

The CH+ Scoring Protocol (β Version): A Comprehensive Methodology for Evaluating Compliance and Quality

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Abstract

This article introduces the beta version of the CH+ Scoring Protocol, a comprehensive mathematical model designed to quantify compliance and program quality within early care and education regulatory systems. The protocol integrates Program Quality Indicators (PQI) and Regulatory Weighting/Compliance History (RWCH), while applying risk-stratified reduction factors for foundational and risk-based non-compliances. The scoring thresholds and application examples are presented to demonstrate how differential weighting distinguishes between low, provisional, and high-quality providers.

1 Introduction

The ongoing evolution of regulatory science necessitates robust methodologies that move beyond binary compliance checks to nuanced, differentially weighted scoring protocols. The CH+ Scoring Protocol (β Version) addresses this by synthesizing key indicators, risk assessment rules, and quality metrics into a single, comprehensive score. This approach allows regulatory agencies to effectively categorize programs into actionable tiers ranging from denial to very high quality, ensuring a standardized, mathematically sound basis for evaluating human services and child care compliance.

2 Methodology and Formula Components

The CH+ β protocol relies on five core variables, weighted and adjusted to account for the severity and frequency of non-compliances:

- **PQI (Quality Indicators from CCEEHM):** Ranges from +10 to +40. Weight multiplier: +3.
- **RWCH (ACR/GS Ratios and Group Size Compliance from CCEEHM):** Ranges from -20 to +20. Weight multiplier: +2.
- **FC (Key Indicator Rules - Foundational Compliance):** Acts as a reduction factor. If there are 2 or more non-compliances, the resulting score multiplier is 0 (full null reduction). If there is 1 non-compliance, it results in a 0.5 reduction.
- **F- (High Risk Rules - False Negative):** High-risk rules where 1 or more non-compliances result in a 0 multiplier (full null reduction).
- **F+ (Low Risk Rules - False Positive):** Low-risk rules where 3 or more non-compliances result in a 0 multiplier. If there are 1 or 2 non-compliances, it results in a 0.33 reduction (applied as a 0.67 factor).

The core CH+ β formula is fundamentally expressed as the sum of weighted positive indicators subjected to risk reduction factors:

$$CH + \beta = [(\Sigma PQI \times 3) + (\Sigma RWCH \times 2)] \times \text{Reduction Factors} \quad (1)$$

Original functional representation:

$$CH + \beta = ((\Sigma PQI \times 3) + (\Sigma RWCH \times 2)) \times -((FC - 2(.5)) - (F - (0)) - (F + \times - 3(.33)))$$

3 Scoring Tiers

The final calculated score determines the regulatory standing of the program:

- **Less than 30:** Low quality, Denial
- **30 – 70:** Medium quality, Provisional
- **71+:** High quality, Full compliance
- **90+:** Very High quality

4 Results: Applied Scoring Examples

The table below provides empirical examples of the CH+ Scoring Protocol in practice, illustrating the impact of various compliance and quality indicator combinations.

Table 1: CH+ β Scoring Matrix and Application Outcomes

PQI	RWCH	FC	F-	F+	SCORE	COMMENTS
40	10	0	0	0	140	Perfect score, full compliance/quality
30	0	0	0	0	90	High score, full compliance
20	0	-2	-1	0	0	Unacceptable score FC, F+, F-
40	10	0	0	-3	94	Substantial compliance with F+
40	10	-1	0	0	70	Medium score, KIM NC
10	-10	0	0	0	10	Very low-quality score, Denial
10	-20	0	0	0	-10	Very low score, Denial
10	-20	0	-1	0	0	Unacceptable score, Denial
20	0	0	0	0	60	Provisional
20	0	-1	0	0	30	Very low provisional level
20	0	0	0	-2	40	Medium + Substantial compliance
20	0	-1	0	-2	15	Denial based upon FC + F+ NCs

5 Discussion and Conclusion

The CH+ β scoring model provides a rigorous mathematical framework for regulatory agencies, enabling the differentiation of high-performing programs from those that present significant risks to health and safety. By explicitly weighing foundational compliance against low- and high-risk regulatory rules, the protocol effectively mitigates both false negatives and false positives in regulatory decision-making.