Towards better reporting of the proportion of days covered method in cardiovascular medication adherence: A scoping review and new tool TEN-SPIDERS.

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Although medication adherence is commonly measured in electronic datasets using the proportion of days covered (PDC), no standardized approach is used to calculate and report this measure. We conducted a scoping review to understand the approaches taken to calculate and report the PDC for cardiovascular medicines to develop improved guidance for researchers using this measure. After prespecifying methods in a registered protocol, we searched Ovid Medline, Embase, Scopus, CINAHL Plus and grey literature (1 July 2012 to 14 December 2020) for articles containing the terms ”proportion of days covered” and ”cardiovascular medicine”, or synonyms and subject headings. Of the 523 articles identified, 316 were reviewed in full and 76 were included (93% observational studies; 47% from the USA; 2 grey literature articles). In 45 articles (59%), the PDC was measured from the first dispensing/claim date. Good adherence was defined as 80% PDC in 61 articles, 56% of which contained a rationale for selecting this threshold. The following parameters, important for deriving the PDC, were often not reported/unclear: switching (53%), early refills (45%), in-hospital supplies (45%), presupply (28%) and survival (7%). Of the 46 articles where dosing information was unavailable, 59% reported how doses were imputed. To improve the transparent and systematic reporting of the PDC, we propose the TEN-SPIDERS tool, covering the following PDC parameters: Threshold, Eligibility criteria, Numerator and denominator, Survival, Presupply, In-hospital supplies, Dosing, Early Refills, and Switching. Use of this tool will standardize reporting of the PDC to facilitate reliable comparisons of medication adherence estimates between studies.

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