#### Item 2: STRUCTURED SUMMARY.

Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; funding for the systematic review; and systematic review registration number.

**Example.** “Context: The role and dose of oral vitamin D supplementation in nonvertebral fracture prevention have not been well established.

Objective: To estimate the effectiveness of vitamin D supplementation in preventing hip and nonvertebral fractures in older persons.

Data Sources: A systematic review of English and non-English articles using MEDLINE and the Cochrane Controlled Trials Register (1960–2005), and EMBASE (1991–2005). Additional studies were identified by contacting clinical experts and searching bibliographies and abstracts presented at the American Society for Bone and Mineral Research (1995–2004). Search terms included randomized controlled trial (RCT), controlled clinical trial, random allocation, double-blind method, cholecalciferol, ergocalciferol, 25-hydroxyvitamin D, fractures, humans, elderly, falls, and bone density.

Study Selection: Only double-blind RCTs of oral vitamin D supplementation (cholecalciferol, ergocalciferol) with or without calcium supplementation vs calcium supplementation or placebo in older persons (>60 years) that examined hip or nonvertebral fractures were included.

Data Extraction: Independent extraction of articles by 2 authors using predefined data fields, including study quality indicators.

Data Synthesis: All pooled analyses were based on random-effects models. Five RCTs for hip fracture (n = 9294) and 7 RCTs for nonvertebral fracture risk (n = 9820) met our inclusion criteria. All trials used cholecalciferol. Heterogeneity among studies for both hip and nonvertebral fracture prevention was observed, which disappeared after pooling RCTs with low-dose (400 IU/d) and higher-dose vitamin D (700–800 IU/d), separately. A vitamin D dose of 700 to 800 IU/d reduced the relative risk (RR) of hip fracture by 26% (3 RCTs with 5572 persons; pooled RR, 0.74; 95% confidence interval [CI], 0.61–0.88) and any nonvertebral fracture by 23% (5 RCTs with 6098 persons; pooled RR, 0.77; 95% CI, 0.68–0.87) vs calcium or placebo. No significant benefit was observed for RCTs with 400 IU/d vitamin D (2 RCTs with 3722 persons; pooled RR for hip fracture, 1.15; 95% CI, 0.88–1.50; and pooled RR for any nonvertebral fracture, 1.03; 95% CI, 0.86–1.24).

Conclusions: Oral vitamin D supplementation between 700 to 800 IU/d appears to reduce the risk of hip and any nonvertebral fractures in ambulatory or institutionalized elderly persons. An oral vitamin D dose of 400 IU/d is not sufficient for fracture prevention.”

#### Explanation.

Abstracts provide key information that enables readers to understand the scope, processes, and findings of a review and to decide whether to read the full report. The abstract may be all that is readily available to a reader, for example, in a bibliographic database. The abstract should present a balanced and realistic assessment of the review's findings that mirrors, albeit briefly, the main text of the report.

We agree with others that the quality of reporting in abstracts presented at conferences and in journal publications needs improvement . While we do not uniformly favor a specific format over another, we generally recommend structured abstracts. Structured abstracts provide readers with a series of headings pertaining to the purpose, conduct, findings, and conclusions of the systematic review being reported . They give readers more complete information and facilitate finding information more easily than unstructured abstracts .

A highly structured abstract of a systematic review could include the following headings: Context (or Background); Objective (or Purpose); Data Sources; Study Selection (or Eligibility Criteria); Study Appraisal and Synthesis Methods (or Data Extraction and Data Synthesis); Results; Limitations; and Conclusions (or Implications). Alternatively, a simpler structure could cover but collapse some of the above headings (e.g., label Study Selection and Study Appraisal as Review Methods) or omit some headings such as Background and Limitations.

In the highly structured abstract mentioned above, authors use the Background heading to set the context for readers and explain the importance of the review question. Under the Objectivesheading, they ideally use elements of PICOS (see [Box 2](http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000100#pmed-1000100-box002)) to state the primary objective of the review. Under a Data Sources heading, they summarize sources that were searched, any language or publication type restrictions, and the start and end dates of searches. Study Selection statements then ideally describe who selected studies using what inclusion criteria. Data Extraction Methods statements describe appraisal methods during data abstraction and the methods used to integrate or summarize the data. The Data Synthesis section is where the main results of the review are reported. If the review includes meta-analyses, authors should provide numerical results with confidence intervals for the most important outcomes. Ideally, they should specify the amount of evidence in these analyses (numbers of studies and numbers of participants). Under a Limitations heading, authors might describe the most important weaknesses of included studies as well as limitations of the review process. Then authors should provide clear and balanced Conclusions that are closely linked to the objective and findings of the review. Additionally, it would be helpful if authors included some information about funding for the review. Finally, although protocol registration for systematic reviews is still not common practice, if authors have registered their review or received a registration number, we recommend providing the registration information at the end of the abstract.

Taking all the above considerations into account, the intrinsic tension between the goal of completeness of the abstract and its keeping into the space limit often set by journal editors is recognized as a major challenge.