



August 2016 – SUPPORT Summary of a systematic review

Does pay-for-performance improve the delivery of health interventions in low- and middle-income countries?

Pay-for-performance refers to the transfer of money or material goods on the condition that measurable actions are taken or predetermined performance targets are achieved in the delivery of healthcare services. Linking payments to performance is a strategy to align incentives for health workers and health providers with public health goals. This approach is currently used by a number of organisations in different countries, including low- and middle-income countries.

Key messages

- It is uncertain whether pay-for-performance improves provider performance, the utilisation of services, patient outcomes or resource use in low- and middle-income countries.
- Unintended effects of pay-for-performance schemes might include:
 - Adverse selection (for example, excluding high-risk people from care in order to obtain better performance)
 - Gaming (i.e. inaccurate or false reporting)
 - Distortion (i.e. ignoring important tasks that are not rewarded with incentives)
- There is a lack of evidence about the economic consequences of pay-for-performance schemes in low- and middle-income countries



Who is this summary for?

People making decisions concerning the use of financial incentives to improve the delivery of healthcare.

! This summary includes:

- Key findings from research based on a systematic review
- Considerations about the relevance of this research for low-income countries

X Not included:

- Recommendations
- Additional evidence not included in the systematic review
- Detailed descriptions of interventions or their implementation

This summary is based on the following systematic review:

Witter S, Fretheim A, Kessy FL, Lindahl AK. Paying for performance to improve the delivery of health interventions in low- and middle-income countries. Cochrane Database of Systematic Reviews 2012, Issue 2. Art. No.: CD007899.

What is a systematic review?

A summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise the relevant research, and to collect and analyse data from the included studies

SUPPORT was an international project to support the use of policy relevant reviews and trials to inform decisions about maternal and child health in low- and middle-income countries, funded by the European Commission (FP6) and the Canadian Institutes of Health Research.

Glossary of terms used in this report:
www.supportsummaries.org/glossary-of-terms

Background references on this topic:
See back page

Background

Pay-for-performance schemes vary in different ways. For example, payments can be targeted at different levels of the health system, including individual providers of healthcare, healthcare facilities, private sector organisations, public sector organisations and national or sub-national levels of government. Pay-for-performance interventions can also reward a wide range of measurable actions, including achievement of health outcomes, the delivery of effective interventions (such as immunisation), the utilisation of services (such as prenatal visits or births at an accredited facility), and quality of care. Such schemes can also include ancillary components which focus, for example, on increasing the availability of resources to healthcare, on education, supplies, technical support or training, monitoring and feedback, increasing salaries, construction of new facilities, and improvements in planning and management systems or in information systems.

How this summary was prepared

After searching widely for systematic reviews that can help inform decisions about health systems, we have selected ones that provide information that is relevant to low-income countries. The methods used to assess the reliability of the review and to make judgements about its relevance are described here:

www.supportsummaries.org/how-support-summaries-are-prepared/

Knowing what's not known is important

A reliable review might not find any studies from low-income countries or might not find any well-designed studies. Although that is disappointing, it is important to know what is not known as well as what is known.

A lack of evidence does not mean a lack of effects. It means the effects are uncertain. When there is a lack of evidence, consideration should be given to monitoring and evaluating the effects of the intervention, if it is used.

About the systematic review underlying this summary

Review objective: To assess the current evidence for the effects of pay-for-performance schemes on the provision of healthcare and health outcomes in low- and middle-income countries

Types of	What the review authors searched for	What the review authors found
Study designs & Interventions	Randomised trials, non-randomised trials, controlled before-after studies, and interrupted time series studies evaluating paying for performance in the form of conditional cash payments, the conditional provision of material goods, or target payments	9 studies were found: 1 randomised trial, 6 controlled before-after studies, and 2 interrupted time series studies. The interventions were target payments linked to quality of care or coverage indicators; conditional cash transfers, with and without quality measurements; and a mix of targeted payments and conditional cash transfers.
Participants	Providers of healthcare services, subnational organisations, national governments, and combinations of these, in the public or private sector	4 studies were conducted at public facilities and facilities run by faith-based organisations; 2 focused on primary care facilities alone; 2 focused on hospitals; and 1 on individual private practitioners.
Settings	Any setting in which explicit financial incentives have been used to improve the provision of healthcare in low- and middle-income countries	Included studies were conducted in Rwanda (2 studies), Vietnam, China, Zambia, Tanzania, the Democratic Republic of the Congo, the Philippines, and Burundi. 8 studies were conducted in rural or rural and urban areas.
Outcomes	Measures of provider performance (e.g. the delivery or utilisation of healthcare services, or patient outcomes), unintended effects, and changes in resource use	Patient health indicators, utilisation or coverage changes, and changes in resource use

Date of most recent search: June 2011

Limitations: This is a well-conducted systematic review with only minor limitations.

Witter S, Fretheim A, Kessy FL, Lindahl AK. Paying for performance to improve the delivery of health interventions in low- and middle-income countries. Cochrane Database of Systematic Reviews 2012, Issue 2. Art. No.: CD007899.

Summary of findings

The review included 9 studies that were conducted in Rwanda (2 studies), Vietnam, China, Zambia, Tanzania, the Democratic Republic of Congo, the Philippines and Burundi. Rural areas were included in eight of the studies. The payment of incentives to facilities was the most common arrangement, but in three studies the incentives were given directly to health workers.

All nine included studies compared a pay-for-performance scheme to non-conditional payments.

→ **It is uncertain whether paying for performance improves provider performance, the utilisation of services, patient outcomes, or resource use because the certainty of this evidence is very low.**

About the certainty of the evidence (GRADE) *



High: This research provides a very good indication of the likely effect. The likelihood that the effect will be substantially different† is low.



Moderate: This research provides a good indication of the likely effect. The likelihood that the effect will be substantially different† is moderate.



Low: This research provides some indication of the likely effect. However, the likelihood that it will be substantially different† is high.



Very low: This research does not provide a reliable indication of the likely effect. The likelihood that the effect will be substantially different† is very high.

* This is sometimes referred to as 'quality of evidence' or 'confidence in the estimate'.

† Substantially different = a large enough difference that it might affect a decision

See last page for more information.

Pay for performance compared with no conditional incentives		
People	Providers of healthcare services in low- and middle-income countries	
Settings	Vietnam, China, Uganda, Rwanda, Tanzania, the Democratic Republic of Congo, Burundi, the Philippines	
Intervention	Pay for performance (P4P)	
Comparison	No pay for performance	
Outcomes	Impact	Certainty of the evidence (GRADE)
Provider performance (quality of care)	The impact of P4P on service delivery is uncertain. Four studies measured the coverage of tetanus vaccinations among pregnant women, and reported mixed findings. Results from one study showed little or no impact on tuberculosis case detection.	⊕○○○ Very low
Utilisation of services: antenatal care	The impact of P4P on attendance rates for antenatal care is uncertain. The study reported both negative and positive impacts on attendance.	⊕○○○ Very low
Utilisation of services: institutional deliveries	Whether P4P schemes lead to an increase in institutional deliveries is uncertain. The range of the reported effect-estimates was wide, including substantially larger increases in areas without P4P schemes, to an almost two-fold increase in areas with P4P schemes.	⊕○○○ Very low
Utilisation of services: preventive care for children, including vaccination	It is uncertain whether the use of P4P leads to an increase in the utilisation of preventive care services for children. One study reported that attendance rates for children's preventive services doubled. However, the impact on immunisation rates varied across the four studies and negative and positive impacts were reported.	⊕○○○ Very low
Utilisation of services: number of outpatients	The use of P4P schemes might increase the utilisation of services. However, this association has not been rigorously evaluated, and the studies did not yield consistent results.	⊕○○○ Very low
Patient outcomes	The study results were inconsistent across different measures that included general self-reported health, C-reactive protein in blood (a possible measure of acute infection) and anaemia rates.	⊕⊕○○ Very low
Unintended effects	It is uncertain whether P4P results in unintended effects.	⊕○○○ Very low
Resource use	P4P schemes tend to increase facility revenues and to increase staff pay. However, their impact on wider resource use indicators, such as other funding sources, patient payments, and efficiency of service provision are uncertain.	⊕○○○ Very low
GRADE: GRADE Working Group grades of evidence (see above and last page) P4P: Pay for performance		

Relevance of the review for low-income countries

→ Findings	▷ Interpretation*
APPLICABILITY	
→ Due to the very low certainty of the evidence, we are uncertain about the effects of pay-for-performance schemes in low- and middle-income countries.	<p>▷ Evidence from high-income countries is also limited (see related literature), and we are uncertain about the relative effectiveness of different types of pay-for-performance schemes in different settings.</p> <p>▷ Pay-for-performance schemes in low- and middle-income countries may be affected by factors such as:</p> <ul style="list-style-type: none"> – The availability and reliability of routine data on quality of care – The availability of resources to finance the incentives beyond restructuring existing payment systems – Existing remuneration systems for individual healthcare providers and groups of providers (e.g. capitation or fee-for-service) – The feasibility of measures, such as monitoring, to prevent gaming and distortion
EQUITY	
→ No reliable evidence regarding equity was reported.	<p>▷ The choice of quality indicators and financial incentives might result in differential effects on disadvantaged populations.</p> <p>▷ Because of uncertainty about the differential effects of financial incentives on high- versus low-performing providers, it is possible that financial incentives could have differential effects on disadvantaged populations served by low-performers. Rewarding improvement compared to previous results (baseline) and not only absolute achievement might reduce the risk of undesirable differential effects on high versus low performers.</p>
ECONOMIC CONSIDERATIONS	
→ The use of pay-for-performance schemes may lead to increases in facility revenues and payments for workers, but the other economic consequences of such schemes and their cost-effectiveness are uncertain.	<p>▷ There is uncertainty about the magnitude, frequency and duration of the financial incentives needed to ensure quality improvements. Similarly, the resource requirements for scaling-up pay-for-performance schemes at different levels are unclear and estimates are needed for specific schemes in specific settings.</p> <p>▷ Economic evaluations of pay-for-performance schemes are needed.</p>
MONITORING & EVALUATION	
→ The evidence summarised is inconclusive.	<p>▷ There is substantial uncertainty about the beneficial and adverse effects of paying for performance. These schemes should therefore be carefully designed and rigorously evaluated before they are implemented in low- and middle-income countries.</p> <p>▷ Pay-for-performance schemes need to monitor unintended effects, including the adverse selection of patients and the adverse effects of P4P schemes on processes that are not rewarded with financial incentives. Schemes also need to monitor whether reported improvements are a consequence of changes in the documentation of care or due to actual improvements in practice.</p> <p>▷ Patient/user opinions should be considered during evaluation.</p>

*Judgements made by the authors of this summary, not necessarily those of the review authors, based on the findings of the review and consultation with researchers and policymakers in low-income countries. For additional details about how these judgements were made see:

www.supportsummaries.org/methods

Additional information

Related literature

Oxman AD, Fretheim A. An overview of research on the effects of results-based financing. Report Nr 16-2008. Oslo: Nasjonalt kunnskapssenter for helsetjenesten, 2008.

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Conflict of interest

None declared. For details, see: www.supportsummaries.org/coi

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Witter S, Fretheim A, Kessy FL, Lindahl AK. Paying for performance to improve the delivery of health interventions in low- and middle-income countries. *Cochrane Database of Systematic Reviews* 2012, Issue 2. Art. No.: CD007899.

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About certainty of the evidence (GRADE)

The "certainty of the evidence" is an assessment of how good an indication the research provides of the likely effect; i.e. the likelihood that the effect will be substantially different from what the research found. By "substantially different" we mean a large enough difference that it might affect a decision. These judgements are made using the GRADE system, and are provided for each outcome. The judgements are based on the study design (randomised trials versus observational studies), factors that reduce the certainty (risk of bias, inconsistency, indirectness, imprecision, and publication bias) and factors that increase the certainty (a large effect, a dose response relationship, and plausible confounding). For each outcome, the certainty of the evidence is rated as high, moderate, low or very low using the definitions on page 3.

For more information about GRADE: www.supportsummaries.org/grade

SUPPORT collaborators:

The Cochrane Effective Practice and Organisation of Care Group (EPOC) is part of the [Cochrane Collaboration](http://www.cochrane.org). The Norwegian EPOC satellite supports the production of Cochrane reviews relevant to health systems in low- and middle-income countries. www.epocoslo.cochrane.org

The Evidence-Informed Policy Network (EVIPNet) is an initiative to promote the use of health research in policymaking in low- and middle-income countries. www.evipnet.org

The Alliance for Health Policy and Systems Research (HPSR) is an international collaboration that promotes the generation and use of health policy and systems research in low- and middle-income countries. www.who.int/alliance-hpsr

Norad, the Norwegian Agency for Development Cooperation, supports the Norwegian EPOC satellite and the production of SUPPORT Summaries. www.norad.no

The Effective Health Care Research Consortium is an international partnership that prepares Cochrane reviews relevant to low-income countries. www.evidence4health.org

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