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[Intervention Review]

Target payments in primary care: effects on professional practice and health care outcomes

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ABSTRACT

Background

The method by which physicians are paid may affect their professional practice. Although payment systems may be used to achieve policy objectives (e.g. improving quality of care, cost containment and recruitment to under-served areas), little is known about the effects of different payment systems in achieving these objectives. Target payments are a payment system which remunerate professionals only if they provide a minimum level of care.

Objectives

To evaluate the impact of target payments on the professional practice of primary care physicians (PCPs) and health care outcomes.

Search methods

We searched the Cochrane Effective Practice and Organisation of Care Group specialised register; the Cochrane Controlled Trials Register; MEDLINE (1966 to October 1997); BIDS EMBASE (1980 to October 1997); BIDS ISI (1981 to October 1997); EconLit (1969 to October 1997); HealthStar (1975 to October 1997) HelmiS (1984 to October 1997); health economics discussion paper series of the Universities of York, Aberdeen, Sheffield, Bristol, Brunel, and McMaster; Swedish Institute of Health Economics; RAND corporation; and reference lists of articles.

Selection criteria

Randomised trials, controlled before and after studies and interrupted time series analyses of interventions comparing the impact of target payments to primary care professionals with alternative methods of payment, on patient outcomes, health services utilisation, health care costs, equity of care, and PCP satisfaction with working environment.

Data collection and analysis

Two reviewers independently extracted data and assessed study quality.

Main results

Two studies were included involving 149 practices. The use of target payments in the remuneration of PCPs was associated with improvements in immunisation rates, but the increase was statistically significant in only one of the two studies.

Authors' conclusions

The evidence from the studies identified in this review is not of sufficient quality or power to obtain a clear answer to the question as to whether target payment remuneration provides a method of improving primary health care. Additional efforts should be directed in evaluating changes in physicians' remuneration systems. Although it would not be difficult to design a randomised controlled trial to evaluate the impact of such payment systems, it would be difficult politically to conduct such trials.

PLAIN LANGUAGE SUMMARY**Some evidence to suggest that target payments to physicians increase immunisation rates**

This review looked at the effects of target payments on the behaviour of primary care physicians (e.g. general practitioners and family physicians). Under a target payments system a lump sum is paid to physicians who provide a certain quantity or level of care. Two studies assessed the impact of target payments on immunisation rates. There was some evidence that target payments resulted in an increase in immunisations by primary care physicians. However there was insufficient evidence to provide a clear answer as to whether target payments were an effective method of improving quality of care.

BACKGROUND

The method by which physicians are paid may affect their professional practice (Donaldson 1989). Payment systems have been manipulated in an attempt to achieve policy objectives such as improving the quality of care, cost containment and recruitment to under-served areas.

Target payments remunerate primary care physicians (PCPs) only if they provide a minimum quantity or level of care. A hypothetical example of a target payment is a lump sum of £1,000 payable if the PCP provides childhood immunisation to at least 90 per cent of the eligible population in the practice. This type of remuneration is common in the UK, where since 1 April 1990, target payments have been used to remunerate general practitioners for cervical cytology screening, and primary and pre-school immunisation (Dept of Health 1989). Target payments are closely related to fee-for-service (FFS) remuneration. However, while FFS pays the PCP for each item of service they provide, a target payment system remunerates the PCP only if they deliver a minimum predetermined level of service or care. In other words, FFS is a linear function of the quantity of care provided whereas target payments are not.

The benefit of target payments is that they encourage PCPs to meet government set standards of public health. On the other hand, this remuneration system can provide disincentives because PCPs may not provide any care at all if they think they will not be able to meet the target (Hughes 1992). Moreover, target payments could distort professional priorities to the areas of practice which are remunerated with this system.

OBJECTIVES

The aim of the current review is to evaluate the impact of target payments on the cost, pattern, quantity and equity of care provided by PCPs, PCP job satisfaction, and the overall quality of care in terms of patient health status and satisfaction.

METHODS

Criteria for considering studies for this review

Types of studies

All studies that met EPOC inclusion criteria for study design (see ADDITIONAL INFORMATION, ASSESSMENT OF METHODOLOGICAL QUALITY under GROUP DETAILS) and compared the behaviour of PCPs when paid by target payments against alternative methods of remuneration were included. The method of remuneration was defined as that which directly determines the income of the PCP.

Study designs that meet EPOC criteria:
 randomised controlled trials randomising PCPs (RCTs);
 controlled before and after studies (CBAs);
 interrupted time series (ITS).

CBA and ITS studies were included only if the data used in the analysis were not aggregated and the results were adjusted for patient and PCP characteristics. Ongoing studies were included only if preliminary data were obtainable and appraised or listed in the 'ongoing studies' section of the review if they are awaiting assessment.

Types of participants

Primary Care Physicians (PCPs) defined as medically qualified physicians who provide primary health care. Primary health care provides 'integrated, easy to access, health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained and continuous relationship with patients, and practising in the context of family and community' (Vanselow 1995). PCPs include general practitioners, family doctors, family physicians, family practitioners and other physicians working in primary health settings who fulfil primary health care tasks.

Types of interventions

Target payments remuneration. Under a target payments remuneration system a lump sum payment is made if, and only if, the PCP reaches a predetermined quantity or target level of care.

Types of outcome measures

It was anticipated that the studies included in this review would report a wide variety of outcome measures. Studies were included only if they reported objective measurement of patient outcomes, health services utilisation, health care costs, equity of care and PCP satisfaction with working environment. An additional necessary condition for inclusion was the presence of relevant and interpretable data. Furthermore, subjective outcomes were considered for inclusion in the review only if they were measured using standardised validated instruments.

Search methods for identification of studies

See: Collaborative Review Group search strategy

Electronic searches

A search strategy was designed to locate relevant studies of the interventions of interest in this review and another Cochrane review on salaried, capitation and FFS payments (Gosden 2000).

The following databases were searched:
 Effective Practice and Organisation of Care Group specialised register (see SPECIALISED REGISTER under GROUP DETAILS)
 Cochrane Controlled Trials Register (CCTR)
 BIDS EMBASE (1980 - October 1997)
 BIDS ISI Social Science Citation Index (1981 - October 1997)
 EconLit (1969 - October 1997)
 Health Star (1975 - October 1997)
 Helmi (1984 - October 1997)

For these databases a free text search strategy was applied, using the terms (* indicates wild card symbol): target* or reimburse* or payment or remunerat* or incentive* or financial.

These terms were used in conjunction with the following: general practitioner* or family physician* or family practi* or general practice or gp or primary care or primary health care or primary care physician.

In MEDLINE (1966- October 1997) a broad search was conducted using the MeSH headings:
 "REIMBURSEMENT MECHANISMS" or "REIMBURSEMENT, INCENTIVE" or "FEES AND CHARGES" OR "FEES, MEDICAL" or "INCOME" or "CAPITATION FEE" or "PHYSICIAN INCENTIVE PLANS" or "PRIVATE PRACTICE" or "PROSPECTIVE PAYMENT SYSTEM"

or "PROSPECTIVE PAYMENT SYSTEM* --ECONOMICS --EC" or "SALARIES AND FRINGE BENEFITS" or "PHYSICIAN'S PRACTICE PATTERNS"

in conjunction with:

"FAMILY PRACTICE" or "PHYSICIANS FAMILY"

References already held by two of the reviewers (TG, FF) in personal bibliographic databases were also considered for inclusion in the review. Relevant studies were also identified by searching health economics discussion paper series of the following: the Universities of York, Aberdeen, Sheffield, Bristol, Brunel, McMaster; the Swedish Institute of Health Economics; and the RAND corporation.

Searching other resources

The reference lists of located papers were scanned for studies of payment systems and relevant articles retrieved.

Hand searching of journals will be considered when updating the review.

Data collection and analysis

Selection of the studies:

Two reviewers independently assessed the list of studies identified by the search strategy to identify relevant studies. Two reviewers independently read each relevant publication and selected studies for review according to the inclusion criteria specified in the protocol. Any discrepancies were resolved by discussion between the reviewers.

Quality assessment:

The quality of eligible studies was assessed independently by two reviewers using the criteria described by the EPOC group (see ADDITIONAL INFORMATION, ASSESSMENT OF METHODOLOGICAL QUALITY under GROUP DETAILS).

Data collection:

Data extraction was completed by two reviewers independently using a checklist developed by EPOC and modified for the purposes of this review (see ADDITIONAL INFORMATION, ASSESSMENT OF METHODOLOGICAL QUALITY under GROUP DETAILS).

Analysis:

Where possible, the absolute changes and relative per cent changes in outcomes attributable to the intervention were reported in the Results tables. Study results were not statistically pooled as there was heterogeneity in the content, design and outcomes of the included studies and there were only two studies. Conclusions were drawn on the basis of judgement of methodological quality, transferability and results of the studies.

RESULTS

Description of studies

Electronic searching yielded a total of 5381 references and a further 118 references were identified by two of the reviewers (TG, FF). There were 271 papers that were considered to merit scrutiny of the full article and a further 61 relevant studies were identified from the reference lists of papers. Among the 332 articles reviewed, only two of the studies met all of the inclusion criteria for the

review (Kouides 1998; Ritchie 1992). Two studies were within the scope of the review, but they did not satisfy the minimum methodological inclusion criteria for CBA and ITS designs because of insufficient data points before and after the intervention (See CHARACTERISTICS OF EXCLUDED STUDIES).

Characteristics of the interventions:

For details of each included study see TABLE: CHARACTERISTICS OF INCLUDED STUDIES. The column labelled 'Interventions' indicates the intervention in each study. The target payment intervention in the first study (Kouides 1998) consists of an additional 10 per cent (\$0.80) or 20 per cent (\$1.60) payment to the standard fee of \$8 for each influenza immunisation made over the target rates of the 70 per cent or the 85 per cent respectively, of the eligible population registered with each PCP. The second study (Ritchie 1992) analysed the trend in primary and pre-school immunisation rates before and after the target payment system was introduced on 1 April 1990. Before the introduction of the target payments, GPs received a fee for each primary and pre-school immunisation made. After 1 April 1990, GPs received a lump sum payment if they immunised at least 70 per cent of the eligible population (a higher rate of payment was paid to the GPs that reached the 90 per cent target), but nothing was paid if they immunised less than the lower target.

Characteristics of target populations (PCPs):

In both studies the target populations were PCPs. One study (Kouides 1998) involved 54 general practices (28 solo practices and 26 group practices) who participated in the Influenza Vaccination Demonstration Project, in Monroe County, (New York, USA). They had at least 50 elderly patients, were using a specially designed wall poster to track immunisation rates and did not participate in previous studies. The patient population involved in the study were the active non-nursing home patients aged 65 or older who had an office visit in the previous year, namely 21,196 in the intervention group and 17,608 in the control group.

The second study (Ritchie 1992) involved all PCPs who had patients with Grampian addresses (Scotland, UK) for a total of 95 general practices and 313 PCPs. The population involved in this study consisted of all children aged two years (average of 6,600) and aged five years (average of 6,400) on the first day of the relevant quarter with Grampian addresses.

Risk of bias in included studies

The methodological characteristics of each study are shown in the TABLE: CHARACTERISTICS OF INCLUDED STUDIES. One study was a randomised controlled trial (Kouides 1998). The unit of randomisation was the office practice so that the risk of contamination was minimised, as PCPs in any particular practice were all in either the intervention or control group. On the other hand, the article did not specify the method of randomisation used in the study, therefore it was not possible to determine whether concealment of allocation was adequate. The quality of this study was satisfactory on most of the items considered. There were some concerns about the follow up of the patients, because the paper did not state the proportion of the participating patients entering the trial who completed the study. Moreover, one of the outcomes measured (the overall immunisation rate) had unit of analysis error, because the study randomised the PCPs, while this outcome was measured at the level of the patient. Presumably, for this reason,

the authors did not report the confidence intervals of this outcome measure.

The second study identified is an interrupted time series looking at the change in trend attributable to the intervention (Ritchie 1992). The study is based upon 12 observations before and six after the intervention, which was not sufficient to enable reliable statistical inference. Aside from having relatively few data points, the methodological quality of the study appeared satisfactory. Furthermore, the two studies did not explicitly state any prior power calculation to justify their sample size.

Effects of interventions

01.00.00 Comparison 1: Target payments vs FFS (2 studies)

01.01.00 Immunisation rates

The two studies showed that the introduction of target payments increased immunisation and vaccination rates.

In the first study (Kouides 1998), the PCPs receiving the target payment had an influenza vaccination rate 5.9 per cent higher than the control group (the relative difference with the control group was 9.4 per cent), but the difference was not statistically significant. The study also reported that the change in influenza vaccination rate from baseline was larger in the intervention group. The difference in absolute change from baseline between intervention and control group was 6.8 per cent (9.4 per cent was the relative percentage change) and was statistically significant. The authors also gave the overall influenza vaccination rate, which is the ratio between all immunisation performed in the intervention period and all eligible patients. In addition, the intervention group showed higher immunisation rates, but it was not possible to verify the statistical significance of the results, because the unit of allocation and analysis were not the same. Finally, the authors estimated that the additional cost per extra immunisation gained using the target payments incentive was \$3.02.

The second study (Ritchie 1992) reported an improvement in primary and pre-school immunisation rates after the introduction of the target payment remuneration system in the Grampian region. For primary immunisations the proportion of general practices immunising at least 95 and 90 per cent of their eligible populations improved by 50 and 20 per cent respectively. For pre-school immunisations the proportion of general practices immunising at least 95 and 90 per cent increased by 42 and 41 per cent respectively. The authors fitted a linear trend in the immunisation rates using a logistic regression model and found that there was no evidence that the overall linear trend had changed as a result of the introduction of target payments. Therefore, it is not possible to attribute the increase in primary and pre-school immunisation rates to the introduction of the target payment system. Furthermore, the authors noted that the Grampian Immunisation System differed from other systems in Scotland, which may not allow the results of the study to be generalised.

DISCUSSION

This review examined the effects of target payment remuneration in primary care and found only two studies that examined this issue using a satisfactory study design. The studies showed positive effects following the interventions, but the improvements were, in most of the cases, statistically non-significant, which may be in part due to the low power of the studies.

The results of this review should be interpreted with caution given the limitations of primary research in this area. Some of these limitations are inherent to the nature of the intervention itself, which limits the possibility of using experimental designs. Another shortcoming of the studies is their limited generalisability, because of differences between the participants and the rest of the population. For instance, in one study (Kouides 1998), the baseline immunisation rates among the participants were higher than the national levels, and in the second study (Ritchie 1992), the immunisation system evaluated was different from other systems in Scotland. Therefore, it is possible that the estimated effects of the target payments were influenced by unobserved confounding factors. Thus, the question of whether financial incentives in the form of target payments are an effective method of improving quality of care remains essentially unanswered.

AUTHORS' CONCLUSIONS

Implications for practice

The evidence from the studies identified in this review is not of sufficient quality or power to determine whether target payment remuneration provides a method of improving primary health care and only one study estimated the marginal costs of the intervention. Therefore, there is little evidence of the effectiveness or cost effectiveness of target payments.

Implications for research

There is a need to conduct more research to evaluate the effect of target payments in primary care, and evaluations should be planned before introducing changes in the remuneration system. Although it would not be difficult to design a randomised controlled trial to evaluate the impact of such payment systems, it would be difficult politically to conduct such trials.

Observational data may be adjusted for confounders using regression analysis and the results from these studies may provide some useful information when evidence from RCTs is not available.

ACKNOWLEDGEMENTS

We thank Professor Hugh Gravelle and Dr David Torgerson for their help in drafting the protocol and Steve Rose for help in designing the search strategy. Thanks also go to Andy Oxman for advice and helpful comments on previous drafts of this review. We would also like to thank Lisa Bero, Jeremy Grimshaw, Tony Scott, Muir Gray and Brian Hutchison for their helpful comments and suggestions on the review.

REFERENCES

References to studies included in this review

Kouides 1998 {published data only}

Kouides RW, Bennett NM, Lewis B, Cappuccio JD, Barker WH, LaForce FM. Performance-based physician reimbursement and influenza immunization rates in the elderly. The Primary-Care Physicians of Monroe County. *American Journal of Preventive Medicine* 1998;**14**(2):89-95. [MEDLINE: 98294620]

Ritchie 1992 {published data only}

Ritchie LD, Bisset AF, Russell D, Leslie V, Thomson I. Primary and preschool immunisation in Grampian: progress and the 1990 contract. *British Medical Journal* 1992;**304**(6830):816-9. [MEDLINE: 93005990]

References to studies excluded from this review

Hughes 1992 {published data only}

Hughes D, Yule B. The effect of per-item fees on the behaviour of general practitioners. *Journal of Health Economics* 1992;**11**(4):413-37.

Morrow 1995 {published data only}

Morrow RW, Gooding AD, Clark C. Improving physicians' preventive health care behavior through peer review and financial incentives. *Archives of Family Medicine* 1995;**4**(2):165-9. [MEDLINE: 95144361]

Additional references

Dept of Health 1989

Department of Health. General practice in the NHS. A new contract. London: HMSO, 1989.

Donaldson 1989

Donaldson C, Gerard K. Paying general practitioners: shedding light on the review of health services. *Journal of the Royal College of General Practitioners* 1989;**39**(320):114-7. [MEDLINE: 90064285]

Gosden 2000

Gosden T, Forland F, Kristiansen IS, Sutton M, Leese B, Giuffrida A, et al. Capitation, salary, fee-for-service and mixed systems of payment: effects on the behaviour of primary care physicians. *Cochrane Database of Systematic Reviews* 2000, Issue 3. [DOI: [10.1002/14651858.CD002215](https://doi.org/10.1002/14651858.CD002215)]

Vanselow 1995

Vanselow NA, Donaldson MS, Yordy KD. From the Institute of Medicine. A new definition of primary care. *Journal of the American Medical Association* 1995;**273**(3):192. [MEDLINE: 95106417]

CHARACTERISTICS OF STUDIES

Characteristics of included studies [ordered by study ID]

Kouides 1998

Methods	<p>RCT</p> <p>Concealment: NOT CLEAR</p> <p>Follow up: providers: DONE patients: NOT CLEAR</p> <p>Blinded assessment of primary outcome: DONE</p> <p>Baseline measurement: DONE</p> <p>Reliable outcomes: DONE</p> <p>Contamination: DONE</p> <p>PCPs were randomised by practice group, method of randomisation not stated</p> <p>Unit of analysis error for one of the outcomes (overall immunisation rate)</p> <p>The 54 practices were stratified by number of elderly patients in the practice (<100, 100-300, >300) and were randomly assigned to either the intervention or control group.</p>
Participants	<p>54 practices - 27 in the intervention group and 27 in the control group - who participated in the Influenza Vaccination Demonstration Project, in Monroe County, New York (USA); had at least 50 elderly patients; use of poster where each practice plotted their immunisation rates; lack of participation in a previous study</p> <p>Active non-nursing home patients 65 years or older who had an office visit in the previous year (21,196 in intervention group and 17,608 in control group)</p>

Kouides 1998 (Continued)

Interventions	<p>Intervention :Target payments + FFS Comparator: FFS</p> <p>PCPs in the control group only received the fee for each immunisation of \$8</p> <p>PCPs in the intervention group received an additional 10% (\$0.8) or 20% (\$1.6) reimbursement per shot according to whether they immunised 70% or 85% (respectively) of the eligible population</p>
Outcomes	<p>PROCESS OUTCOMES</p> <p>Mean influenza vaccination rate in the intervention period (1991)</p> <p>Change in influenza vaccination rate from baseline year (between 1991 and 1990)</p> <p>Overall influenza vaccination rate - sum of all immunisation given divided by the sum of eligible patients - in the intervention period (1991)</p>
Notes	<p>Immunisations given outside PCPs' offices were not remunerated with the target payment, but they were included to calculate PCP's percentage immunised.</p> <p>The analysis was corrected for the clustering using data aggregated per practice.</p> <p>PCPs could utilise any method such as postcard reminders or telephone calls, to increase their immunisation rate</p> <p>External generalisability: baseline immunisation rates were higher than the national levels</p>

Risk of bias

Bias	Authors' judgement	Support for judgement
Allocation concealment?	Unclear risk	B - Unclear

Ritchie 1992

Methods	<p>ITS</p> <p>Protection against secular changes: DONE Sufficient data points to enable reliable statistical inference: NOT DONE Formal test for trend: DONE Data collection identical before and after the intervention: DONE Intervention unlikely to affect data collection: DONE Blinded assessment of primary outcome: DONE Completeness of data set: DONE Reliability of outcome measures: DONE</p> <p>Based upon 12 observations before and 6 after the intervention</p>
Participants	<p>95 general practices (313 PCPs)</p> <p>All PCPs who have patients with Grampian addresses, Scotland (UK)</p> <p>Primary immunisation rates: all children aged 2 years on the 1st day of the relevant quarter, average of 6600</p> <p>Pre-school immunisation rates: all children aged 5 years on the 1st day of the relevant quarter, average of 6400</p>

Ritchie 1992 (Continued)

All children with Grampian addresses, Scotland (UK)

Interventions

 Intervention: Target payments
 Comparator: FFS

PCPs received a lower or higher payment according to whether they immunised 70% or 90% (respectively) of the eligible population.

Outcomes

PROCESS OUTCOMES

Number of practices achieving at least:

95% primary immunisation rates

90% primary immunisation rates

95% pre-school immunisation rates

90% pre-school immunisation rates

Proportion of immunisations given by PCPs

Notes

 External generalisability: no information on PCPs, patient, area, practice characteristics.
 The authors note that the Grampian Immunisation System differs from other systems within Scotland.

Risk of bias

Bias	Authors' judgement	Support for judgement
Allocation concealment?	Unclear risk	D - Not used

Characteristics of excluded studies [ordered by study ID]

Study	Reason for exclusion
Hughes 1992	Insufficient data points before and after the intervention
Morrow 1995	Insufficient data points before and after the intervention

DATA AND ANALYSES
Comparison 1. Target payments vs FFS

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Immunisation rates			Other data	No numeric data

Analysis 1.1. Comparison 1 Target payments vs FFS, Outcome 1 Immunisation rates.

Study	Type of study	Immunisation rates			Notes
		Outcomes	Absolute changes	Relative changes	
Kouides 1998	RCT	PROCESS OUTCOMES (baseline year 1990; post intervention period 1991) 1) Influenza vaccination rate at practice level 2) Overall influenza vaccination rate: immunisations given divided by eligible patients	PROCESS OUTCOMES (difference in absolute change from baseline) 1) absolute change: +5.9% (68.6% in intervention group; 62.7% in control group); p=0.22 2) difference in absolute change from baseline: +6.8% (10.3% in intervention group; 3.5% in the control group) p=0.03 3) absolute change (post) +6.8% (66.9% in intervention group; 60.1% in the control group) p=NA	PROCESS OUTCOMES (relative percentage change post intervention) 1) +9.4% 2) +11.3%	Additional cost of an extra immunisation: \$3.02
Ritchie 1992	ITS	PROCESS OUTCOMES Number of practices achieving at least: 1) 95% primary immunisation rates 2) 90% primary immunisation rates 3) 95% pre-school immunisation rates 4) 90% pre-school immunisation rates 5) Proportion of immunisations given by PCPs	PROCESS OUTCOMES absolute changes over 20 month period (Jan. 1990 - Sep. 1991) 1) +50% (from 31% to 81%) 2) +20% (from 73% to 93%) 3) +42% (from 23% to 65%) 4) +41% (from 39% to 80%) 5) +12% (from 86% to 98%)	PROCESS OUTCOMES percentage changes over 20 month period (Jan 1990 - Sep 1991) 1) +162.1% 2) +26.1% 3) +177.3% 4) +111.1% 5) +14.0%	Authors fitted the trend in immunisations using a logistic regression model and found that there was no evidence that the overall linear trend had changed as a result of the introduction of target payments

WHAT'S NEW

Date	Event	Description
6 October 2008	Amended	Converted to new review format.

HISTORY

Protocol first published: Issue 4, 1997

Review first published: Issue 3, 2000

Date	Event	Description
2 September 1999	New citation required and conclusions have changed	Substantive amendment

CONTRIBUTIONS OF AUTHORS

Giuffrida A, Gosden T, Forland F, Kristiansen IS, Sutton M, Leese B were responsible for the planning of the review.

Toby Gosden, Antonio Giuffrida, Frode Forland and Michelle Sergison conducted the searches.

Toby Gosden recorded study data.

Antonio Giuffrida wrote the main draft of the review.

Giuffrida A, Gosden T, Forland F, Kristiansen IS, Sutton M, Leese B, Sergison M, Pedersen L assessed whether papers were relevant, obtained copies of papers and extracted study data.

All authors commented on the text of the review.

DECLARATIONS OF INTEREST

None known.

SOURCES OF SUPPORT

Internal sources

- Huddersfield NHS Trust, UK.
- National Board of Health, Norway.
- National Primary Care Research and Development Centre, UK.
- University of Southern Denmark, Denmark.

External sources

- Department of Health, UK.
- The Norwegian Ministry of Health and Social Affairs, Norway.

INDEX TERMS

Medical Subject Headings (MeSH)

*Practice Patterns, Physicians'; Immunization [*economics] [standards]; Primary Health Care [*economics] [standards]; Reimbursement, Incentive [*economics]

MeSH check words

Humans