

# In 55 interventions (65%) there was no significant difference between the GPCBE use and not use

## The Problem

This review refers to the changes in the quality of healthcare services that are direct consequences of the systematic use of evidence-based clinical practice guidelines (EB-CPGs). "Evidence-based" means that the recommendations are created using rigorous, unbiased and transparent methods of collation and appraisal, alousing scientific findings of the highest quality and value to assist in providing optimal clinical care to the patient. (Guyatt, 1992; Sackett *et al.*, 1996). EB-GPCs are evidence summaries and include systematically developed recommendations to assist physicians and patients in the process of making decisions (Alonso-Coello *et al.*, 2010; Glasziou *et al.*, 2011). Defining quality is challenging since it is not easy to characterise coherently and objectively. Health must be analysed from a holistic point of view, and guideline developers must determine the ideal amount of influence health should receive from individual preferences and social components. We must also understand the relationship between structural characteristics and healthcare processes, as well as their results in health services (Donabedian, 1988; Moore *et al.*, 2015).

After an exhaustive search, only two systematic reviews (SR) we found on this topic (Lugtenberg *et al.*, 2009; Worrall *et al.*, 1997). Worrall *et al.*, 1997 only analysed patient outcomes missing two of the proposed Donabedian Model. Lugtenberg 2009 used the full Donabedian (1988) model only including studies from The Netherlands.

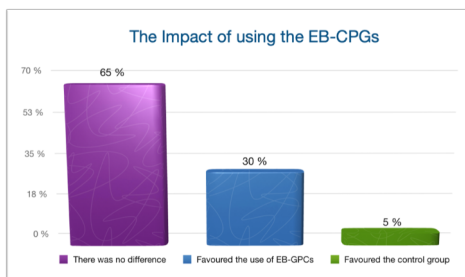
The development of EB-CPGs has increasing global growth; however, the certainty of impact on patients and health systems, as well as the magnitude of the impact, is not apparent. The objective of this systematic review was to assess the effectiveness of the application of EB-CPGs for the improvement of the quality of health care in three dimensions: structure, process and results in the patient for the management of cardiovascular disease.

## Methods

We followed the methods described by the Cochrane Handbook and present a descriptive analysis because of the high heterogeneity found across the included studies. We searched the Cochrane Central Register of Controlled Trials, MEDLINE and EMBASE databases, as well as the grey literature, between 1990 and June 2016.

No language restrictions were applied. Only randomised clinical trials (RCTs) were selected. Three authors independently carried out the data extraction, using a modified version of the Cochrane Effective Practice and Organization of Care form.

Because of the variability between the measurements of the effect of the impact of EB-CPGs on the change of quality in the studies included in this review, it was not possible or appropriate to perform a meta-analysis; therefore, it was not possible to measure the statistical heterogeneity.



## Key Results

Of the total of 84 interventions included in the nine RCTs evaluated, three (4%) were related to health care structure, 54 (64%) to the health care delivery process and 27 (32%) to patient outcomes. Regarding the impact of using the EB-CPGs, in 55 interventions (65%), there were no significant differences between control and experimental groups. In four interventions (5%), the result favoured the control group, and the result favoured the intervention group on 25 of the interventions (30%).

**Conclusions:** There is an imbalance between the number of EB-CPGs developed and the number of high quality studies evaluating their effectiveness. This systematic review showed that EB-CPGs could be useful to improve the process and structure of health care and, to a lesser extent, to improve the patients' outcomes.

After analysing many studies, we could have one more hypothesis for further research, which could shed more light upon those undiscovered variables that might interfere with the use of the EB-CPGs. Therefore, more studies of good quality are still needed.

The variation in the effects of the recommendations of the EB-CPGs suggests that it would be useful to focus on the analysis of the adherence limitations, as well as on designing implementation strategies by adapting every recommendation, instead of considering the EB-CPGs as a whole. Further research is still needed to determine which factors related to the EB-CPGs and their specific recommendations are essential to predict the use of EB-CPGs, and thus achieve better patient outcomes.

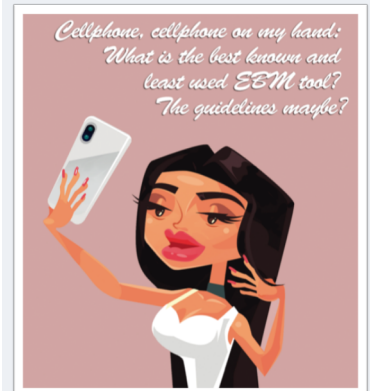


Figure 1 Flow chart of the studies (PRISMA, Moher 2009)

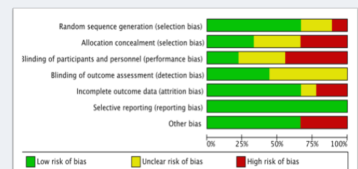
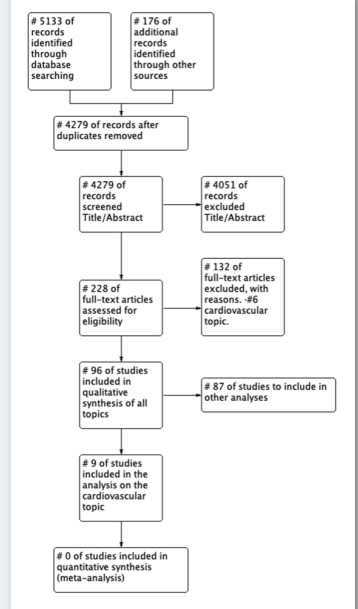


Figure 2 Overall Risk of Bias Chart of all included studies



## Effects of evidence-based clinical practice guidelines in cardiovascular health care quality improvements: A systematic review

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