Development of a Regulatory Compliance Scale

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April 2025

Abstract

The purpose of this paper is to provide an alternate paradigm for regulatory compliance measurement in moving from a nominal to an ordinal scale measurement strategy and to introduce a new licensing/regulatory compliance metric: the Regulatory Compliance Scale (RCS). Regulatory compliance measurement is traditionally dominated by a nominal measurement system in which rules are strictly in or out of compliance. By borrowing from accreditation and other program quality systems, this paper introduces an ordinal scale measurement system that accounts for gradients of compliance. This approach offers an opportunity to integrate a quality element into the measurement schema while factoring in risk and prevalence data, which are crucial for rank-ordering specific rules. Furthermore, the paper outlines the integration of this scale into different program monitoring systems, illustrating its implications for licensing decision-making, monitoring systems paradigms, and the theory of regulatory compliance.

1. Introduction

Regulatory compliance measurement is dominated by a nominal scale measurement system in which rules are either in compliance or out of compliance. There are no gradients for measurement within the present licensing measurement paradigm; it is highly absolute. Either a rule is in full compliance to the letter of the law or the essence of the regulation, or it is not.

An alternate paradigm borrowing from accreditation and other program quality systems is to establish an ordinal scale measurement system which takes various gradients of compliance into account. With this alternate paradigm, it offers an opportunity to begin to introduce a quality element into the measurement schema. It also allows us to take into consideration both risk and prevalence data which are important in rank ordering specific rules.

Presently, in licensing measurement, licensing decisions are made at the rule level in which each rule is either in or out of compliance in the prevailing paradigm. The alternate measurement paradigm expands the Yes/No response to include gradients of the particular rule. For example, rather than having a required 6 hours of professional development be strictly compliant or non-compliant, it could exist on a relative

gradient where anything above 6 hours falls into a program quality level, and anything less falls out of compliance at varying levels of severity depending on how far below the threshold the program falls.

From a math modeling perspective, the 1 or 0 format for a Yes or No response becomes -2, -1, 0, +1, +2 format. This new formatting builds upon the compliance vs non-compliance dichotomy (C/NC) but adds a quality indicator (QI) element. By employing this alternate paradigm, we can lessen the non-linear relationship between regulatory compliance with rules and program quality scores as measured by the Environmental Rating Scales (ERS) and CLASS, which is the essence of the Theory of Regulatory Compliance (TRC).

2. Introduction to the Regulatory Compliance Scale (RCS)

The theory of regulatory compliance has been proven in multiple studies over the past four decades and has been utilized extensively in the creation of differential monitoring and its spin-off methodologies of risk assessment and key indicators. The new measurement strategy is the Regulatory Compliance Scale (RCS), depicted below.

Table 1: Original Regulatory Compliance Scale (RCS) Rubric

Scale	Compliance Level	Risk Level	Model Violations	Model Weights
7 = A	Full	None	0	0
5 = B	Substantial	Low	1-3	1-3
3 = C	Medium	Medium	4-9	4-6
1 = D	Low	High	10+	7+

The scale represents an ordinal measurement similar to other scales utilized in program quality measurement on a 1-7 Likert Scale. The compliance levels run from full 100% regulatory compliance to low regulatory compliance. The unweighted and weighted models are based upon prevailing approaches to rank-ordering rules in research literature.

3. Regulatory Compliance Scale Studies and Methodology

The Regulatory Compliance Scale (RCS) has been pilot tested in validation studies for differential monitoring. Data used are from an international database maintained at the Research Institute for Key Indicators Data Laboratory focusing on program quality scores and rule violation frequency data from diverse jurisdictions across the US and Canada.

Table 2: Alternate RCS Models used for analyses

RCS Scaling	Original	Model 1	Model 2	Model 3	Model 4	Model 5
Full	100	100	100	100	100	100
Substantial	99-98	99-97	99-97	99-98	99-98	99-97
Medium	97-90	96-90	96-93	97-95	97-85	96-85
Low	89>	89>	92>	94>	84>	84>

The numbers indicate the score out of 100 based on the number of violations. The scale score was determined as follows: Full = 7; Substantial = 5; Medium = 3; and Low = 1.

4. Results and Insights

Analyses evaluated correlations amongst the respective RCS Models and jurisdictions' program quality tools. Further, models based on the Fibonacci Sequence were tested to introduce additional variation into the scaling process.

Table 3: RCS Fibonacci Models

RCS Scaling	Original	Fibonacci 1	Fibonacci 2
Full	100	100	100
Substantial	99-98	40	90
Medium	97-90	20	20
Low	89>	13	13

Insights: Based upon the results, the original RCS model proposed in 2021 remains the best model to use, though the Fibonacci Sequence model is a close second in some jurisdictions. The RCS Model proves slightly more advantageous over raw Regulatory Compliance Violation (RCV) frequency counts in determining quality. Ultimately, it simplifies interpreting the relationship between quality and compliance.

5. Additional Analyses and RCS Extensions

To further test the RCS, results from 11 studies spanning 10 US and Canadian jurisdictions over a decade (2013-2023) were analyzed. Data revealed substantial variation across jurisdictions, with some reporting higher concentrations of full compliance and others showing more rigorous rule enforcement leading to medium or low compliance scoring.

Because regulatory compliance data distributions are heavily skewed (resulting in a ceiling effect when compared with program quality), extending the RCS helps mitigate this skewness. Integrating quality directly into the compliance matrix creates a linear relationship, encouraging state licensing administrators to add more quality elements to health and safety regulations.

Table 4: Regulatory Compliance Scoring System and Scale (RC3S)

Color	Non-Compliance Level (Violations)	Regulatory Compliance Level
Blue	0	Full Compliance
Green	1-2	Substantial Compliance
Yellow	3-6	Mid-Range Compliance
Orange	7-9	Low Compliance
Red	10-15+	Very Low Compliance

6. Decision Making and Program Monitoring Paradigms

Using empirical evidence to make licensing decisions requires clear thresholds. The scaling proposes three major decision points: Full/Substantial compliance (100-98%) usually resulting in a full license; Mid-Range compliance (97-90%) leading to a provisional license; and Low compliance (89% or less) resulting in no license. Jurisdictions can adjust these specific thresholds based on their individual data distributions.

Table 5: Regulatory Compliance Scales and Program Monitoring Systems

Scoring Level	Individual Rule (Instrument Based)	Aggregate Rules (Differential)	Individual Rule (Integrated)
7	Full Compliance	Full Compliance	Exceeds Compliance
5	---	Substantial	Full Compliance
3	---	Mediocre	Substantial
1	Out of Compliance	Low	Mediocre/Low

Integrating these scales changes how compliance relates to various monitoring methods:

- **Instrument Based Program Monitoring (IBPM):** Traditional method checking standardized instruments comprehensively but uniformly.

- **Differential Monitoring (DM):** Risk-based monitoring using RCS to guide intensity and focus on higher-risk violations.
- **Integrative Monitoring Systems (IMS):** Assesses overall program quality using IBPM, DM, and additional metrics to provide a holistic performance picture.

7. Conclusion

The Theory of Regulatory Compliance and the introduction of substantial compliance serve as critical pivots in regulatory science. This paper expands on these concepts by formalizing the Regulatory Compliance Scale (RCS), a departure from binary compliance checking to nuanced, risk-and-quality-based assessments. This paradigm shift offers a robust, efficient methodology for licensing and program monitoring, empowering agencies to move beyond one-size-fits-all metrics toward targeted, outcomes-focused evaluations.

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