Systematic Review of Quality Indicators for Pharmaceutical Care

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Background The use of quality indicators (QIs) to assess pharmaceutical care (PC) has become increasingly important in pharmacy practice worldwide. Since pharmacists are expected to ensure the quality use of medicines across a broad range of conditions, gaining a full understanding of existing QIs for PC is of significance.

Purpose The aim of this study is to identify and classify existing QIs relevant to PC using the following 3 domains: 1. Donabedian framework; 2. Anatomical Therapeutic Chemical (ATC) classification system; and 3. Drug-Related Problems (DRPs) classification system, and to identify gaps in current measurement.

Method Articles were included if they fulfilled the following criteria: (a) the article was peer-reviewed and published in English, (b) numerators and denominators were defined for the QIs, or they could be directly deduced from the descriptions of the QIs, (c) the publication contained at least one PC-related QI, (d) the development of QIs was one of the objectives, and (e) QIs were developed using literature/guideline search and consensus methods. CINAHL, EMBASE, Global Health, International Pharmaceutical Abstract, MEDLINE, PubMed, and Web of Science databases were searched using MeSH and keywords to identify relevant articles published up to August 16 2016. An internet search of key organisations was also conducted.

Findings A total of 100 articles and 5 websites were identified for inclusion in the review. In total, 2058 QIs for PC were identified: 1406 QIs from articles, and 652 QIs from the web. Of 2058 QIs, 555 QIs (27.0%) have been classified, as of October 2016. When categorised using the Donabedian framework, more than 90% of QIs were process indicators. The percentages of structure and outcome indicators were 5.6% and 0.7% respectively. When categorised using the ATC code, medicines for cardiovascular conditions accounted for 18.8% of all QIs, followed by those for nervous system conditions (14.1%), and those for blood and blood forming organs (12.8%). When categorised using the DRPs classification system, 51.3% of QIs related to drug selection, followed by monitoring (22.1%), and dose selection (9.9%). QIs relevant to adverse drug reactions (0.9%), drug form (0.3%), treatment duration (2.8%), and drug use process (4.7%) were less common.

Conclusion Despite the large number of QIs for PC, significant gaps exist in each of the 3 domains. Further studies are warranted to develop QIs to address these gaps. The result of all QIs identified in this review will be presented at the coming conference.