Development of Chronic Obstructive Pulmonary Disease (COPD) Proforma (E-ICP) to Improve Guideline Adherence in Emergency Department: Modified Delphi Study

Authors: Hancy Issac, Gerben Keijzers, Ian Yang, Clint Moloney, Jackie Lea, Melissa Taylor

Abstract: Introduction: Chronic obstructive pulmonary disease guideline non-adherence is associated with a reduction in health-related quality of life in patients (HRQoL). Improving quideline adherence has the potential to mitigate fragmented care thereby sustaining pulmonary function, preventing acute exacerbations, reducing economic health burdens, and enhancing HRQoL. The development of an electronic proforma stemming from expert consensus, including digital guideline resources and direct interdisciplinary referrals is hypothesised to improve guideline adherence and patient outcomes for emergency department (ED) patients with COPD. Aim: The aim of this study was to develop consensus among ED and respiratory staff for the correct composition of a COPD electronic proforma that aids in guideline adherence and management in the ED. Methods: This study adopted a mixed-method design to develop the most important indicators of care in the ED. The study involved three phases: (1) a systematic literature review and qualitative interdisciplinary staff interviews to assess barriers and solutions for guideline adherence and qualitative interdisciplinary staff interviews, (2) a modified Delphi panel to select interventions for the proforma, and (3) a consensus process through three rounds of scoring through a quantitative survey (ED and Respiratory consensus) and qualitative thematic analysis on each indicator. Results: The electronic proforma achieved acceptable and good internal consistency through all iterations from national emergency department and respiratory department interdisciplinary experts. Cronbach's alpha score for internal consistency (α) in iteration 1 emergency department cohort (EDC) ($\alpha = 0.80$ [CI = 0.89%]), respiratory department cohort (RDC) ($\alpha = 0.95$ [CI = 0.98%]). Iteration 2 reported EDC ($\alpha = 0.85$ [CI = 0.97%]) and RDC ($\alpha = 0.86$ [CI = 0.97%]). Iteration 3 revealed EDC ($\alpha = 0.73$ [CI = 0.91%]) and RDC ($\alpha = 0.86$ [CI = 0.95%]), respectively. Conclusion: Electronic proformas have the potential to facilitate direct referrals from the ED leading to reduced hospital admissions, reduced length of hospital stays, holistic care, improved health care and quality of life and improved interdisciplinary guideline adherence.

Keywords: COPD, electronic proforma, modified delphi study, interdisciplinary, guideline adherence, COPD-X plan

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