The devil may not be in the detail: assessment of bystander training to administer publicly available epinephrine using microskills checklists shows low inter-rater reliability.

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Background:
- Improving public access and training for epinephrine auto-injectors (EAs) can reduce time to initial treatment in anaphylaxis and therefore save lives, especially in rural settings.1,2,3
- In southern New Brunswick, this is being addressed with unlocked, alarmed EAI cabinets.
- We investigated the best teaching modality for effective EAI training using a microskills checklist.

Methods:
- Prospective, stratified, block randomized study
- 154 participants at 15 sites were block randomized to one of three education interventions:
  1. didactic poster teaching
  2. poster with video teaching
  3. poster, video, and simulation training
- Participants tested at 0-months and at 3-months (post-intervention).
- Assessment involved two blinded raters using a microskills checklist.
- Checklists used fourteen 3-point and 5-point Likert scale questions around anaphylaxis response (Table 1).
- Inter-observer reliability was assessed for each item and expressed as a kappa (κ) value that represented a level of agreement (Table 2).

Results:
- Overall, there was poor agreement between the two raters.
- Checklist item #1 (contacted EMS) at 0 months had the highest level of agreement, but did not achieve statistical significance (κ = 0.59, moderate agreement; p < 0.05) (Table 3).
- Checklist item #1 at 3 months had the second highest level of agreement (κ = 0.482, moderate agreement; p < 0.05) (Table 3).
- The remaining checklist items had levels of agreement ranging from poor to slight agreement. None achieved the standard level of agreement of κ ≥ 0.70 (Table 3).

Conclusion: Although microskills checklists have been shown to identify areas where learners and interprofessional teams require deliberate practice, our results support previously published evidence that the use of microskills checklists in the assessment of skills has poor reproducibility. Performance will be further assessed in this study using global rating scales, which have shown higher levels of agreement in other studies.