The effect of financial incentives on the quality of health care provided by primary care physicians

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RHL summary

Some modest positive effects on quality of care were shown to be associated with financial incentives that reward physicians for ‘performance’ and ‘quality,’ although the evidence is insufficient to recommend a specific incentive scheme. Further research on the design and evaluation of various financial incentive schemes is required.

Cochrane review


Abstract

The use of blended payment schemes in primary care, including the use of financial incentives to directly reward ‘performance’ and ‘quality’ is increasing in a number of countries. There are many examples in the US, and the Quality and Outcomes Framework (QoF) for general practitioners (GPs) in the UK is an example of a major system-wide reform. Despite the popularity of these schemes, there is currently little rigorous evidence of their success in improving the quality of primary health care, or of whether such an approach is cost-effective relative to other ways to improve the quality of care.

The aim of this review is to examine the effect of changes in the method and level of payment on the quality of care provided by primary care physicians (PCPs) and to identify:

i) the different types of financial incentives that have improved quality;
ii) the characteristics of patient populations for whom quality of care has been improved by financial incentives; and
iii) the characteristics of PCPs who have responded to financial incentives.
We searched the Cochrane Effective Practice and Organisation of Care (EPOC) Trials Register, Cochrane Central Register of Controlled Trials (CENTRAL) and Cochrane Database of Systematic Reviews (CDSR) (The Cochrane Library), MEDLINE, HealthSTAR, EMBASE, CINAHL, PsychLIT, and ECONLIT. Searches of Internet-based economics and health economics working paper collections were also conducted. Finally, studies were identified through the reference lists of retrieved articles, websites of key organisations, and from direct contact with key authors in the field. Articles were included if they were published from 2000 to August 2009.

Randomised controlled trials (RCT), controlled before and after studies (CBA), and interrupted time series analyses (ITS) evaluating the impact of different financial interventions on the quality of care delivered by primary healthcare physicians (PCPs). Quality of care was defined as patient reported outcome measures, clinical behaviours, and intermediate clinical and physiological measures.

Two review authors independently extracted data and assessed study quality, in consultation with two other review authors where there was disagreement. For each included study, we reported the estimated effect sizes and confidence intervals.

Seven studies were included in this review. Three of the studies evaluated single-threshold target payments, one examined a fixed fee per patient achieving a specified outcome, one study evaluated payments based on the relative ranking of medical groups’ performance (tournament-based pay), one study examined a mix of tournament-based pay and threshold payments, and one study evaluated changing from a blended payments scheme to salaried payment. Three cluster RCTs examined smoking cessation; one CBA examined patients’ assessment of the quality of care; one CBA examined cervical screening, mammography screening, and HbA1c; one ITS focused on four outcomes in diabetes; and one controlled ITS (a difference-in-difference design) examined cervical screening, mammography screening, HbA1c, childhood immunisation, chlamydia screening, and appropriate asthma medication. Six of the seven studies showed positive but modest effects on quality of care for some primary outcome measures, but not all. One study found no effect on quality of care. Poor study design led to substantial risk of bias in most studies. In particular, none of the studies addressed issues of selection bias as a result of the ability of primary care physicians to select into or out of the incentive scheme or health plan.

The use of financial incentives to reward PCPs for improving the quality of primary healthcare services is growing. However, there is insufficient evidence to support or not support the use of financial incentives to improve the quality of primary health care. Implementation should proceed with caution and incentive schemes should be more carefully designed before implementation. In addition to basing incentive design more on theory, there is a large literature discussing experiences with these schemes that can be used to draw out a number of lessons that can be learned and that could be used to influence or modify the design of incentive schemes. More rigorous study designs need to be used to account for the selection of physicians into incentive schemes. The use of instrumental variable techniques should be considered to assist with the identification of treatment effects in the presence of selection bias and other sources of unobserved heterogeneity. In randomised trials, care must be taken in using the correct unit of analysis and more attention should be paid to blinding. Studies should also examine the potential unintended consequences of incentive schemes by having a stronger theoretical basis, including a broader range of outcomes, and conducting more extensive subgroup analysis. Studies should more consistently describe i) the type of payment scheme at baseline or in the control group, ii) how payments to medical groups were used and distributed within the groups, and iii) the size of the new payments as a percentage of total revenue. Further research comparing the relative costs and effects of financial incentives with other behaviour change interventions is also required.
