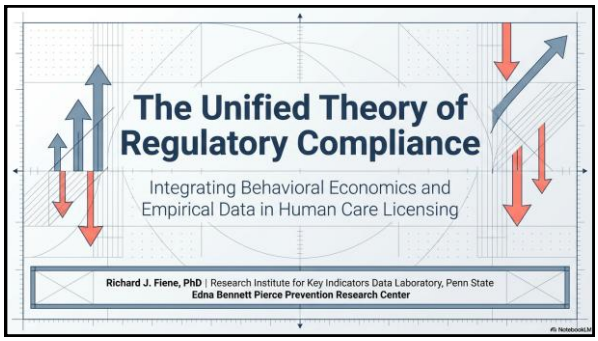
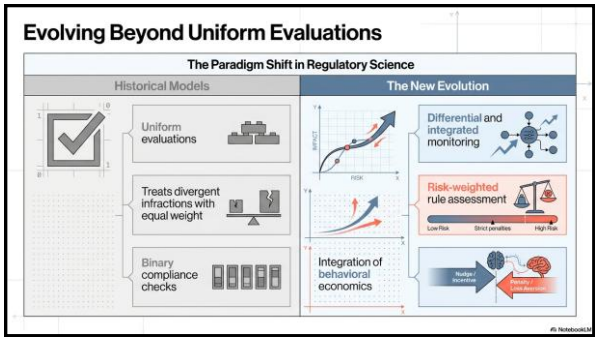
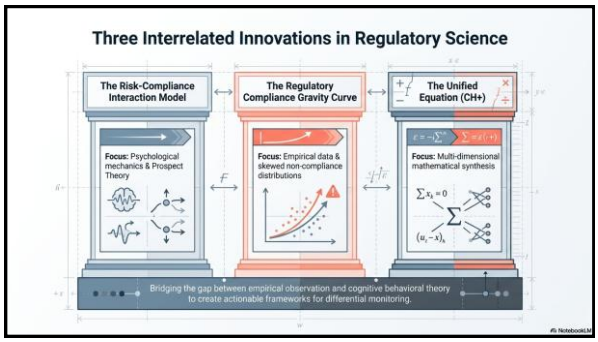
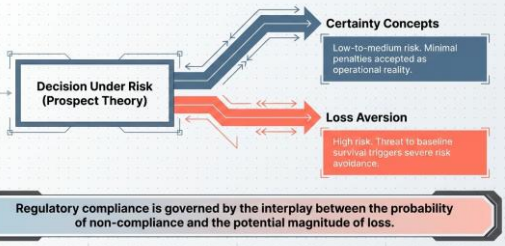

The Unified Theory of Regulatory Compliance
Integrating Behavioral Economics and Empirical Data in Human Care Licensing
Richard J. Fiene, PhD | Research Institute for Key Indicators Data Laboratory, Penn State
Edna Bennett Pierce Prevention Research Center


Evolving Beyond Uniform Evaluations
The Paradigm Shift in Regulatory Science
Historical Models
The New Evolution
Uniform evaluations
Treats divergent infractions with equal weight
Binary compliance checks
Differential and integrated monitoring
Risk-weighted rule assessment
Integration of behavioral economics

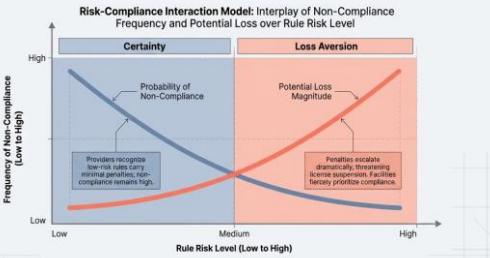

Three Interrelated Innovations in Regulatory Science
The Risk-Compliance Interaction Model
The Regulatory Compliance Gravity Curve
The Unified Equation (CH+)
Focus: Psychological mechanics & Prospect Theory
Focus: Empirical data & skewed non-compliance distributions
Focus: Multi-dimensional mathematical synthesis
Bridging the gap between empirical observation and cognitive behavioral theory to create actionable frameworks for differential monitoring.

Pillar 1: The Psychology of Compliance



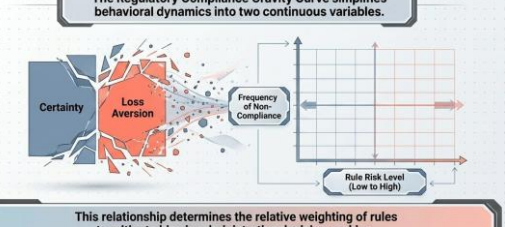
Regulatory compliance is governed by the interplay between the probability of non-compliance and the potential magnitude of loss.

Mapping Cognitive Zones Against Rule Risk

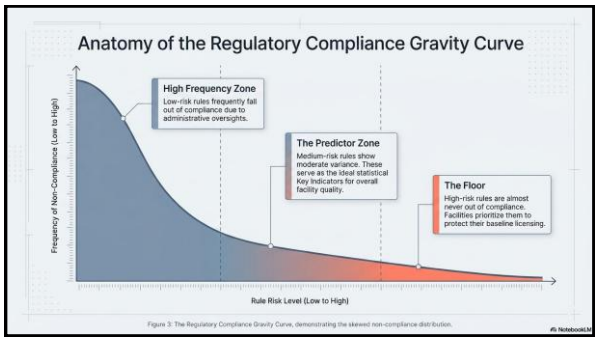


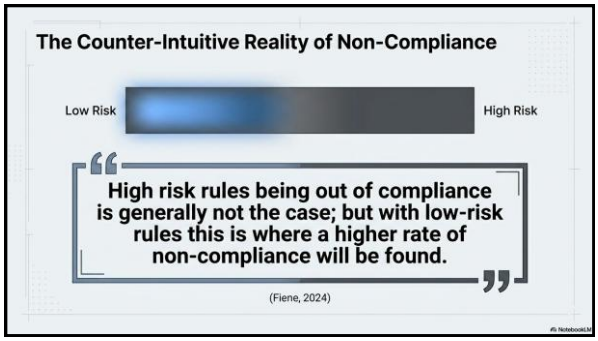
Pillar 2: Transitioning from Theory to Empirical Reality

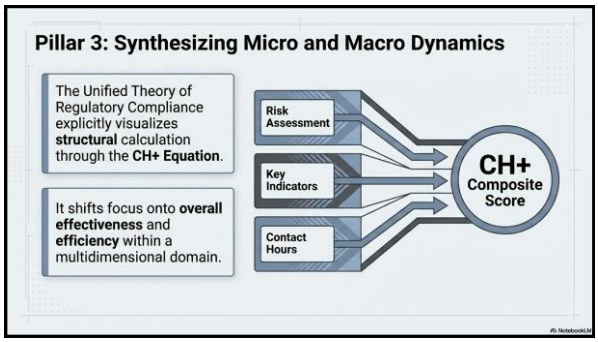
The Regulatory Compliance Gravity Curve simplifies behavioral dynamics into two continuous variables.

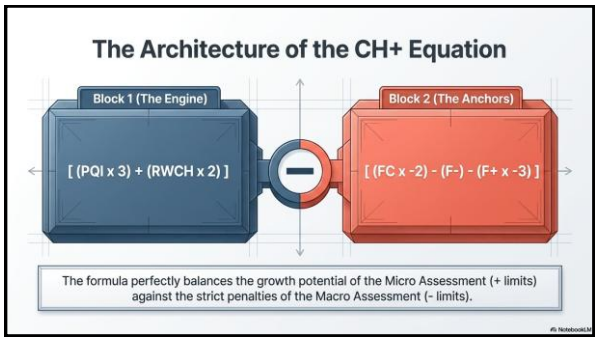


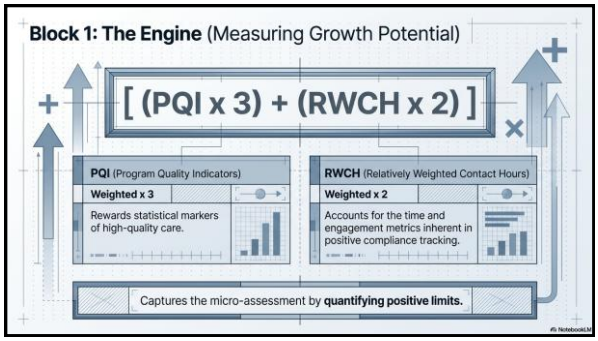
This relationship determines the relative weighting of rules to mitigate bias in administrative decision-making.

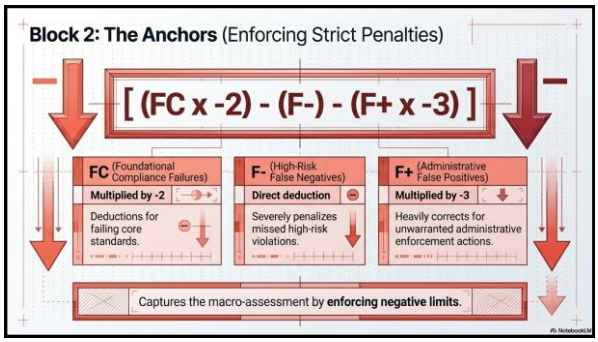

Anatomy of the Regulatory Compliance Gravity Curve
High Frequency Zone
Low-risk rules frequently fall out of compliance due to administrative oversights.
The Predictor Zone
Medium-risk rules show moderate variance. These serve as the ideal statistical Key Indicators for overall facility quality.
The Floor
High-risk rules are almost never out of compliance. Facilities prioritize them to protect their baseline licensing.
Frequency of Non-Compliance (Low to High)
Rule Risk Level (Low to High)
Figure 3: The Regulatory Compliance Gravity Curve, demonstrating the skewed non-compliance distribution.
NotebookLM

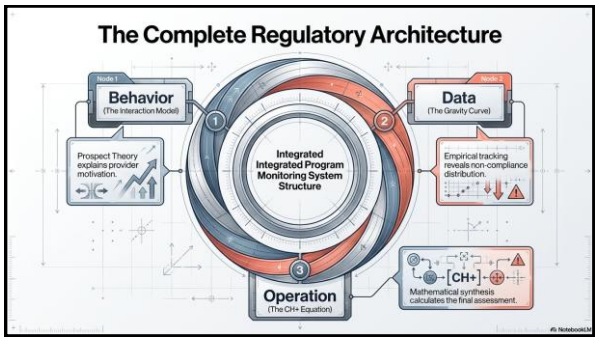

The Counter-Intuitive Reality of Non-Compliance
Low Risk
High Risk
High risk rules being out of compliance is generally not the case; but with low-risk rules this is where a higher rate of non-compliance will be found.
(Fiene, 2024)
NotebookLM

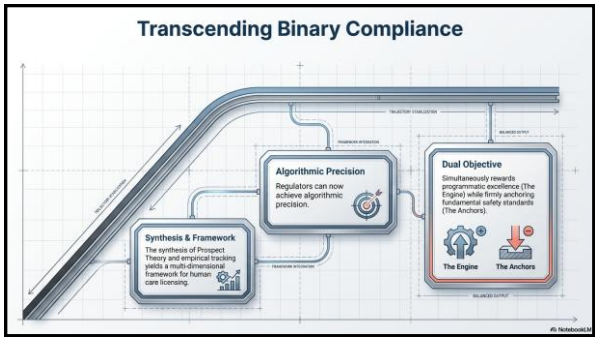

Pillar 3: Synthesizing Micro and Macro Dynamics
The Unified Theory of Regulatory Compliance explicitly visualizes structural calculation through the CH+ Equation.
It shifts focus onto overall effectiveness and efficiency within a multidimensional domain.
Risk Assessment
Key Indicators
Contact Hours
CH+ Composite Score
NotebookLM


The Architecture of the CH+ Equation
Block 1 (The Engine)
[(PQI x 3) + (RWCH x 2)]
−
Block 2 (The Anchors)
[(FC x -2) - (F-) - (F+ x -3)]
The formula perfectly balances the growth potential of the Micro Assessment (+ limits) against the strict penalties of the Macro Assessment (- limits).


Block 1: The Engine (Measuring Growth Potential)
[(PQI x 3) + (RWCH x 2)]
PQI (Program Quality Indicators)
Weighted x 3
Rewards statistical markers of high-quality care.
RWCH (Relatively Weighted Contact Hours)
Weighted x 2
Accounts for the time and engagement metrics inherent in positive compliance tracking.
Captures the micro-assessment by quantifying positive limits.


Block 2: The Anchors (Enforcing Strict Penalties)
[(FC x -2) - (F-) - (F+ x -3)]
FC (Foundational Compliance Failures)
Multiplied by -2
Deductions for failing core standards.
F- (High-Risk False Negatives)
Direct deduction
Severely penalizes missed high-risk violations.
F+ (Administrative False Positives)
Multiplied by -3
Heavily corrects for unwarranted administrative enforcement actions.
Captures the macro-assessment by enforcing negative limits.





Source Methodology & Literature

Fiene, R. (2024). The Regulatory Compliance Gravity Curve. Research Notes.

Fiene, R. (2026). The Unified Theory of Regulatory Compliance (CH+): Mathematical Modeling and Empirical Validation of an Integrated Regulatory Science Framework. Research Institute for Key Indicators Data Laboratory.

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