Systematic framework for prioritizing and incorporating prehospital evidence into competency assessments

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Background: Incorporating emerging knowledge into EMS competency assessments is critical to reflect current evidence-based out-of-hospital care. However, because of the rapid pace of knowledge generation, a standardized approach is needed to incorporate new evidence into EMS competency assessments. Our objective was to develop a framework to evaluate and incorporate new source material (type/quality) into EMS competency assessments.

Methods: A panel of EMS clinicians, researchers, educators, medical directors, and certification experts was convened by the National Registry and the Prehospital Guidelines Consortium. A modified Delphi process with four rounds of virtual meetings and electronic surveys was used to develop a Table of Evidence matrix that defines sources of EMS evidence by type, quality, and the associations between them. In Round 1, participants listed all potential sources of evidence available to inform EMS patient care. In round 2, participants categorized these sources into a) levels of evidence quality (high, medium, low) and b) type of source material ("providing recommendations for prehospital diagnosis/care," "primary research reporting data," or "information/educational content"). In round 3, a proposed Table of Evidence was iteratively revised by the panel. In Round 4, participants provided recommendations on how each source, depending on type and quality, should be incorporated into competency assessments. Descriptive statistics were calculated, and qualitative analysis was conducted by two independent reviewers and a third arbitrator.

Results: All 15 panel members participated in all rounds. In round 1, 24 unique kinds of evidence sources were identified. In round 2, these were classified into high(n=4), medium(n=15), and low(n=5) quality of evidence, followed by categorization by purpose into providing recommendations(n=10), primary research(n=7), and educational content(n=7). In round 3, the Table of Evidence was revised based on participant feedback. In round 4, the panel developed a tiered system of evidence integration where the highest level of evidence is immediately incorporated, and more stringent requirements are placed for lower quality sources.

Conclusion: The Table of Evidence provides a framework for rapid, standardized incorporation of new medical evidence into EMS competency assessments. Future goals are to evaluate the

application of the Table of Evidence framework into initial and continued competency assessments.