CRD summary
The authors concluded that Dutch evidence-based guidelines can be effective in improving the process and structure of care. However, patient health outcomes were studied far less and data were less convincing. The authors’ conclusions represented the evidence presented, but presence of non-randomised studies and significant clinical variation between studies made the reliability of the authors’ conclusions unclear.

Authors’ objectives
To evaluate the effectiveness of Dutch evidence-based clinical guidelines in improving the quality of care.

Searching
MEDLINE and EMBASE were searched from 1990 to May 2007. Search terms were reported. Two Dutch scientific journals were searched. Reference lists of retrieved articles were searched.

Study selection
Eligible studies were randomised controlled trials (RCTs), interrupted time series or before or after studies that concerned evidence-based Dutch guidelines (local or regional protocols and guidelines derived from national guidelines included) that assessed adherence to recommendations related to the process and structure of care and/or effects of guidelines on patient health outcomes. Drug formularies, patient guidelines and European guidelines were excluded.

Types of healthcare provider included in the review were general practitioners, medical specialists, and other unspecified healthcare providers. Guidelines concerned preventative care, diagnosis and treatment (or a combination of these). The most common medical conditions addressed by the guidelines were: cardiovascular disease; influenza; type II diabetes; lower back pain; asthma; and chronic obstructive pulmonary disorder. Interventions were implemented using either single or multifaceted method. Most studies included in the review targeted general practitioners, were concerned with national guidelines and used multifaceted interventions (educational meetings, distribution of educational material, audit and feedback). Outcome measures of effects on process/structure of care (such as monitoring patient compliance with medication, prescription of appropriate medications, performance of eye and foot exams in diabetic patients) and patient health outcomes (such as health-related quality of life, improved blood pressure and glycosylated haemoglobin, change in smoking habit) varied between studies.

Two reviewers independently selected studies for inclusion in the review. Any disagreements were resolved by discussion and consensus.

Assessment of study quality
Study quality was assessed using the Cochrane Effective Practice and Organisation of Care Group (EPOC) seven-item criteria for RCTs, controlled before and after studies and interrupted time series.

Study quality was assessed by one reviewer and checked by a second reviewer.

Data extraction
The authors did not state how many reviewers performed data extraction.

Methods of synthesis
Due to heterogeneity, results were presented in a narrative synthesis. Studies were categorised by the authors as mostly effective (significant effect on more than half the outcome measures), partially effective (significant effect on half or less than half of the outcome measures) and not effective (no significant effect demonstrated).

Results of the review
Twenty studies were included in the review (nine cluster RCTs, five controlled before and after studies, five uncontrolled before and after studies and one interrupted time series). Overall, study quality was assessed as moderate. In 16 studies the unit of allocation was by study group, practice or healthcare providers, which protected the participants against contamination. Five studies reported more than 20% provider drop out rate.

**Effects on processes and structure of care - adherence to guidelines (19 studies):** Seventeen studies reported statistically significant improvement in adherence to recommendations. However, the effect size varied greatly between studies. Percentage adherence ranged from 7.2% to 88%. Odds ratios ranged from 0.2 (95% CI 0.1 to 0.6) to 27.13 (95% CI 12.86 to 57.24). Four studies showed an effect on all outcome measures and six studies showed an improvement in half or less than half of their outcome measures. Overall, adherence was greatest to guidelines for preventative care and in all uncontrolled before and after studies. There was no association in adherence to guidelines and the type of health care provider, type of guidelines or multifaceted versus single implementation strategy.

**Effects on patient health outcomes (nine studies):** Six studies reported a statistically significant improvement in at least some of their patient health outcome measures. Two of these studies reported statistically significant improvements in all their measures.

Studies that used an uncontrolled before and after design were categorised as most effective. The two studies that failed to demonstrate an effect were cluster RCTs.

**Authors' conclusions**
Dutch evidence-based guidelines can be effective in improving the process and structure of care. The effects of guidelines on patient health outcomes were studied far less and data were less convincing.

**CRD commentary**
The review addressed a clear research question and was supported by appropriate inclusion criteria. The search strategy was adequate. There were no attempts to identify unpublished material, which meant that relevant studies may have been missed. Study quality was assessed using appropriate criteria. The review process was carried out with sufficient attempts to minimise reviewer error and bias; it was unclear how the data extraction was performed. Given the heterogeneity of the included studies, it was appropriate to use a narrative synthesis.

The authors' conclusions represented the evidence presented. However, given the presence of non-randomised studies and significant clinical heterogeneity, the reliability of the authors' conclusions is unclear.

**Implications of the review for practice and research**
**Practice:** The authors did not state any implications for practice.

**Research:** The authors stated that further well-designed studies that measured the effectiveness of Dutch evidence-based guidelines were needed. Further research was needed to determine which factors linked to the guideline and its specific recommendations were important in predicting guideline utilisation and improved patient outcomes.

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.