



Published in final edited form as:

Ann Intern Med. 2018 July 03; 169(1): 30–35. doi:10.7326/M18-0543.

Improving medication adherence research reporting: ESPACOMP Medication Adherence Reporting Guideline (EMERGE)

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Medication non-adherence is a major public health issue and is associated with serious clinical and economic consequences. Because of its striking amplitude, medication adherence is a topic regularly addressed in the *European Journal of Cardiovascular Nursing* and the *Journal of Cardiovascular Nursing*.^{1–4} Indeed, nurses as part of multidisciplinary healthcare teams play a crucial role in medication adherence management in different healthcare settings. Nurses drive innovation in medication adherence management. Improvement in healthcare delivery is informed by evidence in the field of medication adherence, specifically: an improved understanding of the prevalence, determinants/ correlates and consequences of medication non-adherence; advances in the measurement of medication adherence; and effective preventive or restorative medication adherence interventions.

Medication adherence research has increased substantially over the past four decades using observational, interventional and implementation research designs. Despite these increased research efforts by many disciplines, including nursing, research has not resulted in the much-needed progress to tackle medication non-adherence effectively. Moreover, little is known about how to translate effective adherence improving interventions into clinical

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Declaration of conflicting interests

The authors have no conflicts of interest to disclose.

Joint submission to the *European Journal of Cardiovascular Nursing* and the *Journal of Cardiovascular Nursing*.

practice successfully. Progress has been hindered by variability in methodology and poor and/or incomplete reporting of medication adherence research (e.g. inconsistent definitions, inadequate measurement of adherence outcomes, suboptimal analyses, insufficient description of intervention delivery settings, scant theoretical underpinnings). Investment in reporting guidelines, for instance for randomised controlled trials (e.g. the Consolidated Standards of Reporting Trials (CONSORT) statement), has been shown to be effective in improving quality of reporting.⁵ Until recently, there were no specific guidelines to report medication adherence specific aspects of research.

Under the auspices of the European Society for Patient Adherence (ESPACOMP, <http://www.espacomp.eu>), an international multidisciplinary panel of experts established an innovative and internationally validated set of reporting guidelines to enhance the quality of medication adherence research reporting.^{6, 7} The international expert Delphi panel resulted in the development of the ESPACOMP Medication Adherence Reporting Guideline (EMERGE). EMERGE is built on a previously reported taxonomy,⁸ which defines medication adherence as ‘the process by which patients take their medications as prescribed’, and divides adherence into three interrelated yet distinct phases: initiation, implementation, and persistence. Initiation refers to taking the first dose of a prescribed drug. Initiation is followed by the implementation phase defined as ‘the extent to which a patient’s actual dosing corresponds to the prescribed dosing regimen from initiation until the last dose is taken’. Discontinuation refers to patients stopping the medication on their own initiative, taking no doses thereafter. Persistence expresses the time between initiation and the last dose. Issues with correct medication taking can occur in any of these three phases, for instance late, incomplete, or non-initiation, suboptimal implementation of the dosing regimen (for example, late, skipped, extra, or reduced doses or drug holidays), or early discontinuation (non-persistence). Each phase creates methodological challenges related to how medication use is operationally defined, measured and analysed.

EMERGE consists of four minimum reporting criteria pertaining to: (a) phases of medication adherence (cfr. ABC taxonomy); (b) operational definition for each phase(s); (c) measurement of each phase(s); (d) results for each phase(s); and 17 additional items reflecting best reporting practice for the different sections of a research paper. EMERGE includes items referring to theoretical underpinnings or the implementation science model used, context information for the setting where the study was conducted as well as a description of possible implementation strategies used. EMERGE complements existing reporting guidelines (e.g. STROBE, CONSORT, STaRI)⁹ and provides researchers, authors and journal editors with guidance on best practices for reporting observational and interventional studies relating to medication adherence.⁷ Using EMERGE, researchers improve the transparency and detail of reporting to enhance the field of medication adherence by making it possible to synthesise findings across study, with the ultimate goal of moving effective adherence support programmes into healthcare policy and practice. By adopting EMERGE, biomedical journal editors can enhance the quality of medication adherence research published in their journals, thus contributing to the reduction of research waste.¹⁰

Nurses, being the largest and one of the most trusted groups of healthcare workers, can take up a leading role in developing, evaluating and implementing innovative preventive and restorative approaches to support patients to adhere better in daily life. Overcoming the issues of medication non-adherence will require collaboration of all actors in the research and clinical enterprise. The evidence base to support this effort can only be strengthened when we improve consistency in the reporting of medication adherence research. EMERGE is a tool to do so. We welcome the authors, reviewers and editors of the *European Journal of Cardiovascular Nursing* and the *Journal of Cardiovascular Nursing* to use EMERGE in the future and to communicate with us their experiences in using EMERGE so we can continue optimising this guideline in the future.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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