

The Saskatchewan Key Indicator System: The First Step in Developing a Differential Monitoring Approach

Richard Fiene, Ph.D.

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The purpose of this report is to provide the Ministry of Education in the Province of Saskatchewan with the results of their key indicator study as well as trends in regulatory compliance in the Province as compared to the ECPQIM International Data Base Project. This report will provide a brief introduction and overview to licensing key indicators, overview data, licensing key indicator methodology, and the results from the study depicting the statistics as well as the key indicator rules.

The use of Licensing Key Indicator Rules is to help make an overall monitoring system more efficient and effective through a use of predictive rules/regulations. It is a component system within a differential monitoring approach which targets the types of monitoring visits to programs based upon regulatory compliance history. The other component system deals with weighted risk assessment but this system will not be addressed in this report. The following section of definitions will assist in distinguishing amongst the various systems and methodologies.

Definitions:

Risk Assessment (RA) - a differential monitoring approach that employs using only those rules, standards, or regulations that place children at greatest risk of mortality or morbidity if violations/citations occur with the specific rule, standard, or regulation.

Key Indicators (KI) - a differential monitoring approach that employs using only those rules, standards, or regulations that statistically predict overall compliance with all the rules, standards, or regulations. In other words, if a program is 100% in compliance with the Key Indicators the program will also be in substantial to full compliance with all rules, standards, or regulations. The reverse is also true in that if a program is not 100% in compliance with the Key Indicators the program will also have other areas of non-compliance with all the rules, standards, or regulations.

Differential Monitoring (DM) - this is a relatively new approach to determining the number of visits made to programs and what rules, standards, or regulations are reviewed during these visits. There are two measurement tools that drive differential monitoring, one is Weighted Risk Assessment tools and the other is Key Indicator checklists. Weighted Risk Assessments determine how often a program will be visited while Key Indicator checklists determine what rules, standards, or regulations will be reviewed in the program. Differential monitoring is a very powerful approach when Risk Assessment is combined with Key Indicators because a program is reviewed by the most critical rules, standards, or regulations and the most predictive rules, standards, or regulations. See Appendix which presents a ***Logic Model & Algorithm for Differential Monitoring (DMLMA®)***(Fiene, 2012).

Early Childhood Program Quality Indicator Model (ECPQIM) – these are models that employ a key indicator or dashboard approach to program monitoring. Major program monitoring systems in early care and education are integrated conceptually so that the overall early care and education system can be assessed and validated. With these models, it is possible to compare results obtained from licensing

systems, quality rating and improvement systems (QRIS), risk assessment systems, key indicator systems, technical assistance, and child development/early learning outcome systems. The various approaches to validation are interposed within this model and the specific expected correlational thresholds that should be observed amongst the key elements of the model are suggested. Key Elements of the model are the following (see Appendix for details): CI = state or federal standards, usually rules or regulations that measure health and safety - ***Caring for Our Children or Head Start Performance Standards*** will be applicable here. PQ = Quality Rating and Improvement Systems (QRIS) standards at the state level; ***ERS (ECERS, ITERS, FDCRS), CLASS, or CDPES*** (Fiene & Nixon, 1985). RA = risk assessment tools/systems in which only the most critical rules/standards are measured. Stepping Stones is an example of this approach. KI = key indicators in which only predictor rules/standards are measured. The ***Thirteen Indicators of Quality Child Care*** is an example of this approach. DM = differential monitoring decision making in which it is determined if a program is in compliance or not and the number of visits/the number of rules/standards are ascertained from a scoring protocol. PD = technical assistance/training and/or professional development system which provides targeted assistance to the program based upon the DM results. CO = child outcomes which assesses how well the children are developing which is the ultimate goal of the system. Please see the Appendices for the ***Logic Model and Algorithm***.

Overview Regulatory Compliance Data (Please see the Appendices for a graphic display)

There were 152 child care centers (CCC) used in the analyses and 82 family child care (FDC) homes. There were also 137 CCC rules and 112 FDC rules used in the analyses. The cutoff scores for the high group was 0-1 violations and 7 or more violations for the low group (CCC). The cutoff scores for the high group with FDC was no violations and 6 or more violations for the low group.

The range in rule violations for specific licensing key indicators ranged from 10% to 25% for CCC. For FDC is was from 7% to 19%.

Licensing Key Indicators

The cutoff score for the phi coefficient for CCC and FDC was .40 or greater, $p < .0001$. The reason for using these thresholds is that it increases predictability and decreases the chances of false negatives. Please see the following expanded checklist for additional details and placement within the tool.

<i>CCC Rule</i>	<i>Brief Content</i>	<i>Phi Coefficient:</i>
242a	Meals	.44
37bi	Attendance	.64
37bii	Fees	.63
412b	Supervisor/Director	.45
422b	ECE I	.49
422c	ECE II	.59
422d	ECE III	.51
431	Staff exempt	.62
442ai	First aid	.48
442aii	CPR	.48
451	Criminal Records	.42
47b	First aid/CPR	.44
47c	Criminal Records	.49

<i>FDC Rule</i>	<i>Brief Content</i>	<i>Phi Coefficient:</i>
28b	Poison Substances	.55
31	First aid supplies	.46
32	Emergency information	.50
33b	First Aid supplies	.41
362bii	Emergency contact	.41
362biii	Medical Personnel	.46
362d	Immunizations	.41
362fii	Excursions	.50
362h	Agreement	.41
37bi	Attendance	.50
37bii	Fees	.50
38b	Insurances	.59

CCC detail from Expanded Checklist – Key Indicators Bold Faced and Highlighted. The full Expanded Checklist is not provided since the Licensing Key Indicators were within a truncated portion of the Checklist:

R24. Nutrition

- 24(1) Provide meals and snacks (include menu posted, children are fed every 3 hours)

Comments:

- 24(2)(a) Meals and snacks meet nutritional needs**

Comments:

- 24(2)(b) Children are fed in appropriate manner for age and development

Comments:

R25. Food Services

- 25(a) Adequate and safe procedures - food handling, preparation, serving and storage

Comments:

- 25(b) Adequate and safe procedures - cleansing utensils

Comments:

R26. Child with Communicable Disease

- 26(a) Contact public health officer

Comments:

- 26(b) Recommendations or instructions from public health officer are followed

Comments:

R27. Medication

- 27(1)(a) Authorization is acquired

Comments:

- 27(1)(b) Written record of each dose of medication administered

Comments:

- 27(1)(c) All non-emergency medications are stored in a locked enclosure

Comments:

- 27(2) Oral authorization in exceptional circumstances for administering non-prescription (with written confirmation of authorization after)

Comments:

R28. Hazardous Items

- 28(a) Unsafe items inaccessible

Comments:

- 28(b) Poisonous substances locked

Comments:

- 28(c) Cover radiator

Comments:

- 28(d) Cap electrical outlets

Comments:

R29. Telephone, Emergency Numbers

- 29(a) Telephone in working order

Comments:

- 29(b) Emergency numbers posted

Comments:

R30. Emergency Evacuation

- 30 Develop an emergency evacuation plan and practice it monthly

Comments:

R31. First Aid Supplies

- 31 Appropriate and sufficient first aid supplies and inaccessible to children

Comments:

R32. Portable Emergency Information

- 32 Portable record of emergency information for each child attending

Comments:

R33. Taking Certain Supplies

- 33(a) Portable record of emergency information

Comments:

- 33(b) Appropriate and sufficient first aid supplies

Comments:

R34. Injuries, Unusual Occurrences *(also discuss child abuse protocol and ensure there is a copy and policies, procedures)*

- 34(a) Immediately notify parent
Comments:
- 34(b) Within 24 hours notify consultant
Comments:
- 34(c) Within seven days complete/submit report
Comments:

R35. Volunteers

- 35(1) Child care worker is present at all times when a volunteer is in attendance
Comments:

R36. Children's Records

- 36(1)(a) Keep a record for each child
Comments:
- 36(1)(b) Retain the record for a period of six years.
Comments:
- 36(2)(a) Child's name and date of birth (Child's Health Resume & Child's Emergency Information)
Comments:
- 36(2)(b)(i) Names, addresses and phone numbers of the child's parents (Child's Health Resume & Child's Emergency Information)
Comments:
- 36(2)(b)(ii) Names, addresses and phone numbers of person to contact in an emergency (Child's Health Resume & Child's Emergency Information)
Comments:
- 36(2)(b)(iii) Names, addresses and phone numbers of the child's medical practitioner (Child's Health Resume & Child's Emergency Information)
Comments:
- 36(2)(c) Any allergy, illness or other medical condition (Child's Health Resume & Child's Emergency Information)
Comments:
- 36(2)(d) The child's immunization status (Child's Health Resume & Child's Emergency Information)
Comments:
- 36(2)(e) Any medication authorization provided/any record of medication administered (Medication form)
Comments:
- 36(2)(f)(i) Any authorization by the child's parent for an excursion not involving transportation (Excursion form)
Comments:
- 36(2)(f)(ii) Any authorization by the child's parent for an excursion involving transportation (Excursion form)
Comments:
- 36(2)(g) Any report regarding an injury or unusual occurrence (Injury/Unusual Occurrence form & Minor Injury Report)
Comments:

- 36(2)(h) The agreement for services
Comments:

R37. Attendance Records (review records for past 12 months)

- 37(a) Complete and accurate monthly child attendance records
Comments:

37(b)(i) Obtain signature of the parent monthly to verify hours/days of the child's attendance

Comments:

37(b)(ii) Obtain signature of the parent monthly to verify the fees charged

Comments:

- 37(c) Forward the records to the ministry (Social Service Subsidy) each month
Comments:

R38. Insurance

- 38(a) Insurance policy - comprehensive general liability coverage and personal injury coverage

Insurer: [Click or tap here to enter text.](#)

Policy Number: [Click or tap here to enter text.](#) Expiry date: [Click or tap to enter a date.](#)

Comments:

- 38(b) Insurance policy - liability coverage with respect to the transportation of children
If do not transport children, N/A

Insurer: [Click or tap here to enter text.](#)

Policy Number: [Click or tap here to enter text.](#) Expiry date: [Click or tap to enter a date.](#)

Comments:

R39. Materials to be Made Available

- 39(a) The Act

Comments:

- 39(b) The regulations

Comments:

- 39(c) Philosophy and program

Comments:

- 39(d) Child management policy

Comments:

- 39(e) Operational policies

Comments:

- 39(f) Fee schedule

Comments:

- 39(g) Any other materials that the Director may require

Identify any other information requested (If none, check N/A):

Comments:

R40. Confidentiality

- 40(1)(a)(i) Personal information

Comments:

- 40(1)(a)(ii) Any record with respect to a child or a child's parent

Comments:

- 40(1)(b)(i) Not disclose without parent permission as required for health or safety of the child

Comments:

- 40(1)(b)(i) Not disclose without parent permission as required by law

Comments:

- 40(3)(a) May disclose to a collection agency the name and address of the child's parent

- 40(3)(b) May disclose to a collection agency the amount of fees owing by the parent

- 40(3)(c) May disclose to a collection agency the nature of the fees owing by the parent

Comments:

Regulations Part IV – Standards for Centres Section

R41. Centre Director and Supervisor

- 41(1)(a) Centre director is appointed and

Comments:

- 41(1)(b) Supervisor to act in place of the centre director in the centre director's absence**

Comments:

- 41(2)(a) Centre director must be at least 18 years of age

Comments:

- 41(2)(b) Meets or exceeds the qualifications of an ECE III or 41(4)

Comments:

- 41(3)(a) Supervisor must be at least 18 years of age

Comments:

- 41(3)(b) Meets or exceeds qualifications of an ECE I

Comments:

R42. Child Care Workers

- 42(1) Child care worker must be at least 16 years of age

Comments:

- 42(2)(b) If working for 65 hours or more per month meets or exceeds qualifications of an ECE I**

Comments:

- 42(2)(c) 30% of persons employed in the centre as child care workers for 65 hours or more meet or exceed the qualifications of ECE II**

Comments:

- 42(2)(d) A further 20% of persons employed in the centre as child care workers for 65 hours or more meet or exceed the qualifications of ECE III**

Comments:

R43. Exemption

- 43(1) May apply for exemption if unable to hire a director or supervisor whose qualifications meet requirements or child care workers whose qualifications meet the requirements

Comments:

R44. First Aid and CPR

- 44(1) At least one person is on the premises who has first aid/CPR during hours of operation

- 44(2)(a)(i) Each individual employed in the centre for 65 hours or more per month as a centre, director, supervisor or child care worker has completed a first aid course

Comments:

- 44(2)(a)(ii) Each individual employed in the centre for 65 hours or more per month as a centre, director, supervisor or child care worker has completed a course in cardiopulmonary resuscitation

Comments:

- 44(2)(b) When required to do so by the director, retakes a course in (a)

Comments:

R45. Criminal Record Searches

- 45(1) Criminal record check for each centre employee

Comments:

- 45(2)(a) Establish written policies with respect to criminal record checks

Comments:

- 45(2)(b) Make policies with respect to criminal record checks known to employees/potential employees

Comments:

R46. Health of Employees

- 46(4)(a) If employee may have category I or category II communicable disease, the licensee must notify public health

(b) Ensure recommendations/instructions followed.

Comments:

R47. Employee Records

- 47(a) Copy of employee's ECE certificates

Comments:

- 47(b) Proof of first aid/CPR training

Comments:

- 47(c) Results of criminal record check (Note to File completed)

Comments:

- 47(e) Copy of all medical reports for employee

Comments:

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Comments:

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Comments:

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If do not transport children, N/A**

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Policy Number: Click or tap here to enter text. Expiry date: Click or tap to enter a date.

Comments:

Conclusion:

The CCC and FDC key indicators represent approximately 10% of all the rules and regulations for their respective service type which is typical of the percentage of rules selected as key indicators. With these particular rules, they are not based upon risk but upon predictability in that these licensing rules statistically predict overall regulatory compliance. There is some overlap with the ***Fiene Thirteen Key Indicators*** and the ***International ECPQIM data base***, such as with Immunizations, First Aid, CPR, Criminal Records Check, and Staff Qualifications.

APPENDICES

Theory of Regulatory Compliance Algorithm (Fiene KIS Algorithm)

- 1) $\Sigma R = C$
- 2) Review C history x 3 yrs
- 3) $NC + C = CI$
- 4) If $CI = 100 \rightarrow KI$
- 5) If $KI > 0 \rightarrow CI$ or if $C < 100 \rightarrow CI$
- 6) If $RA (NC\% > 0) \rightarrow CI$
- 7) $KI + RA = DM$
- 8) $KI = ((A)(D)) - ((B)(E)) / \text{sqrt}((W)(X)(Y)(Z))$
- 9) $RA = \Sigma R1 + \Sigma R2 + \Sigma R3 + \dots \Sigma Rn / N$
- 10) $(TRC = 99\%) + (\phi = 100\%)$
- 11) $(CI < 100) + (CIPQ = 100) \rightarrow KI (10\% CI) + RA (10-20\% CI) + KIQP (5-10\% \text{ of } CIPQ) \rightarrow OU$

Legend:

R = Rules/Regulations/Standards

C = Compliance with Rules/Regulations/Standards

NC = Non-Compliance with Rules/Regulations/Standards

CI = Comprehensive Instrument for determining Compliance

ϕ = Null

KI = Key Indicators; $KI \geq .26+$ Include; $KI \leq .25$ Null, do not include

RA = Risk Assessment

$\Sigma R1$ = Specific Rule on Likert Risk Assessment Scale (1-8; 1 = low risk, 8 = high risk)

N = Number of Stakeholders

DM = Differential Monitoring

TRC = Theory of Regulatory Compliance

CIPQ = Comprehensive Instrument Program Quality

KIPQ = Key Indicators Program Quality

OU = Outcomes

A = High Group + Programs in Compliance on Specific Compliance Measure (R1...Rn).

B = High Group + Programs out of Compliance on Specific Compliance Measure (R1...Rn).

E = Low Group + Programs in Compliance on Specific Compliance Measure (R1...Rn).

D = Low Group + Programs out of Compliance on Specific Compliance Measure (R1...Rn).

W = Total Number of Programs in Compliance on Specific Compliance Measure (R1...Rn).

X = Total Number of Programs out of Compliance on Specific Compliance Measure (R1...Rn).

Y = Total Number of Programs in High Group ($\Sigma R = 98+$).

Z = Total Number of Programs in Low Group ($\Sigma R \leq 97$).

High Group = Top 25% of Programs in Compliance with all Compliance Measures (ΣR).

Low Group = Bottom 25% of Programs in Compliance with all Compliance Measures (ΣR).

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

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

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)

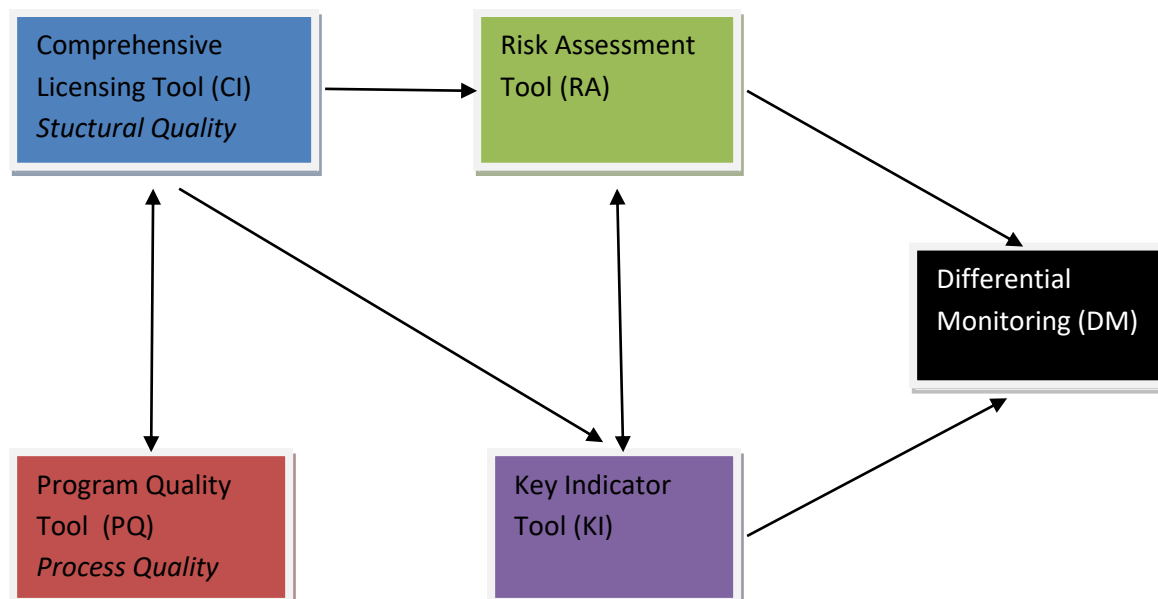
RA = Risk Assessment, (High Risk Rules)(*Stepping Stones*)

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

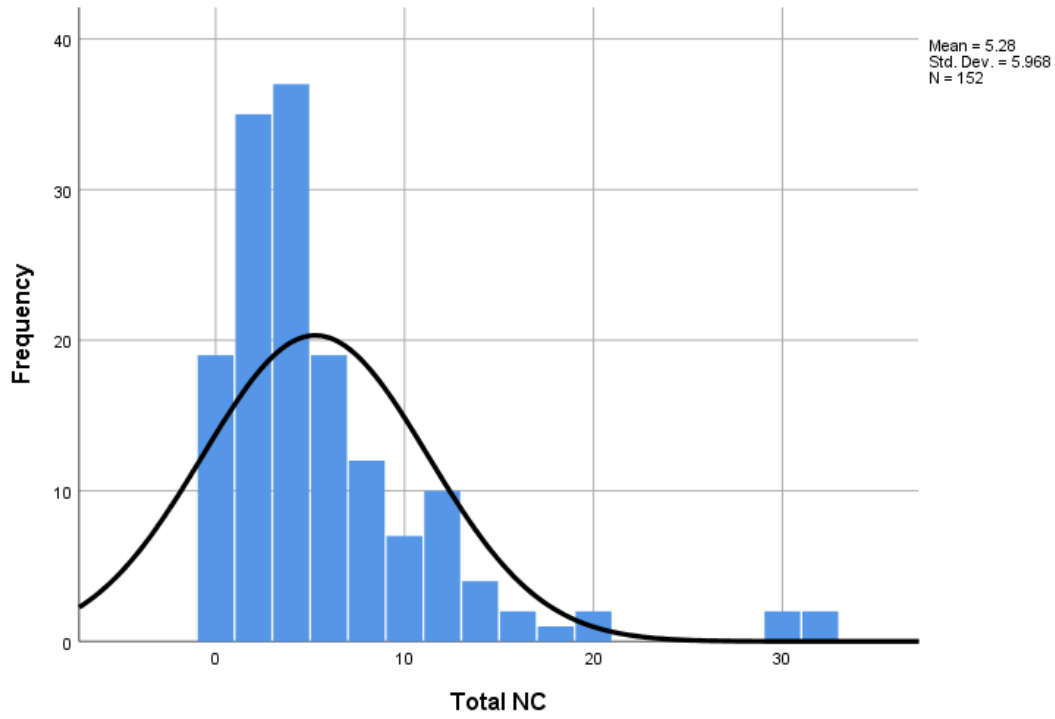
DM = Differential Monitoring, (How often to visit and what to review)

PD = Professional Development/Technical Assistance/Training

CO = Child Outcomes (See Next Slide for PD and CO Key Elements)



Centers Total Number of Violations



Homes Total Number of Violations

