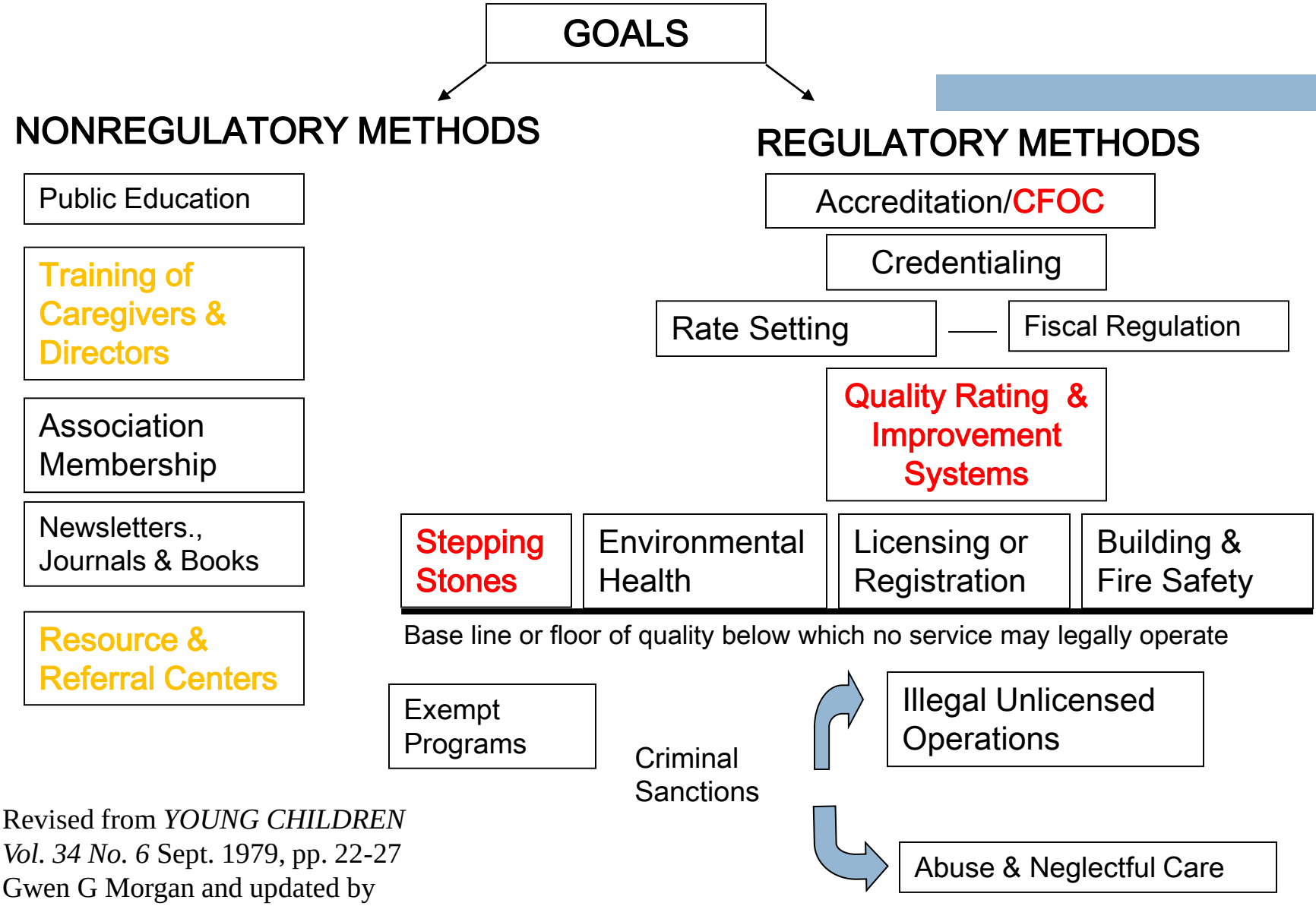
Methods for Achieving Quality Child Care



Revised from *YOUNG CHILDREN*
Vol. 34 No. 6 Sept. 1979, pp. 22-27
Gwen G 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

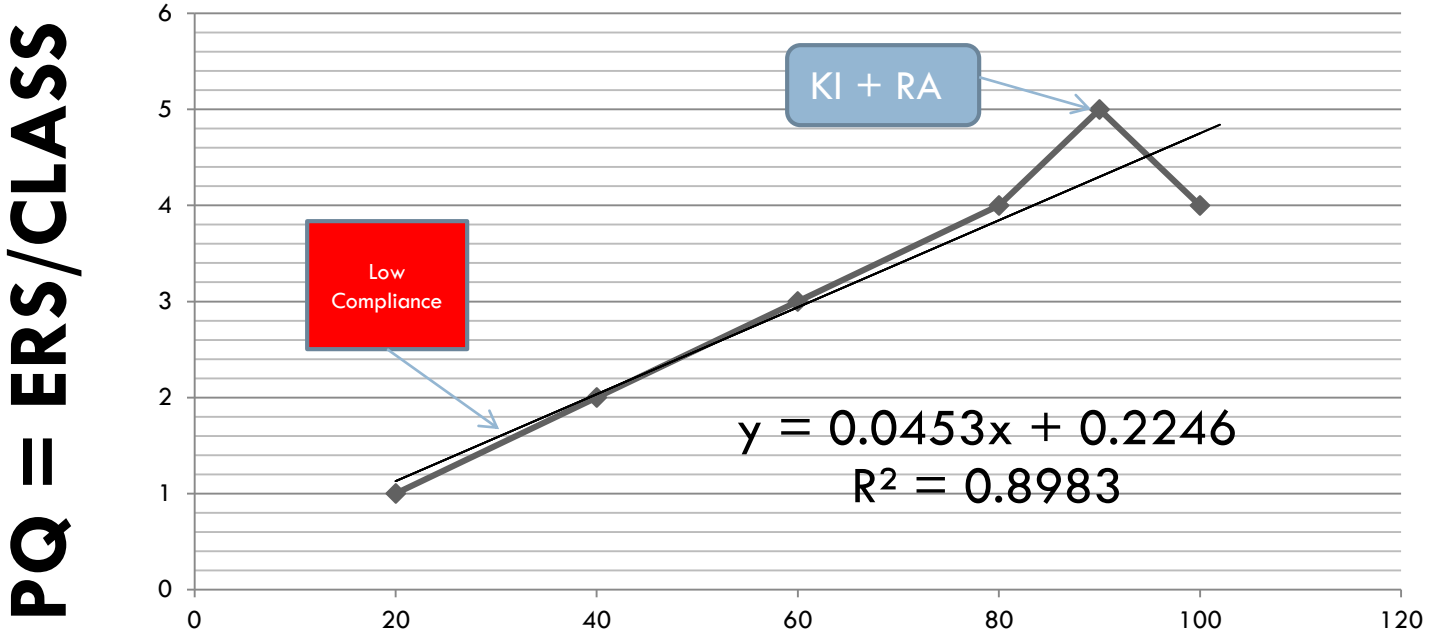
- **Credentialing**: A formally recognized process of certifying an individual as having fulfilled certain criteria or requisites. (PD)
- **Purchase of service contracts:** Regulation by contract in which performance standards are imposed as a contractual obligation. (PQ - QRIS)
- **Accreditation:** 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
- Training-Staff Development

Relationship between PC (CI) & PQ

(Fiene & Nixon, 1985)(Fiene, 1985)



PC = % Rule Compliance

Comparing HSPS Violations with CLASS Scores (Fiene, 2013c)

HSPS/CM Violations	IS	ES	CO	Number/Percent
0 (Full Compliance)	3.03	5.99	5.59	75/19%
1-2 (Substantial Compliance)	**3.15**	5.93	5.50	135/35%
3-8 (Mid-Compliance)	2.87	5.85	5.37	143/40%
9-19 (Lower Compliance)	2.65	5.71	5.32	28/6%
20-25 (Lowest Compliance)	2.56	5.52	4.93	3/1%
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

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)

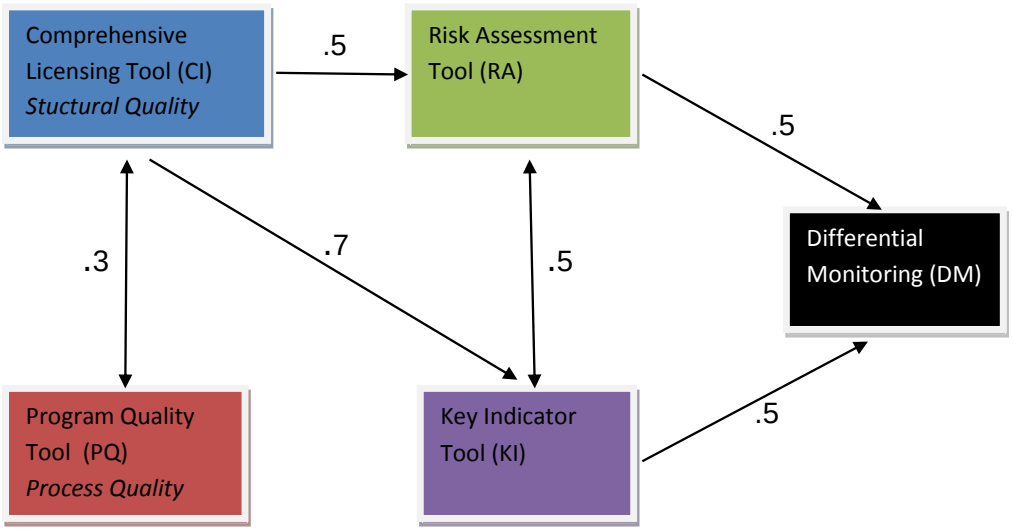
- All rules are not created equal.
- Substantial Compliance = Full License.
- PC + PQ = Not Linear.
- Selected key rules are reviewed all the time.

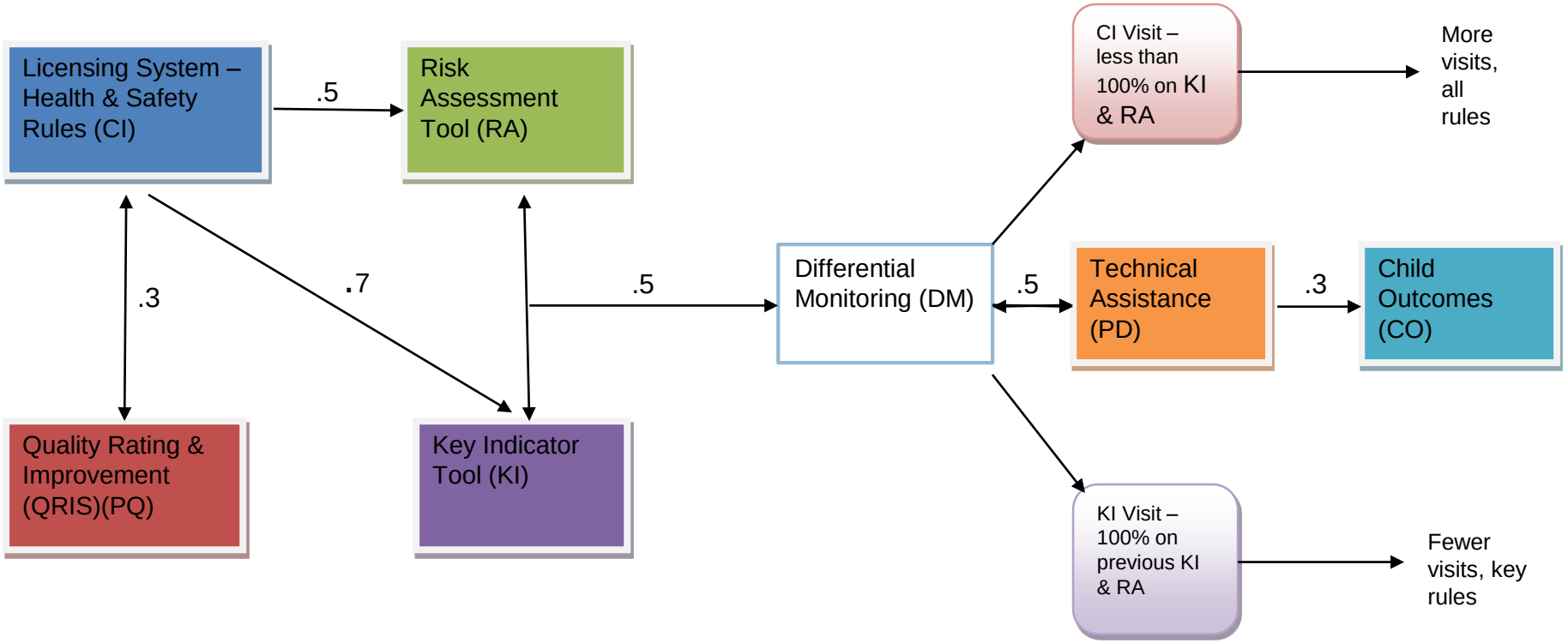
DIFFERENTIAL MONITORING LOGIC MODEL & ALGORITHM (DMLMA©) (Fiene, 2012): A 4th Generation ECPQIM – Early Childhood Program Quality Indicator Model

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

Definitions of Key Elements:

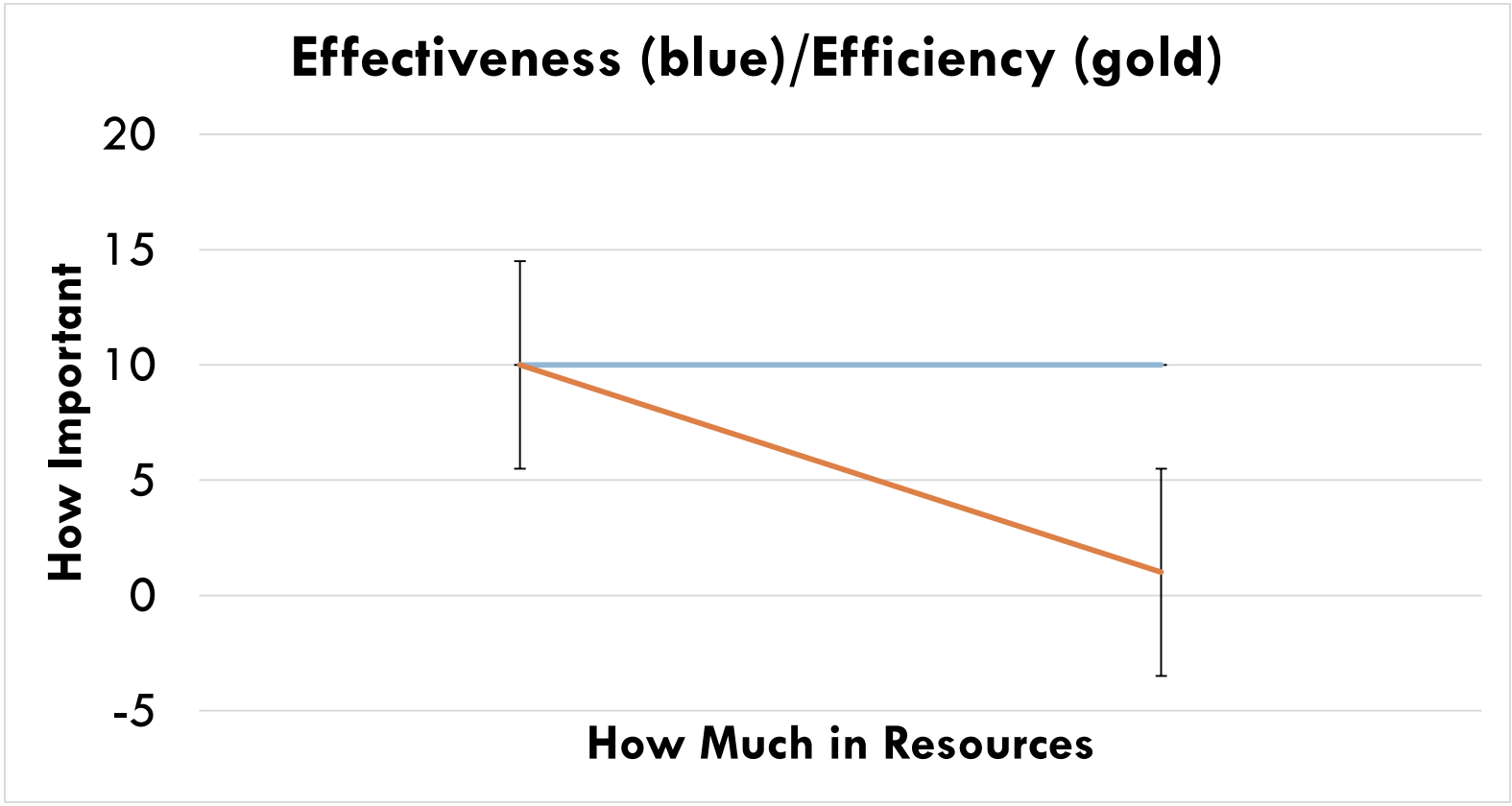
CI = Comprehensive Licensing Tool (Health and Safety)(***Caring for Our Children***)
PQ ***= ECERS-R, FDCRS-R, CLASS, CDPES*** (Caregiver/Child Interactions/Classroom Environment)
RA = Risk Assessment, (High Risk Rules)(***Stepping Stones***)
KI = Key Indicators (Predictor Rules***)(13 Key Indicators 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)



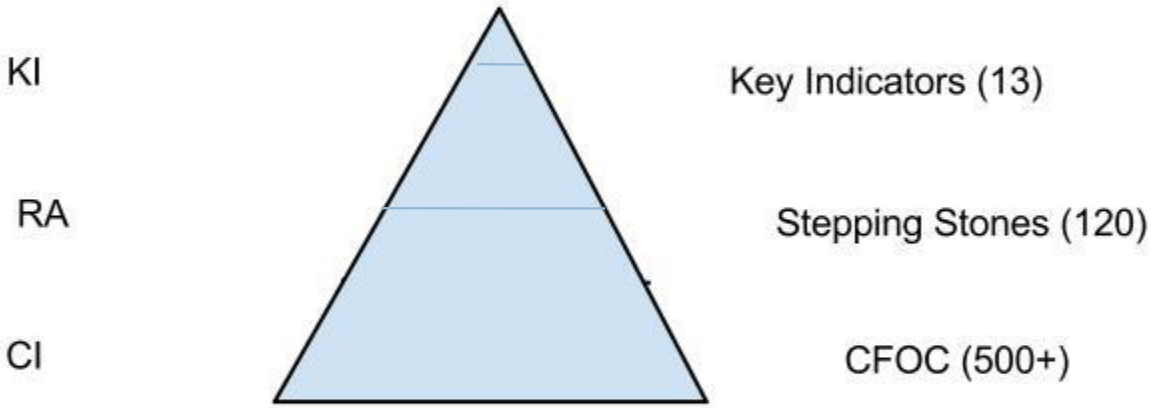


$$\sum CI \times \sum PQ \Rightarrow \sum RA + \sum KI \Rightarrow \sum DM + \sum PD \Rightarrow CO$$

Program Monitoring Effectiveness/Efficiency Relationship



Relationship of Key Indicators (KI), Stepping Stones (RA), and Caring for Our Children (CFOC)(CI)



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.

Validation Approaches (Zellman & Fiene, 2012)

- First Approach (Standards)
  - CI x *Caring for Our Children/Stepping Stones/13 Key Indicators of Quality Child Care*
- Second Approach (Measures)
  - CI x RA + KI x DM
- Third Approach (Outputs)
  - PQ x CI
- Fourth Approach (Outcomes)
  - CO = PD + PQ + CI + RA + KI

DMLMA© Expected Thresholds

DMLMA© Expected Thresholds	DMLMA© Key Elements Examples
.70+	CI x KI
.50+	RA x CI; RA x DM; RA x KI; DM x KI; DM x PD
.30+	PQ x CI; PQ x CO; RA x CO; KI x CO; CI x CO

DMLMA Expected Thresholds Matrix

	PQ	RA	KI	DM	PD	CO
CI	0.3	0.5	0.7	0.5	0.5	0.3
PQ				0.3	0.3	0.3
RA			0.5	0.5	0.5	0.3
KI				0.5	0.5	0.3
DM					0.5	
PD						0.3

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

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

*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.

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 ***NACCRRA'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

- 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

Region	Centers		Homes	
	Violations*	Number	Violations*	Number
1	9.30	109	2.42	117
2	8.32	191	4.63	120
3	5.31	121	3.94	138
4	5.57	61	3.02	125

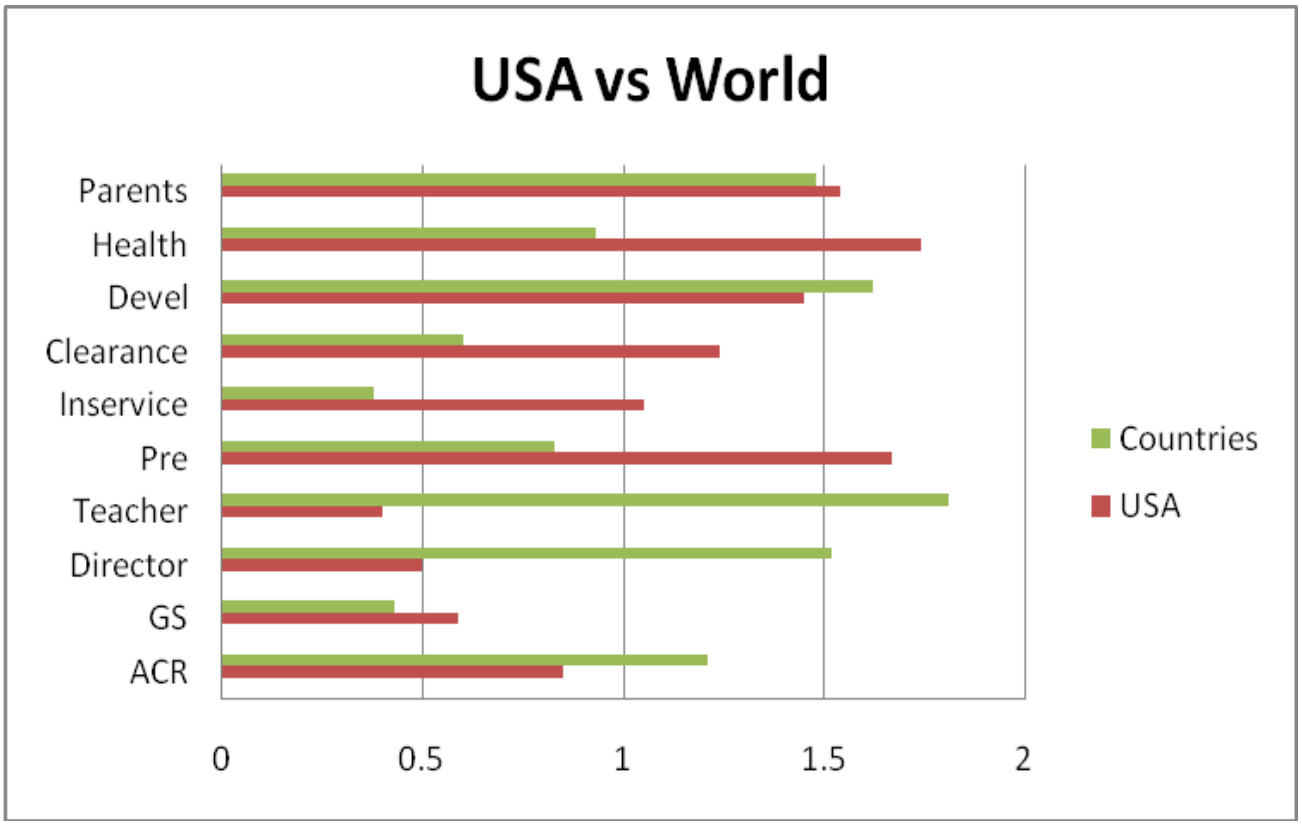
* = *Average (Means)*

Violation Data in Centers and Homes by Type of Licensing Inspection

License Type	Centers		Homes	
	Violations*	Number	Violations*	Number
Initial	7.44	36	3.35	20
Renewal	7.07	368	3.53	469
Amendment	9.51	55	4.00	2
Correction	6.71	14	3.00	8
Temporary	11.22	9	4.00	1

* = *Average (Mean)*

International Study of Child Care Rules (Fiene, 2013a)



International Study Benchmarks

Benchmark	Countries	USA	Significance
ACR (R1)	1.1220	0.8462	not significant
GS (R2)	0.4063	0.5865	not significant
Director (R3)	**1.5625**	0.5000	t = 7.100; p < .0001
Teacher (R4)	**1.6563**	0.4038	t = 7.632; p < .0001
Preservice (R5)	0.9375	**1.6731**	t = 4.989; p < .001
Inservice (R6)	0.6563	**1.0481**	t = 2.534; p < .02
Clearances (R7)	0.6094	**1.2404**	t = 3.705; p < .01
Development (R8)	1.6406	1.4519	not significant
Health (R9)	0.9844	**1.7404**	t = 6.157; p < .0001
Parent (R10)	1.5000	1.5385	not significant

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)

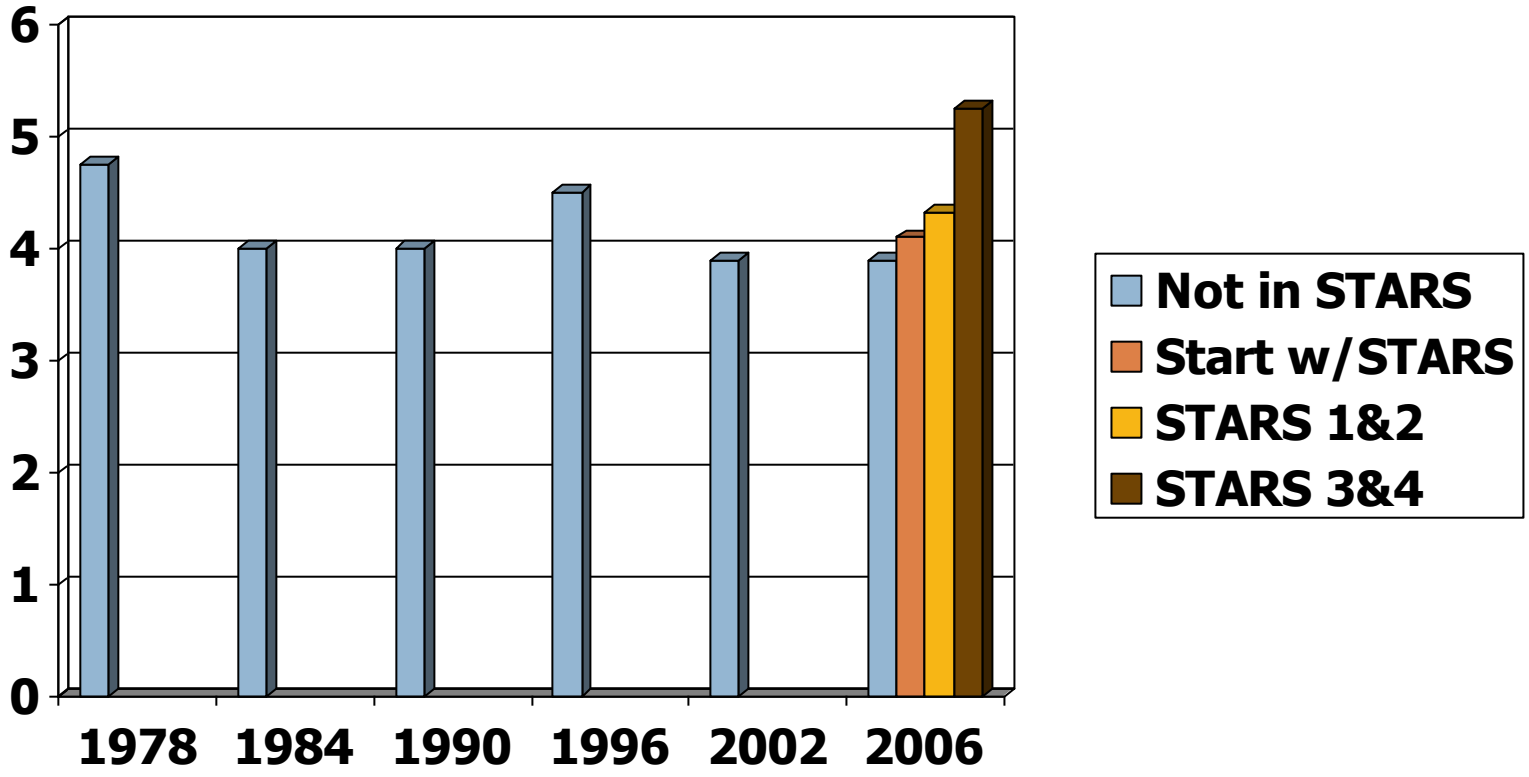
GS = Group size NAEYC Accreditation Standards met (R2)

ACR = Staff child ratios NAEYC Accreditation Standards met (R1)

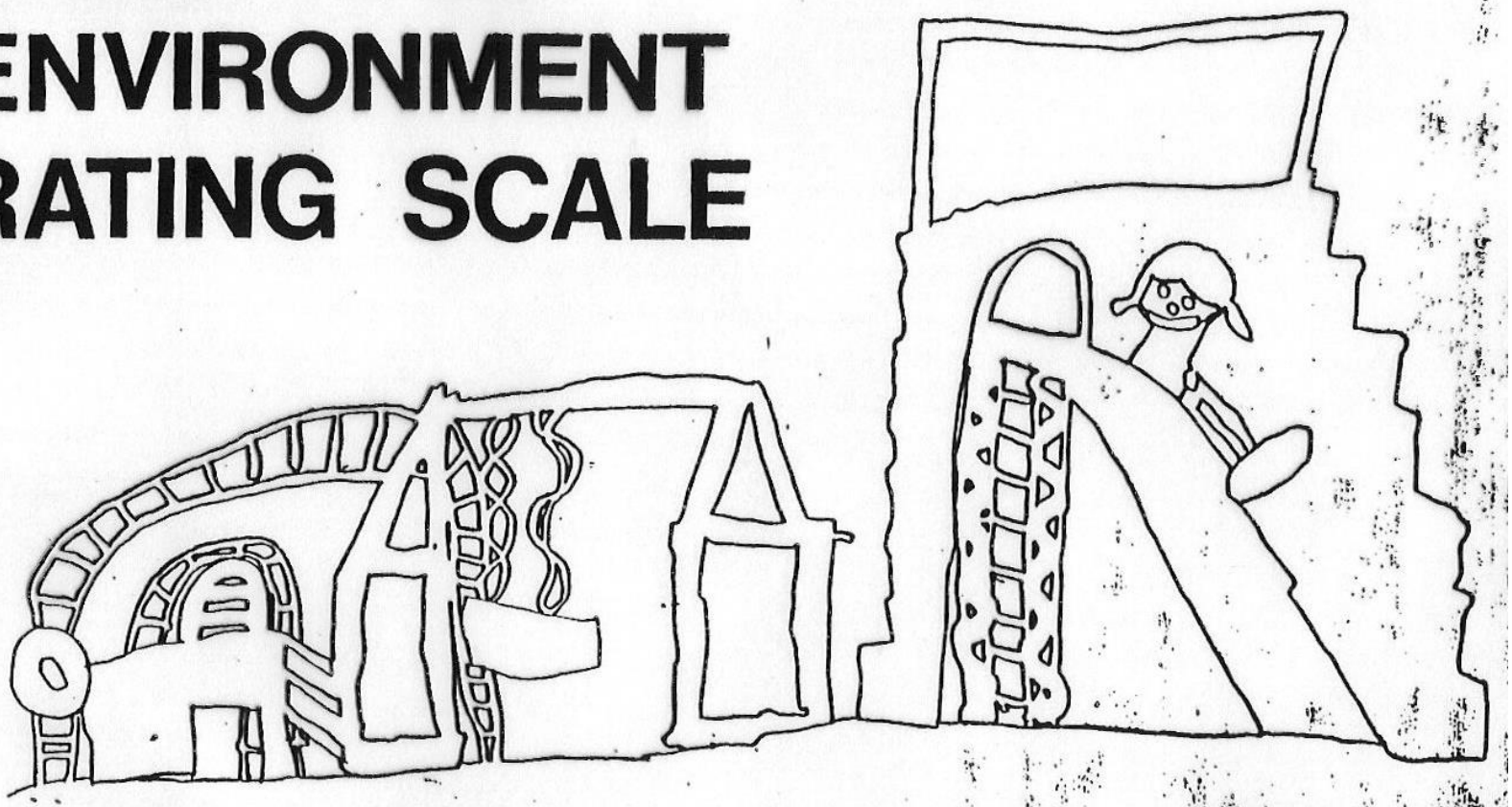
Program Quality (PQ)

- 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

Name of Facility	Room	Age of Children youngest to oldest	Name of Rater	Position of Rater	Date
		to			

1. Greeting/departing 1 2 3 4 5 6 7	3. Nap/rest 1 2 3 4 5 6 7	5. Personal grooming 1 2 3 4 5 6 7	7. or◆7. Furnishings (learning) 1 2 3 4 5 6 7	9. Room arrangement 1 2 3 4 5 6 7	11. Understanding language 1 2 3 4 5 6 7
2. or◆2. Meals/snacks 1 2 3 4 5 6 7	4. Diapering/toileting 1 2 3 4 5 6 7	Total Personal Care (Items 1-5)	8. Furnishings (relaxation) 1 2 3 4 5 6 7	10. or◆10. Child related display 1 2 3 4 5 6 7	12. Using language 1 2 3 4 5 6 7
		6. Furnishings (routine) 1 2 3 4 5 6 7		Total Furnishings/display (Items 6-10)	

ECERS/FDCRS By Type of Setting (Fiene, etal (2002)

- Head Start 4.9
- Preschool 4.3
- Child Care Centers 3.9

- Group Child Care Homes 4.1
- Family Child Care Homes 3.9
- Relative/Neighbor Care 3.7

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

	HS	CC	PS
Minimal (3.99 or less)	8%	62%	35%
Adequate (4.00-4.99)	46%	23%	44%
Good (5.00 or higher)	46%	15%	21%

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)

	STAR 1	STAR 2	STAR 1 and 2 Combined	STAR 3	STAR 4
NECPA Score (without Infant/Toddler Section	n = 21 Mean = 647.04 Range: 408.99 to 887.54 s.d.: 163.79	n = 4 Mean: 648.1 Range: 365.84 to 881.93 s.d.: .220.87	n = 25 Mean: 647.21 Range: 365.84 to 887.54 s.d.: .168.69	n = 2 Mean: 824.27 Range: 789.13 to 859.40 s.d.: .49.69	n = 23 Mean: 752.93 Range: 427.36 to 894.32 s.d.: 132.12
ECERS-R Score	n = 20 Mean: 3.92 Range: 2.40 to 5.68 s.d.: .97	n = 4 Mean: 3.52 Range: 3.45 to 3.66 s.d.: .094	n = 24 Mean: 3.86 Range: 2.40 to 5.68 s.d.: .896	n = 2 Mean: 5.67 Range: 5.45 to 5.88 s.d.: .304	n = 23 Mean: 5.35 Range: 2.95 to 6.36 s.d.: ..867
NECPA Score (Infant/Toddler Only)	n = 6 Mean: 83.50 Range: 59 to 138 s.d.: 30.81	n = 1 Mean: 79.0	n = 7 Mean: 82.86 Range: 59.0 to 138.0 s.d.: 28.17	n = 0	n = 7 Mean: 134.0 Range: 102.0 to 163.0 s.d.: 21.66
ITERS-R	n = 9 Mean: 3.72 Range: 2.81 to 5.22 s.d.: .706	n = 1 Mean: 5.01	n = 10 Mean: 3.85 Range: 2.81 to 5.22 s.d.:.781	n = 1 Mean: 4.29	n = 12 Mean: 5.15 Range: 3.21 to 6.39 s.d.: .821

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.

Risk Assessment (RA)

- Risk Assessment (RA) are those rules which place children at greatest risk of mortality or morbidity.
- *Stepping Stones* is 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

CCLC / GDCH ANNUAL COMPLIANCE DETERMINATION WORKSHEET

DATE: CONSULTANT NAME:

FACILITY NAME: FACILITY ADDRESS:

Instructions: Enter visit(s) date and type in the grid below. Place an "X" in the box for any core rule category cited, at the appropriate risk level. When multiple risk levels are cited under one category, only the highest level of risk for that category should be listed on the grid below. Total the number of categories cited at each risk level at the bottom. Then list the total number of "Low", "Medium", "High", and "Extreme" from all visits in the appropriate boxes below. Using the guidelines listed below, determine the facility's compliance, and fill it in the box labeled "Annual Compliance Determination". Any non-core rule violations issued due to an injury or serious incident will be equivalent to a high-risk core rule category citation, and will be treated in the same way when determining a facility's compliance. Please note these instances in the comment section.

	Visit date/type:				Visit date/type:				Visit date/type:				Visit date/type:				Visit date/type:			
Core Rules	Low	Med	High	Extreme	Low	Med	High	Extreme	Low	Med	High	Extreme	Low	Med	High	Extreme	Low	Med	High	Extreme
Diapering- .10																				
Discipline- .11																				
Hygiene- .17																				
Infant Sleep Safety- .45																				
Medication- .20																				
Physical Plant- .25(13)																				
Playgrounds- .26																				
Staff:Child Ratios- .32(1) & (2)																				
Supervision- .32(6)																				
Swimming- .35																				
Transportation- .36																				
Field Trips- .13																				
TOTALS																				

TOTAL LOW: TOTAL MEDIUM: TOTAL HIGH:

ANNUAL COMPLIANCE DETERMINATION:

COMPLIANCE DETERMINATION CRITERIA FOR ONE TO THREE (1-3) VISITS:

Compliant = 0-5 core rule categories of Low risk, and /or No more than 2 core rule categories of Medium risk , or 1 Medium and 1 High risk

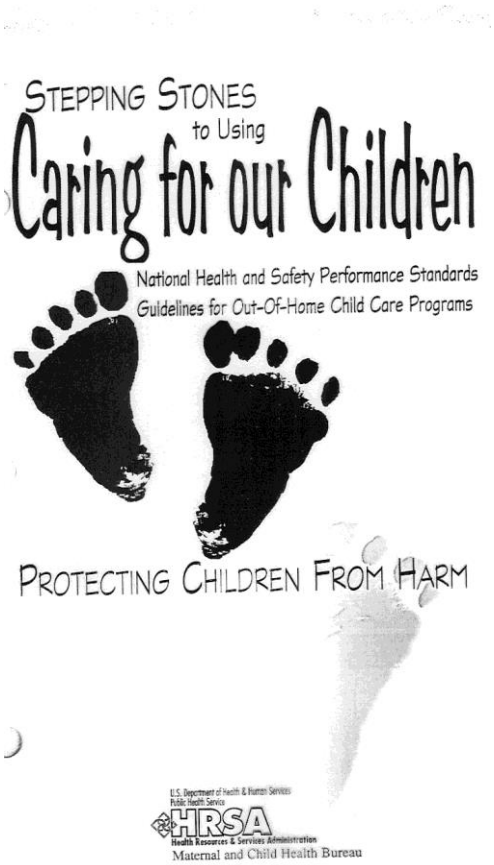
Not Compliant = 6 or more core rule categories of Low and/or 3 or more Medium risk, and / or 2 or more core rule categories of High risk

COMPLIANCE DETERMINATION CRITERIA FOR FOUR OR MORE (4 +) VISITS:

Compliant = 0-7 core rule categories of Low risk, and / or No more than 3 core rule categories of Medium risk, or 2 Medium and 1 High

Not Compliant = 8 or more Low Risk, 4-7 or more core rule categories of Medium risk, and / or 2 or more core rule categories of High risk

RA Example = Stepping Stones



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 citied 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

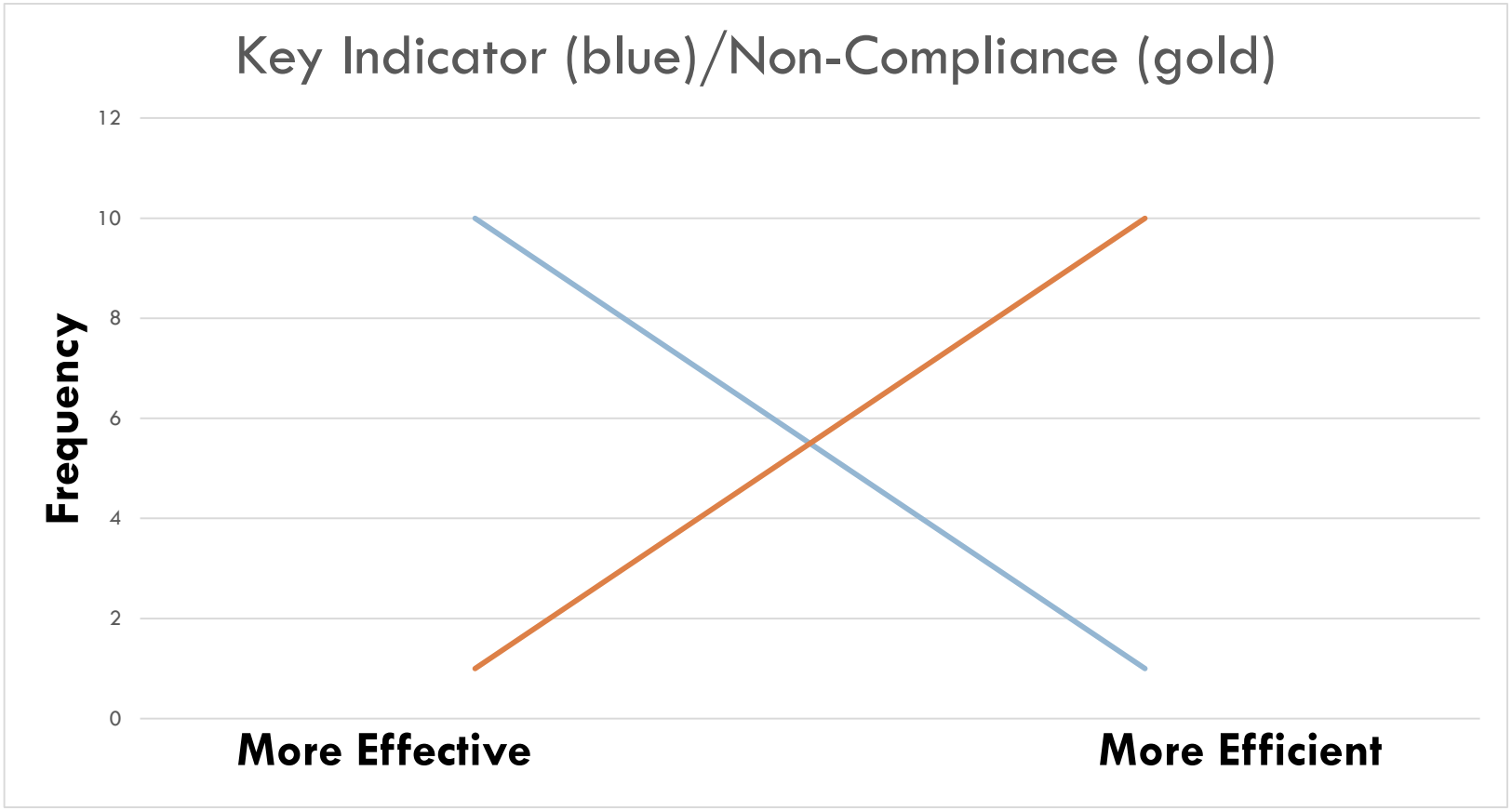
1980 - 2010

- Time savings only.
- Child care mostly.
- Child care benchmarking.
- Substantial compliance.
- Safeguards.
- Tied to outcomes study.
- Adult residential – PA.
- Child residential – PA.
- Risk assessment/weighting.

2011+

- Time and cost savings.
- All services.
- Benchmarks in all services.
- CC national benchmarks.
- Safeguards.
- Tied to outcomes study.
- National benchmarks.
- Inter-National benchmarks.
- Risk assessment/DMLMA.

Key Indicator/Non-Compliance Relationship



Key Indicator Formula Matrix

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

	Providers In Compliance	*Programs Out Of Compliance*	*Row Total*
High Group	***A***	***B***	***Y***
Low Group	**C**	**D**	***Z***
Column Total	***W***	***X***	**Grand Total**

Key Indicator Statistical Methodology

$$\phi = (A)(D) - (B)(C) \div \sqrt{(W)(X)(Y)(Z)}$$

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 Phi Coefficient Ranges

Phi Coefficient Range	Characteristic of Indicator	Decision
(+1.00) – (+.26)	Good Predictor	Include
(+.25) – (0)	Too Easy	Do not Include
(0) – (-.25)	Too Difficult	Do not Include
(-.26) – (-1.00)	Terrible Predictor	Do not Include

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 – potential.
- Footnote: Child & Adult Residential Care Key Indicators.

Examples of Health & Safety Key Indicators

(Fiene, 2002a, 2003, 2007)

- 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

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 (Fiene, 2013c).

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

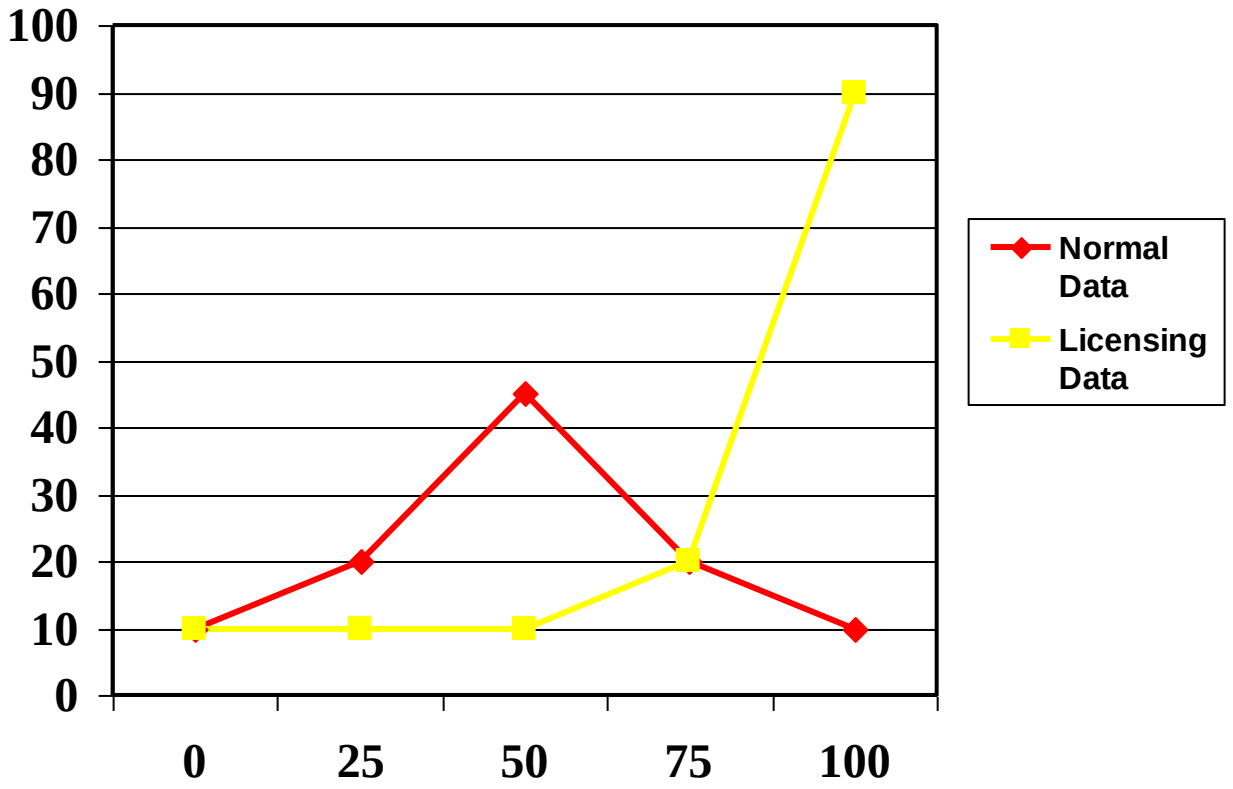
- **CIS**
  - Item 5 – Excited about Teaching
  - Item 7- Enjoys Children
  - Item 12 – Enthusiastic
- **FDCRS**
  - Item 4 – Indoor Space Arrangement
  - Items 14b, 15b, 16 – Language
  - Item 18 – Eye hand Coordination
- **ECERS**
  - Item 16 – Children Communicating
  - Item 31 – Discipline

Key Indicator (KI) Formula Matrix for ECERS Item 16 – Children Communicating

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.

	Providers In Compliance	***Programs Out Of Compliance***	***Row Total***
High Group	***117***	***0***	***117***
Low Group	**0**	**35**	***35***
Column Total	***117***	***35***	**152**

Normal & Skewed Data



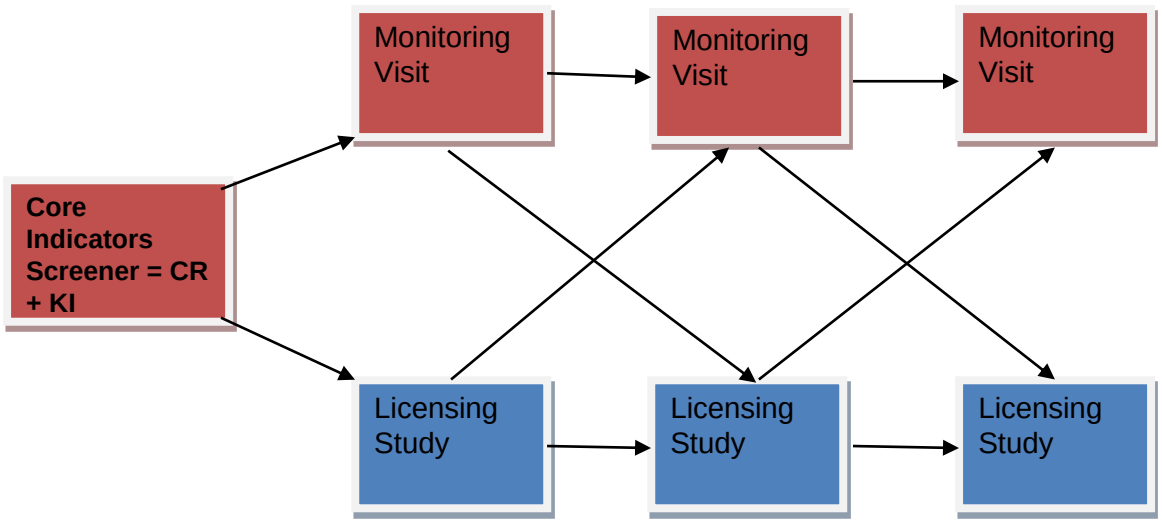
Provider Outcomes to Determine Differential Monitoring (DM)

- **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.

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



Compliance Decisions:

Core Indicators *= Core Rules + Key Indicators – this becomes a screening tool to determine if a program receives a LS or MV visit.*

Core Indicators (100%) *= the next visit is 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)
(Fiene, 1995, Fiene, etal, 1998)

- 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)

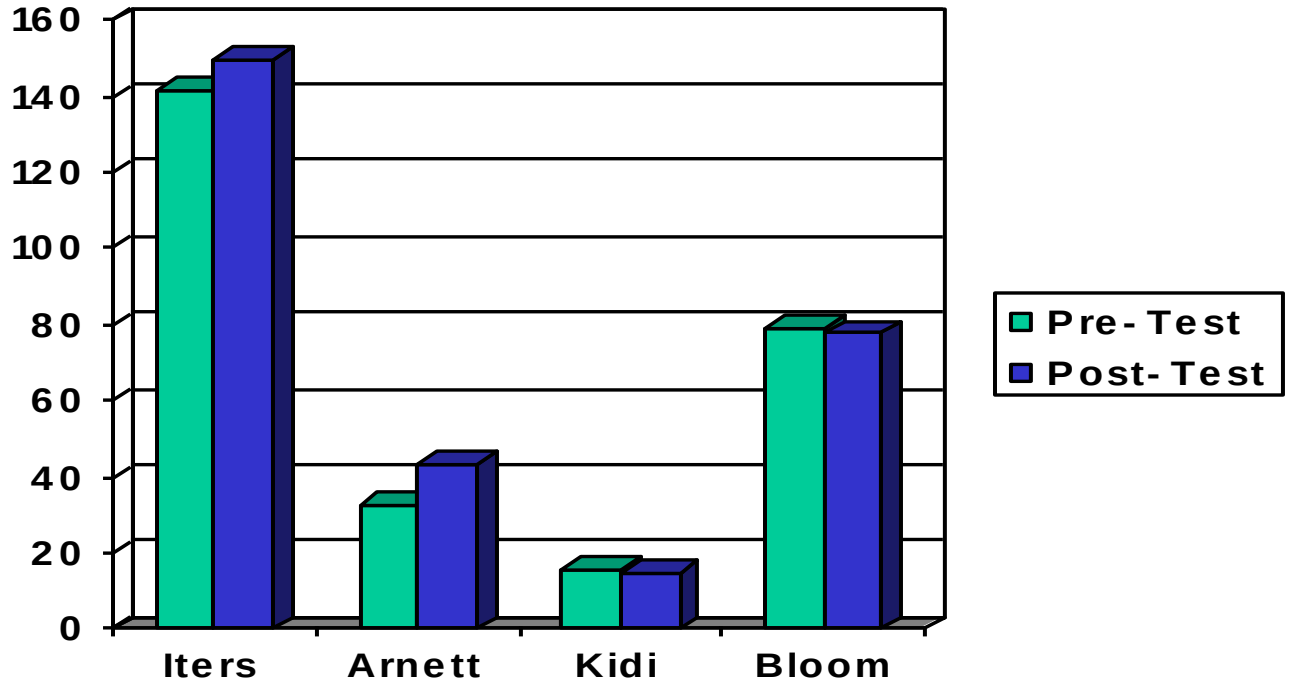
Correlations

		ITERS	ARNETT	KIDI	BLOOM	DIR16
ITERS	Pearson Correlation	1.000	.599**	.107	.368*	.661**
	Sig. (2-tailed)	.	.000	.568	.038	.000
	N	49	45	31	32	37
ARNETT	Pearson Correlation	.599**	1.000	.108	.507**	.483**
	Sig. (2-tailed)	.000	.	.578	.004	.004
	N	45	46	29	30	34
KIDI	Pearson Correlation	.107	.108	1.000	-.035	.311
	Sig. (2-tailed)	.568	.578	.	.851	.130
	N	31	29	32	32	25
BLOOM	Pearson Correlation	.368*	.507**	-.035	1.000	.451*
	Sig. (2-tailed)	.038	.004	.851	.	.021
	N	32	30	32	33	26
DIR16	Pearson Correlation	.661**	.483**	.311	.451*	1.000
	Sig. (2-tailed)	.000	.004	.130	.021	.
	N	37	34	25	26	39

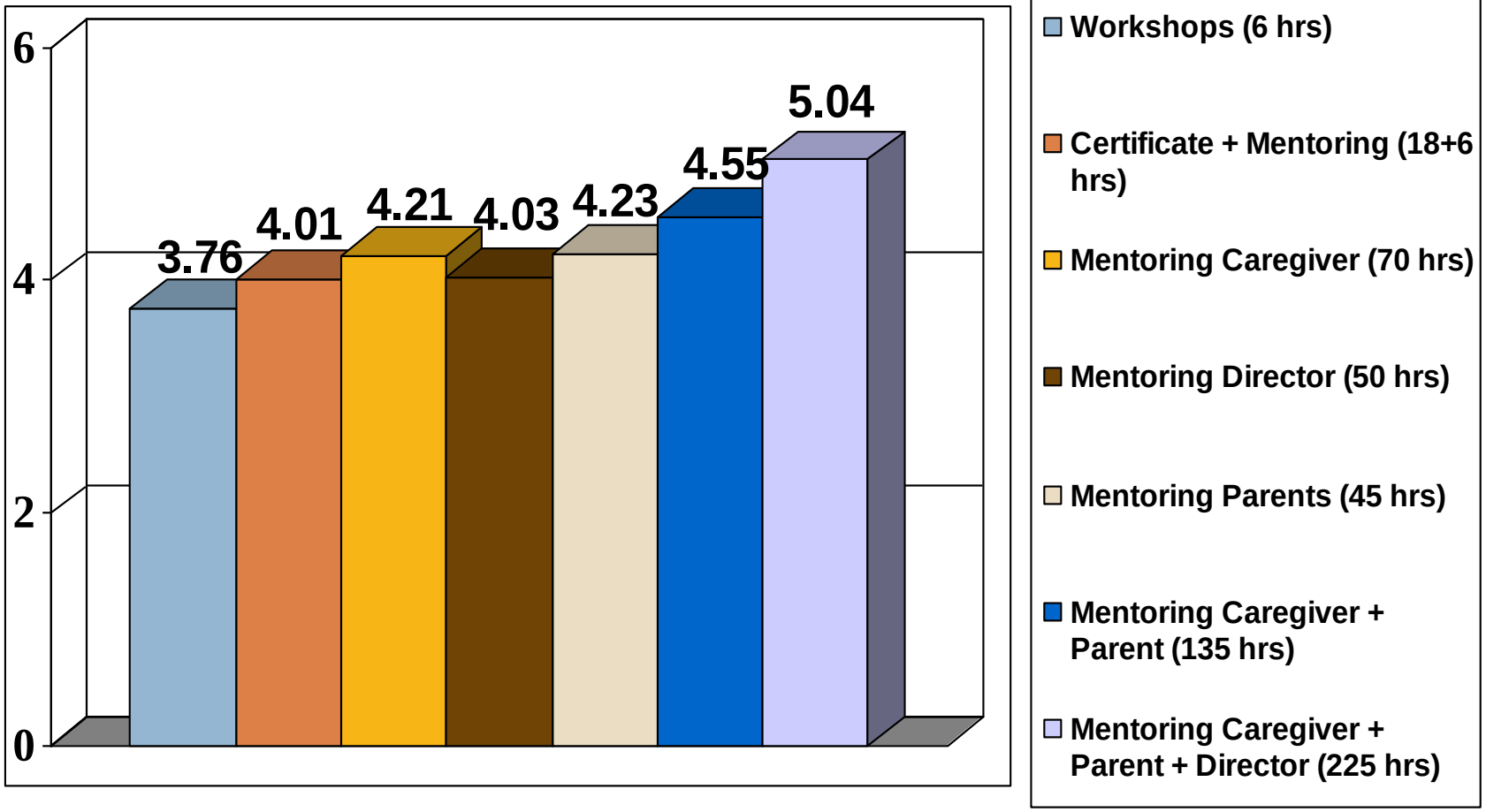
**. Correlation is significant at the 0.01 level (2-tailed).

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

Infant-Toddler Teacher Mentoring



ITERS/HOME Post-Test Scores



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

	Quality	Training	Accreditation	Licensing
	ECERS	EWECS/CCECD	NECPA/NAEYC	SS
Slosson	.23*	.33*/.34*	.29*/ .30*	.19
CBI-INT	.25*	.15/ .14	.41*/ .21*	.08
TELD	.09	.28*/.22*	.31*/ .35*	.22*
ALI	.44*	.01/ .11	.13/ .04	.06
PBQ	.37*	.32*/.23*	.44*/.40*	.29*
CBI-SOC	.26*	.21* /.20*	.19/ .23*	.18

- $p < .05$
- Kontos & Fiene (1987).

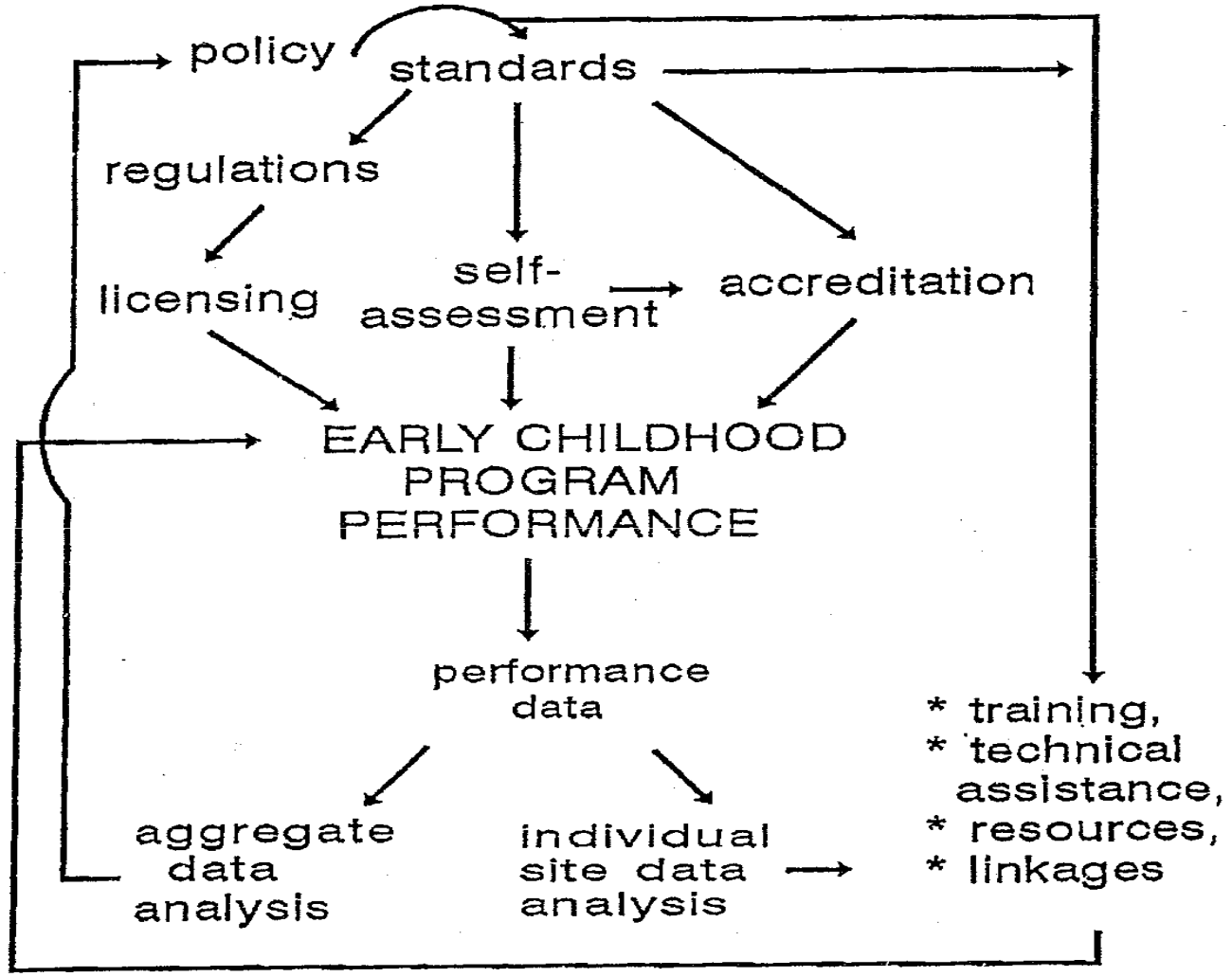
Key Element Publication Summary

- PC = *Caring for Our Children.*
- PQ = *National Early Childhood Program Accreditation (NECPA).*
- RA = *Stepping Stones.*
- KI = *13 Indicators of Quality Child Care.*
- DM = *International Child Care & Education Policy.*
- PD = *Infant Caregiver Mentoring.*
- CO = *Quality in Child Care: The Pennsylvania Study.*

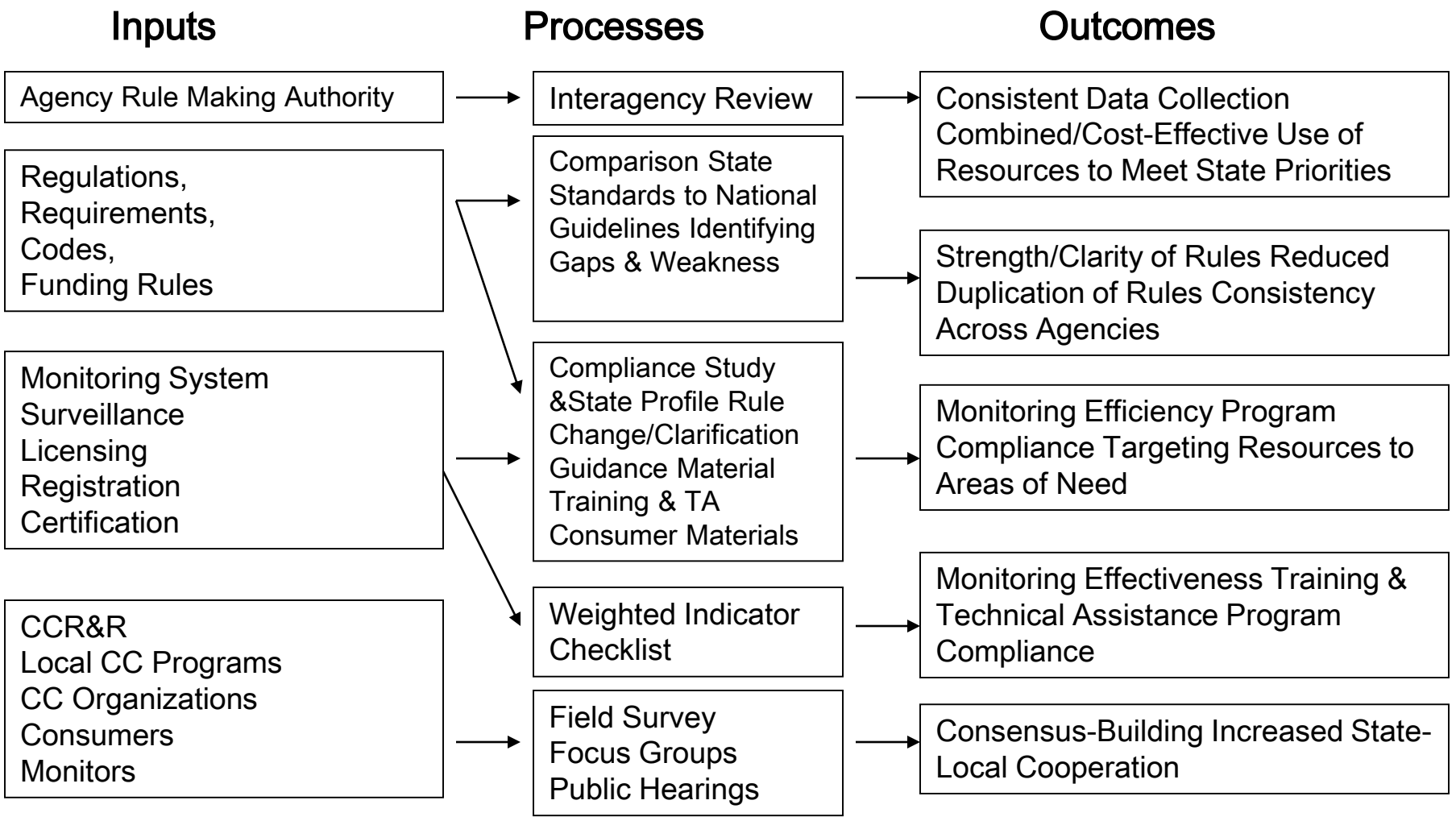
ECPQIM 1- 4 Graphics

The following graphics represent the previous generations of ECPQIM 1-4 beginning in 1975 up to the present model (DMLMA, 2013).

EARLY CHILDHOOD PROGRAM QUALITY IMPROVEMENT



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



Early Childhood Program Quality Indicator Model 3--Fiene & Kroh, (2000)

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

Where:

CO = Child Outcomes

PO = Provider Outcomes

PD = Professional Development

PC = Program Compliance/Licensing

PQ = Program Quality/QRIS

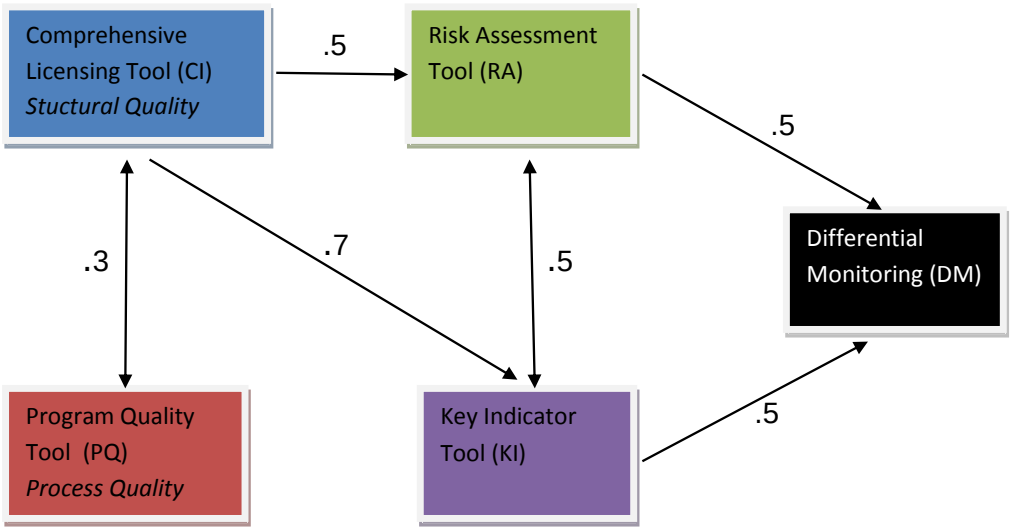
PM = Program Monitoring

DIFFERENTIAL MONITORING LOGIC MODEL & ALGORITHM (DMLMA©) (Fiene, 2012): A 4th Generation ECPQIM – Early Childhood Program Quality Indicator Model

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, CDPES*** (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)



Early Childhood Program Quality Indicator Models (ECPQIM 1 – 4)

ECPQIM 1: 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).

ECPQIM 2: 1995 – 1999. Policy Evaluation and Regulatory Systems Planning added to model. (Griffin & Fiene, 1995).

ECPQIM 3: 2000 – 2011. Inferential Inspections & Risk Assessment added to model. (Fiene & Kroh, 2000).

ECPQIM 4: 2012 – present. Validation with expected Thresholds & Differential Monitoring added; Quality Indicators introduced. (Fiene, 2012, 2013b).

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- Fiene, Iutcovich, Johnson, & Koppel (1998). Child day care quality linked to opportunities for professional development: An applied community psychology example. C*ommunity Psychologist, 31*(1), 10-11.
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- Zellman, G. L. and Fiene, R. (2012). *Validation of Quality Rating and Improvement Systems for Early Care and Education and School-Age Care,* Research-to-Policy, Research-to-Practice Brief OPRE 2012. Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services

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