

Two Agencies Research Studies to Validating Their Differential Monitoring Approaches: Key Indicator and Risk Assessment Licensing Systems: The Washington & Saskatchewan Studies^{5a2a}

Richard Fiene, Ph.D. & Sonya Stevens, Ed.D.

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Introduction

In the human services field and particularly early care and education (ECE), there is interest in validating licensing and program monitoring systems to make certain that the systems operate as they are intended to operate. A conceptual framework has been developed by Zellman and Fiene (2012) that has been used by states to validate their respective licensing and monitoring systems as well as Quality Rating and Improvement Systems (QRIS) since it was originally proposed.

The two agencies are from the state of Washington (Department of Children, Youth, and Families) and from the Province of Saskatchewan (Ministry of Education). Both these agencies wanted to make certain that their respective differential monitoring approaches to developing licensing key indicators and risk assessment rules were working as they were intended.

The literature on ECE validation has been dominated by validating QRIS in state agencies. There has not been as many validation studies undertaken in the licensing field. In fact, the results from Washington and Saskatchewan are leading the way in utilizing this new validation conceptual framework. It is rather timely because the differential monitoring approaches of licensing key indicators and risk assessment rules has been gaining considerable traction in many licensing jurisdictions because of the re-authorization of the Child Care and Development Block Grant (CCDBG) and interest by the various Canadian Provinces.

The validation conceptual framework as designed by Zellman & Fiene (2012) delineate four approaches to validation: Standards, Measures, Outputs, and Outcomes. The two agencies' studies will address

Standards validation (Washington); Measures validation (Washington & Saskatchewan); Outputs validation (Washington). The specific differential monitoring approaches validated were licensing key indicators (Saskatchewan) and risk assessment rules (Washington and Saskatchewan). The specific studies employed somewhat different measurements but the same goal was attained, validating their respective systems utilizing the specific validation approach: Measures or Outputs.

Saskatchewan's Ministry of Education

Methodology

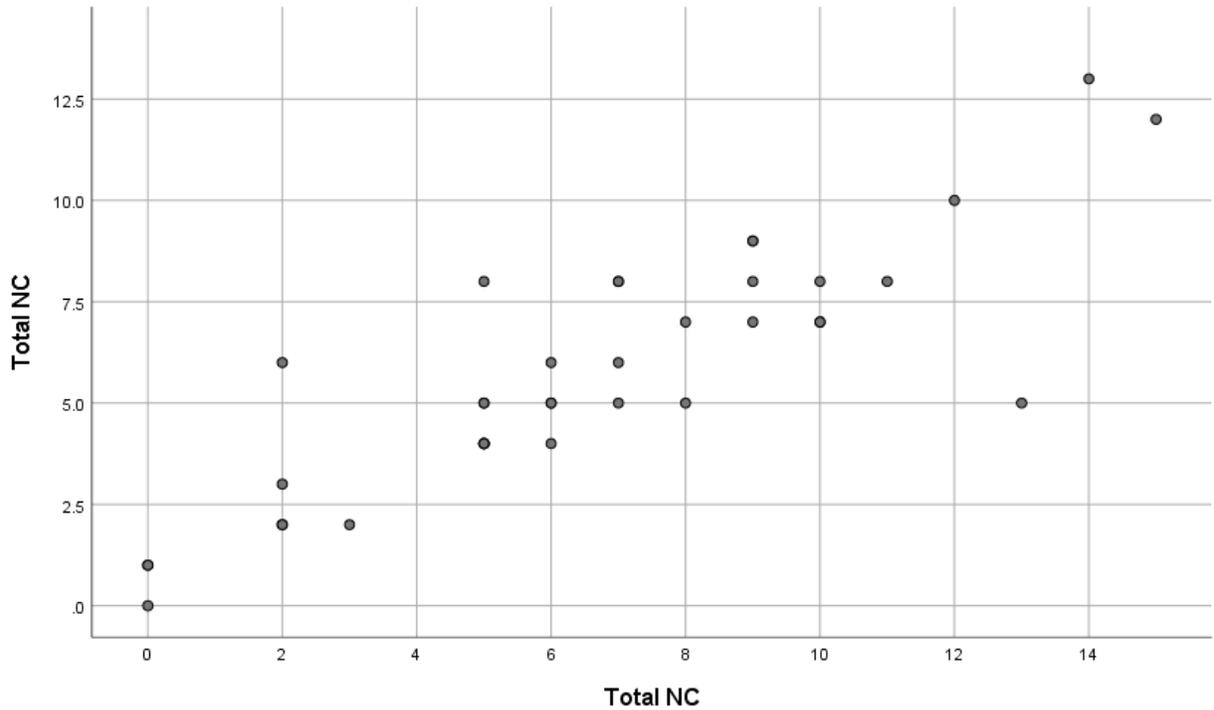
In the Saskatchewan's study, a sample of 38 child care centers (CCC) and 35 child care homes (FCC) were selected during a three-month time frame (Winter 2019-20). It was a convenience sample based upon when facilities were to be monitored. However, since the monitoring of facilities did not show any biases in their selection protocol, this sample can be dealt with as a valid representation of the Province. Licensing consultants did the reviews and collected the data. Again, licensing consultants who would normally review the programs during this time frame did so. The reviews/inspections were done in tandem independent of each other with two consultants visiting a facility one doing the abbreviated inspection/review (key indicator and risk assessment rules only), the other consultant doing the comprehensive inspection/review looking at all the rules.

Results

The results clearly validated the key indicator and risk assessment rules and the methodology. All the following results are statistically significant at the $p < .0001$ level with the exception of a couple of rules which are addressed in the final Discussion section of this report. The correlation between the abbreviated tool and the comprehensive tool for CCC was .86 (see Figure 1 for a graphic depiction of this relationship); while the correlation between the abbreviated tool and the comprehensive tool for FCC

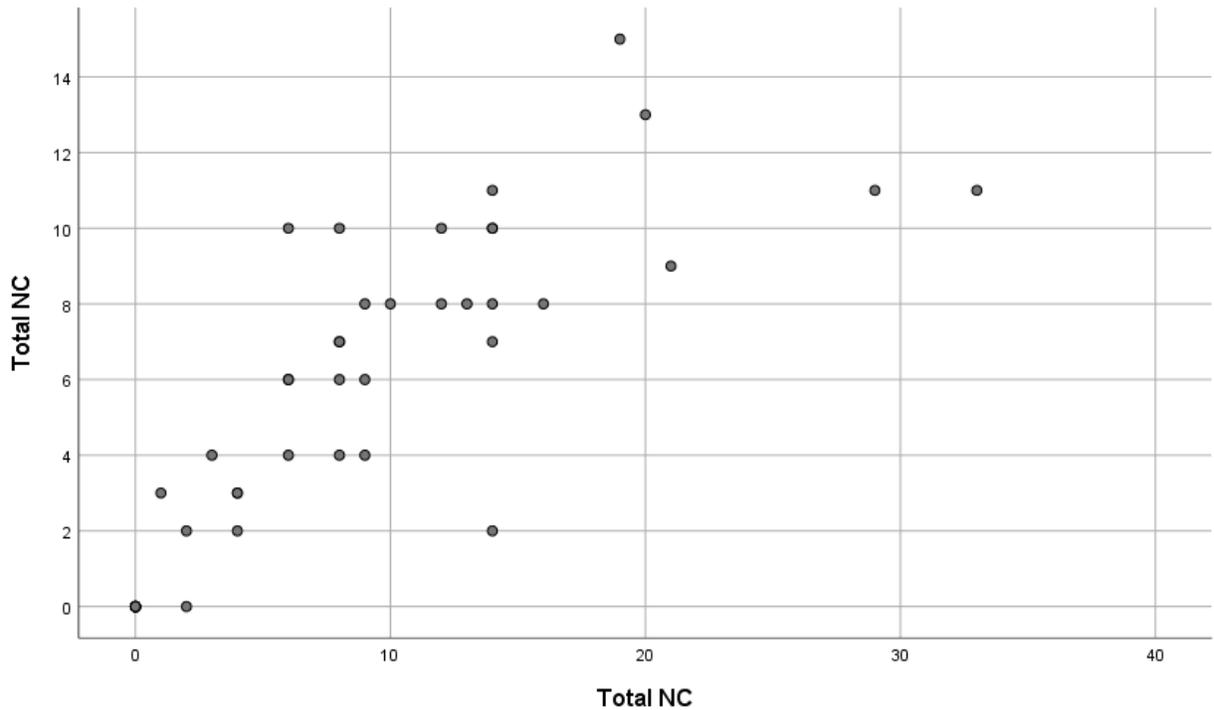
was .71 (see Figure 2 for a graphic depiction of this relationship). There was only one false negative in either the CCC or FCC observations in which the abbreviated tool indicated no non-compliances (NC) while 2 non-compliances (NC) were indicated on the comprehensive tool. False negative means that a program gets a perfect score on the abbreviated inspection but violations of regulatory compliance are found on the comprehensive inspection. A false positive is when no violations are found on the comprehensive inspection but violations are found on the abbreviated inspection – two cases were observed to meet this standard. There were no statistically significant differences amongst the licensing consultants scoring. Reliability IRR – Inter-Rater Reliability = .84.

Figure 1: Total CCC Non-Compliance (NC) Abbreviated Tool (Vertical Axis)/Total Non-Compliance (NC) Comprehensive Tool (Horizontal Axis)



$r = .86; p < .0001$

Figure 2: Total FCC NC Abbreviated Tool (Vertical Axis)/Total NC Comprehensive Tool (Horizontal Axis)



$r = .71; p < .0001$

The following charts (1-4) provide the correlations between the abbreviated tool and the comprehensive tool for each key indicator rule and each risk assessment rule. Chart 1 provides the results for CCC key indicator rules; Chart 2 provides the results for CCC risk assessment rules; Chart 3 provides the results for FCC key indicator rules; and Chart 4 provides the results for FCC risk assessment rules.

Chart 1: CCC Key Indicator Rules

Rule	Content of Rules	r
242a	Meals and snacks meet nutritional needs	.86
37bi	Obtain signature of parent monthly to verify hours/days of attendance	.89
37bii	Obtain signature of parent monthly to verify fee charges	.89
412b	Director and supervisor meets or exceeds the qualifications of ECEIII	.85
422b	Child care workers working for 65hrs or more/mo. meets or exceeds ECEI	.93

422c	30% of persons employed in the centre as child care workers for 65 hours or more meet or exceed the qualifications of ECE II	.94
422d	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	.85
431	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	.82
442ai	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	.93
442aii	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	.93
451	Criminal record check for each centre employee	.80
47b	Proof of first aid/CPR training	.85
47c	Results of criminal record check	.81

Chart 2: CCC Risk Assessment Rules

Rule	Content of Rules	r
81a	Health inspection	.93
81b	Fire inspection	.94
271a	Medication authorization is acquired	.81
271b	Written record of each dose of medication administered	1.00
271c	All non-emergency medications are stored in a locked enclosure	.65
272	Oral authorization in exceptional circumstances for administering non-prescription	1.00
28a	Unsafe items inaccessible	.52
28b	Poisonous substances locked	.76
28c	Cover radiator	1.00
28d	Cap electrical outlets	.70
49	Children must be adequately supervised at all times	1.00
523	Number of child care workers present is not less than the number required by applicable staff-to-child ratio	1.00

It is evident from Charts 1 and 2, the very strong relationship between the abbreviated key indicator and risk assessment rules and when these rules were assessed independently by a different licensing consultant during a comprehensive inspection. In moving on to Charts 3 and 4 for FCC, the results are not as quite robust but still statistically significant in all cases.

Chart 3: FCC Key Indicator Rules

Rule	Content of Rule	r
28b	Poisonous substances locked	.71
31	Appropriate and sufficient first aid supplies and inaccessible to children	.89
32	Portable record of emergency information for each child attending	.94
33b	Appropriate and sufficient first aid supplies	.71
362bii	Names, addresses and phone numbers of person to contact in an emergency	.70
362biii	Names, addresses and phone numbers of the child's medical practitioner	.83
362d	The child's immunization status (Child's Health Resume & Child's Emergency Information)	.74
362fii	Any authorization by the child's parent for an excursion involving transportation	.70
362h	The agreement for services	.48
37bi	Obtain signature of the parent monthly to verify hours/days of the child's attendance	.71
37bii	Obtain signature of the parent monthly to verify the fees charged	.83
38b	Insurance policy - liability coverage with respect to the transportation of children	.68

Chart 4: FCC Risk Assessment Rules

Rule	Content of Rule	r
10e	Criminal Record Check(s)	.85
21a	Equipment and furnishings – sanitary	.80
21b	Hygienic procedures are followed	.88
271a	Medication authorization is acquired	1.00
271b	Written record of each dose of medication administered	1.00
271c	All non-emergency medications are stored in a locked enclosure	.61
272	Oral authorization in exceptional circumstances for administering non-prescription	1.00
28a	Unsafe items inaccessible	.68
28c	Cover radiator	1.00
28d	Cap electrical outlets	.88
611	First aid certificate	1.00
612	CPR certificate	1.00
64a	A licensee of a GFCCCH - maintain records for each assistant that includes: A copy of proof of training in first aid and CPR	.67
64b	The results of a criminal record check	.69
64d	Any emergency medical information	.90
64e	A copy of the proof of participation in continuing education	1.00

The FCC results appear to corroborate other findings in other jurisdictions over the years in which FCC scoring is lower than CCC scoring when it comes to reliability and validity. The results are still statistically significant in both cases but there is more consistency in the CCC scoring. This result is fairly

typical. Additional research in this area will need to be done in order to ascertain the differences between CCC and FCC related to these results.

This study in Saskatchewan clearly demonstrates the efficacy of both the risk assessment and key indicator methodologies as effective and efficient approaches to utilizing an abbreviated protocol to doing licensing inspections and determining substantial regulatory compliance. Other observations in interpreting the data analyses: The CCC key indicator rules were consistently higher in their validation scores than the risk assessment rules. The CCC key indicator rules were consistently higher in their validation scores than the FCC key indicator rules. With the FCC facilities, the risk assessment rules had higher validation scores than the key indicator rules. And finally, the risk assessment rules were consistently higher in their validation scores with FCC over the CCC facilities.

Washington's Department of Children, Youth, and Families

Methodology

Several cohorts from Washington State's Department of Children, Youth and Families child care Risk Assessment Licensing Decision Making Tiers System (RALDMTS) were used to validate their risk assessment rules. The validation involves two key components: 1) Validation of the measurement strategy used to determine the licensing decision making for child care centers and family child care homes; 2) Validation of the licensing system in juxtaposition to the program quality measures (ERS & CLASS) as part of their QRIS – Quality Rating and Improvement System utilized in Washington.

As stated in the above paragraph, the data set involves several cohorts drawn from licensing reviews in 2019 – 2020. The data reported in this report are from late 2019 through early 2020 and involved 385 sites. It was driven by the QRIS visiting and assessment schedule.

Licensing/regulatory compliance data are very different from other data in how they get distributed and therefore should be analyzed. Licensing/regulatory compliance data are grouped into 4 basic buckets: Full regulatory compliance, substantial regulatory compliance, mid-range, and non-optimal regulatory compliance. Obviously full regulatory compliance means 0 violations or 100% compliance with all rules. Substantial regulatory compliance means 1-3 violations with all rules, while low compliance means 10 or more violations with all rules. A middle regulatory compliance range means 4-9 violations with all the rules.

The Washington State System combines the use of risk assessment and licensing decision making matrices. In the past, risk assessment matrices have been used to determine the frequency of monitoring and licensing visits and scope of reviews based upon individual rule severity/risk factors. These data have not been aggregated to determine what type of licensing decisions should be made based upon prevalence, probability or regulatory compliance history data.

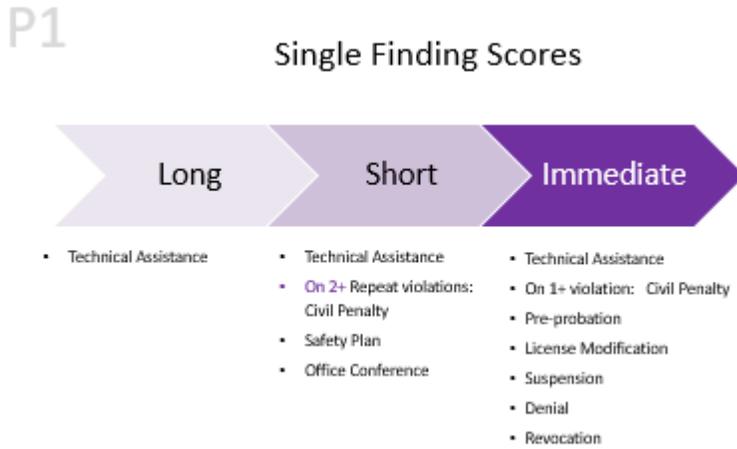
Washington State's HB 1661 redesigned the FLCA process as a way to appeal and forgive non-immediate health and safety risks rather than simply being a report of compliance findings. As a result, weights were used to assign risk categories to regulations in accordance to the mandate definition of immediate health and safety regulations:

- **Weights 8, 7 and some 6 = immediate concern**
- **Weights 4, 5 and most 6 = short term concern**
- **Weights 1, 2, and 3 = long term concern**

Single violations of regulations can be considered independently or based on how many time it has been violated over a four-year period when considering licensing actions. For example, a violation within the short term concern category could be subject to a civil penalty when violated the second (or potentially

the 3rd) time in a four-year period. Whereas, a violation in the immediate concern category could be subject to a civil penalty or more severe action upon the first violation. (See Graphic for Step 1).

Step 1:



A more difficult task is assigning initial thresholds for the overall finding score. It is this second step (Step 2) where we need to consider probability and severity side by side as depicted in Chart 1 below which is generally considered the standard Risk Assessment Matrix in the licensing research literature:

Step 2:

Chart 1 – Risk Assessment Matrix

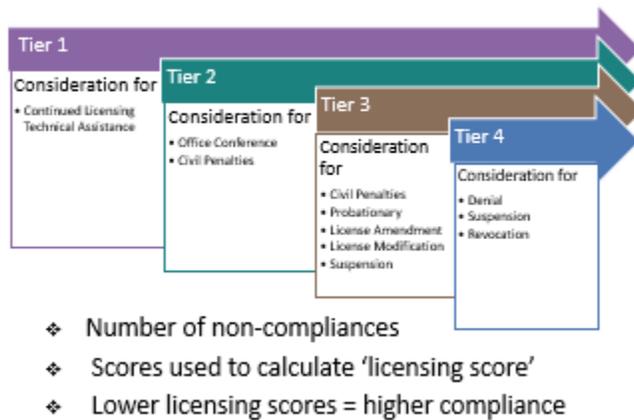
		Probability/	Prevalence		
	Levels	High	Medium	Low	Weights
Risk/	High	9	8	7	7-8
Severity	Medium	6	5	4	4-6
	Low	3	2	1	1-3
	# of Rules	8 or more	3-7	2 or fewer	

The next step (Step 3) is to build in licensing decisions using a graduated Tiered Level system as depicted in the following figure. In many jurisdictions, a graduated Tiered Level system is used to make determinations related to monitoring visits (frequency and scope) and not necessarily for licensing decisions.

Step 3:

P2

Overall License Score



Step 4 involves combining steps 1 and 2 into a revised risk assessment matrix as depicted in the following chart:

Step 4:

Risk Assessment (RA) Matrix Revised

<i>Risk/Severity</i>	Levels	High	Medium	Low
	Immediate	9	8	7
	Short-term	6	5	4
	Long-term	3	2	1
			Probability	
	Regulatory Compliance (RC): # of Rules out of compliance and In compliance	8+ rules out of compliance. 92 or less regulatory compliance.	3-7 rules out of compliance. 93 – 97 regulatory compliance.	2 or fewer rules out of compliance. 98 – 99 regulatory compliance.

The last step (Step 5) is to take steps 3 and 4 and combine them together into the following charts which will provide guidance for making licensing decisions about individual programs based upon regulatory compliance prevalence, probability, and history as well as rule risk/severity data.

Step 5:

Licensing Decision Making Matrix*

Tier 1 = (1 – 2) RA Matrix Score

Tier 2 = (3) RA Matrix Score

Tier 3 = (4 – 5) RA Matrix Score

Tier 4 = (6 – 9) RA Matrix Score

***Regulatory Compliance (RC)(Prevalence/Probability/History + Risk/Severity Level**

Tier 1 = ((RC = 93 – 97) + (Low Risk)); ((98 – 99) + (Low Risk)) = Tier 1

Tier 2 = (RC = 92 or less) + (Low Risk) = Tier 2

Tier 3 = ((RC = 93 – 97) + (Medium Risk)); ((98 – 99) + (Medium Risk)) = Tier 3

Tier 4 = (RC = (92 or less) + (Medium Risk)) = Tier 4; ((93 -97) +(High Risk)) = Tier 4; ((98 – 99) + (High Risk)); ((92 or less) + (High Risk)) = Tier 4+

Results

The data were well distributed and fit into the four (0 - 3) buckets as described in the Methodology Section above. Based upon comparing the licensing data to the “Tiers” and “Actions” variables, the licensing decision making system has been validated with high correlations between the licensing data, the Tiers, Risk Assessment Matrix, and the proposed Actions (see Charts 5 and 6).

With the comparisons between the licensing data and the Environmental Rating Scales (ERS), the licensing data showed the typical “regulatory compliance law of diminishing returns” where the ERS scores were highest with the substantial regulatory compliance range rather than the full regulatory compliance level. In other words, there is not a linear relationship between moving from low to full regulatory compliance and program quality. Programs that are in substantial regulatory compliance and not full regulatory compliance had higher program quality scores. Obviously, the low regulatory compliance programs had also low program quality scores. There is a linear relationship between regulatory compliance and program quality in moving from low regulatory compliance to the middle and substantial regulatory compliance levels (see Chart 7). On the basis of the results of this study, the Washington State DCYF’s Risk Assessment Licensing Decision Making Tiers System has been validated at both the measures and output levels. In a previous analysis, the standards that make up the DCYF’s Risk Assessment Licensing Decision Making Tiers System have also been validated (see Stevens & Fiene, 2018).

Chart 5: Tiers By Proposed Actions

	Tiers	1	2	3	4
Proposed	None	312	0	0	0
Actions	Tech Assist	14	43	5	0
	Safety Plan	0	1	2	1
	Civil Penalty	0	4	15	4

R = .80; p < .0001

Chart 6: Risk Assessment Matrix (RAM) By Regulatory Compliance (RC) Levels & Licensing Decision Tiers Correlations

	Tiers	Actions	Immediate	Short Term	Long Term	RC
RAM	.52*	.50*	.62*	.66*	.41*	.88*

* P < .01

Chart 7: Regulatory Compliance Levels By Program Quality Scores (ERS Average Scores)

Licensing Bucket	Legend	Compliance	Programs	ERS Aver Score
0	Full	0 violations	82	4.07*
1	Substantial	1-2 violations	69	4.28*
2	Middle	3-10 violations	163	4.17*
3	Low	11+ violations	71	3.93*

* P < .01

There are some additional significant relationships to report which occurred in the second cohort but were not observed in the first cohort but that was because the total number of sites were fewer in the first cohort. The second cohort had over twice as many sites where data were collected. Here are some of the significant relationships observed between the Quality Rating and Improvement System (QRIS) and regulatory compliance (RC) and the RAM licensing decision making:

- **QRIS x RAM: $\chi^2 = 35.243$; p < .009**
- **QRIS x RC: $\chi^2 = 27.761$; p < .001**

Significant relationships between Environmental Rating Scales (ERS) and Licensing Decision Tiers (Tiers) and QRIS levels.

- **ERS x Tiers: F = 5.085; p < .002:**
 - **Tier1 = 4.16**
 - **Tier2 = 4.10**
 - **Tier3 = 3.68**
 - **Tier4 = 3.58.**

- **ERS x QRIS: F = 26.534; p < .0001:**
 - **QRIS1= 3.89**
 - **QRIS2= 3.32**
 - **QRIS3 = 4.14**
 - **QRIS4 = 4.62.**

Conclusion

There are several takeaways from these validation studies in demonstrating that both key indicator rules and risk assessment rules, two abbreviated inspection approaches and examples of differential monitoring, as basically reliable and valid methods for assessing regulatory compliance in early care and education programs (child care centers (CCC) and family child care homes (FCC)). There were a couple of rules which did not reach the specific significance threshold ($p < .0001$) set for these types of validation studies: Rule 442d CCC and rule 362h FCC. But even in these cases the relationship between their presence on the abbreviated inspection tool and the comprehensive inspection tool was still statistically significant ($p < .01$).

Another interesting trend was that the CCC key indicator rules had higher validation scores and the key indicator rules had higher validation scores than the risk assessment rules. This is a result that needs to be replicated in future studies to determine why this is occurring since risk assessment rules as an approach is used approximately 2-3 times more often than the key indicator rule approach.

And lastly, the fact that there were so few false positives and negatives provides support to the validity and reliability of the two approaches. In doing this type of regulatory compliance research, false

negatives are always a real concern and in 99% of the cases it was not an issue. In looking at both false positives and negatives, 96% of the cases were not an issue.

The Washington Validation study builds upon the Saskatchewan Validation study in conducting both measures and output validations. The Washington Validation study is similar to a validation study completed in the state of Georgia (Fiene, 2014) in which their Core Rule Assessment system was validated. The licensing decisions made were very consistent with the overall data distributions.

The Washington Risk Assessment and Licensing Decision Making Tiered System was clearly validated at both the measures and output levels with the high correlations between RAM, RC, ERS, and QRIS scores. And the Tiered system corresponded with the actions to be taken based upon the results of the Tiered system.

These studies provide the first empirically based validation of both the key indicator and risk assessment methodologies at the measures and output validations as used within a differential monitoring or abbreviated inspection approach. It has clearly demonstrated the efficacy of these approaches when used in conjunction with each other. The study should provide guidance for future research in the regulatory science field.

References

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Richard Fiene, Ph.D., Research Psychologist,  orcid.org/0000-0001-6095-5085 Research Institute for Key Indicators & Penn State University. rfiene@rikoinstitute.com or rjf8@psu.edu

Sonya Stevens, Ed.D., Research Manager, Washington Department of Children, Youth, and Families. sonya.stevens@dcyf.wa.gov