

Appendix D

Measuring Teams' SMM Convergence of Discharge Readiness

Degree of SMM Convergence. SMM convergence was used to identify how knowledge is distributed among the discharge team by examining the level of agreement between providers. To determine the teams' convergence on patient discharge readiness, we calculated an adjusted interrater agreement index ($r_{wg(j)}^*$)³⁵⁻³⁶ for each team using their clinicians' individual scores on the RHDS/SF. The $r_{wg(j)}^*$ index determines the amount of overlap between individual providers' responses to a questionnaire question by creating a comparison between the observed variance in ratings to the variances of a null distribution (i.e., a theoretical distribution representing maximum dissensus).³⁵⁻³⁶ Lindell et al.'s³⁵ interrater agreement equation is as follows:

$$r_{wg(j)}^* = 1 - (\overline{S_x^2} / \sigma_{mv}^2) \quad \text{[Equation 1]}$$

where J is the number of scale items, $\overline{S_x^2}$ is the mean observed variance in rating on J items, and σ_{mv}^2 is variance of a null with maximum possible disagreement (Equation 2).

The variance of a null distribution with maximum possible disagreement is as follows:

$$\sigma_{mv}^2 = 0.5 (X_U^2 + X_L^2) - [0.5(X_U - X_L)]^2 \quad \text{[Equation 2]}$$

where X_U and X_L are the upper and lower discrete Likert categories. Maximum dissensus occurs when all judges are distributed evenly at the scale endpoints. When using the variance of a null distribution with maximum possible disagreement values, $r_{wg(j)}^*$ ranges from 0 to 1.0; where the value of 1 is maximum or complete agreement; 0.5 indicates agreement equal to uniform null distributions; and 0 indicates maximum disagreement.³⁶ These convergence values were categorized into four agreement levels: low (<0.7), moderate (0.7-0.79), high (0.8-0.89), and very high (0.9-1).

Strengths of using $r_{wg(j)}^*$ is that this approach circumvents problems with inadmissible values, allows for meaningful interpretation for values when the mean observed variance $\overline{S_x^2}$ exceeds the variance of a null distribution with maximum possible disagreement, and is scale invariant which makes it comparable across different response scales or samples.³⁵⁻³⁶