PIM-Check: development of an international prescription-screening checklist designed by a Delphi method for internal medicine patients

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Abstract

Objectives: Potentially inappropriate medication (PIM) occurs frequently and is a well-known risk factor for adverse drug events, but its incidence is underestimated in internal medicine. The objective of this study was to develop an electronic prescription-screening checklist to assist residents and young healthcare professionals in PIM detection.

Design: Five-step study involving: Selection of medical domains, literature review and semi-structured interviews, a 2-round Delphi survey, a forward/back-translation process and an electronic tool development.

Setting: 22 University and general hospitals from Canada, Belgium, France, and Switzerland.

Participants: Forty physicians and 25 clinical pharmacists were involved in the study.

Interventions: Agreement with the checklist statements and their usefulness for healthcare professional training were evaluated using two 6-point Likert scales (ranging from 0 to 5).

Primary and secondary outcome measures: Agreement and usefulness was defined as: >65% of the experts giving the statement a rating of 4 or 5, during the first Delphi-round and >75% during the second.

Results: 166 statements were generated during the first 2 steps. Mean agreement and usefulness ratings were 4.32/5 (95% confidence interval, 4.28–4.36) and 4.11/5 (4.07-4.15) respectively, during the first Delphi-round, and 4.53/5 (4.51–4.56) and 4.36/5 (4.33-4.39), during the second ($P < 0.0001$). The final checklist includes 160 statements in 17 medical domains and 56 pathologies. An algorithm of approximately 31,000 lines was developed including comorbidities and medications variables to create the electronic tool.

Conclusion: PIM-Check is the first electronic prescription-screening checklist 58 designed to detect PIM in internal medicine. It is intended to help young healthcare professionals in their clinical practice to detect PIM, to reduce medication errors and to improve patient safety.

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