META: A Novel Method for Evaluating Pediatric Scoring Systems for Implementation

Sam Stubblefield, MD

As we move toward increased evidence-based and value-based care, health care systems place growing emphasis on using standardized protocols and pathways. Many of these pathways rely on various clinical scoring systems. As these scores have proliferated, it becomes increasingly challenging to determine which of these scoring systems to implement in your health care system. We propose a novel method for determining which scores to implement.

Clinical scores are applied throughout our lives, beginning immediately after birth with the Apgar score1 and concluding with the FOUR score,2 which is used to predict imminent brain death. If an infant develops croup, we have 2 scores.3,4 If it is actually bronchiolitis, we have plenty more,5,6 although none of them work well.7 If the child progresses to asthma, we have yet more,8,9 although most of these are variants of the ASS (Asthma Severity Score) and are not good either.10 If none of these are suitable, we have over 35 other published respiratory scores to choose from.11 If thinking about this gives you abdominal pain, the Alvarado12 score will predict if you have appendicitis. If it makes you want to kick something, and you hurt your ankle or knee, the orthopedists in Ottawa created scores for those, too.13,14 This is enough to make you want to bang your head against a wall. The good news is you have a choice of 3 scores for that (Pediatric Emergency Care Applied Research Network, Canadian Assessment of Tomography for Childhood Head injury, and Children’s Head Injury Algorithm for prediction of Clinically Important Events).15–17 Rendering yourself mercifully unconscious allows application of Teasdale and Jennett’s18 score but thankfully means you no longer need to think about it.

Given the multiplicity of clinical scoring options, and the anxiety and upset they can cause (especially among those with a high Anxiety Sensitivity Index19 score), we propose a novel scoring system for scoring scoring systems: the meetings, electronic health record integration, time, and angst (META) score (see Table 1). After assigning values to each category in the META score, sum the values and refer to Table 2 for interpretation.

Our next steps will be to validate the META score in a variety of health care systems, although our local experience has revealed it to have excellent construct, content, and criterion validity and to serve as a highly reliable measure. It has not escaped our attention that a multitude of other methods for scoring evaluations are in development. These include the Healthcare-Engaged Acatamathesia-Deprecating Assessment of Clinical Health Evaluations (HEADACHE), the Normalized Ordinal Metric for Optimal Ranking of Evaluations (NOMORE), and the Adequacy of Automated Arithmetical Assessment, Augmented (AAAAA). Given the multiplicity of these instruments, we recommend further efforts add clarity by creating a scoring system to score scoring systems scoring systems.

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HOSPITALIST HUMOR

**DOI**: https://doi.org/10.1542/hpeds.2018-0086
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HOSPITAL PEDIATRICS (ISSN Numbers: Print, 2154-1653; Online, 2154-1671).

**FINANCIAL DISCLOSURE:** The author has indicated he has no financial relationships relevant to this article to disclose.

**FUNDING:** No external funding.

**POTENTIAL CONFLICT OF INTEREST:** The author has indicated he has no potential conflicts of interest to disclose.

Dr Stubblefield conceptualized the scoring system, drafted the manuscript, and approved the final manuscript as submitted.
REFERENCES leading to the concept of META.

cataloging dehydration scoring systems, of the Nemours Standardized Pathway manuscript. I also thank my fellow members topic and her help reviewing the encouragement to report on this important topic. I thank Dr Elizabeth Muth for her

Acknowledgments

I thank Dr Elizabeth Muth for her encouragement to report on this important topic and her help reviewing the manuscript. I also thank my fellow members of the Nemours Standardized Pathway Review Committee for exhaustively cataloging dehydration scoring systems, leading to the concept of META.

REFERENCES


TABLE 1 META Score Tool

<table>
<thead>
<tr>
<th>Measure</th>
<th>Score</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meetings (no. required to ensure buy-in of all necessary stakeholders)</td>
<td>&lt;25 (finite)</td>
<td>Each meeting leads to 1 additional meeting (infinite)</td>
</tr>
<tr>
<td>EHR integration</td>
<td>Delays workflows by ≥10 min per patient</td>
<td>Breaks 50%–95% of nursing and provider workflows</td>
</tr>
<tr>
<td>Time to ≥50% user adoption</td>
<td>1 complete EHR upgrade cycle</td>
<td>2 practice generations of clinicians</td>
</tr>
<tr>
<td>Angst equivalent</td>
<td>Is it wrong to brew coffee with caffeinated water?</td>
<td>I never should have become a pediatrician. Where’s the number for that truck driving school?</td>
</tr>
</tbody>
</table>

EHR, electronic health record.

TABLE 2 META Score Interpretation

<table>
<thead>
<tr>
<th>META Score</th>
<th>Recommended Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1</td>
<td>Consider only if implementation qualifies for ABP MOC part 4 credit</td>
</tr>
<tr>
<td>2–8</td>
<td>Do not implement</td>
</tr>
</tbody>
</table>

ABP MOC, American Board of Pediatrics Maintenance of Certification.
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Hospital Pediatrics 2018;8:502
DOI: 10.1542/hpeds.2018-0086 originally published online July 5, 2018;

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*Hospital Pediatrics* 2018;8;502
DOI: 10.1542/hpeds.2018-0086 originally published online July 5, 2018;

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