



October 2016 – SUPPORT Summary of a systematic review

## What is the impact of vouchers on the use and quality of health goods and services?

Voucher programmes are a strategy to distribute health aid to people in disadvantaged conditions. They are used especially in low- and middle-income countries to address health inequalities in the use and access to health goods and services, and to improve efficiency in their delivery. The end goal of voucher programmes is to improve the health of the population.

### Key messages

- Vouchers may improve the utilization of reproductive health services, targeting specific populations, quality of care, and health outcomes.
- Vouchers may improve the utilisation of insecticide-treated bed nets and targeting specific populations.
- The effect of vouchers for insecticide-treated bed nets on quality of care and health outcomes is uncertain.
- The cost-effectiveness of voucher programmes is uncertain for both reproductive health services and insecticide-treated bed nets.
- All the included studies were conducted in low- and middle-income countries.



### Who is this summary for?

People making decisions about health voucher programmes

#### ! 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:

Brody CM, Bellows N, Campbell M, Potts M. The Impact of vouchers on the use and quality of health care in developing countries: A systematic review. *Global Public Health* 2013; 8:(4)363-88.

### 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](http://www.supportsummaries.org/glossary-of-terms)

**Background references on this topic:**  
See back page

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# Background

One rationale for subsidising healthcare is the inequitable distribution of wealth and healthcare resources. Low-income individuals lack adequate finance and knowledge to access and use the healthcare they need, particularly in the private sector. Voucher programmes are a form of output-based aid, where aid funding is used to stimulate demand for health goods and services. They contrast with traditional supply-side strategies, which often focus on providing the inputs for health services such as construction of facilities or provision of supplies.

## 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/](http://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 effects of vouchers on health goods and services utilisation, quality, efficiency in delivery, targeting and health outcomes in low- and middle-income countries.

Types of	What the review authors searched for	What the review authors found
<b>Study designs &amp; Interventions</b>	Studies of voucher programmes for health goods and services in low- and middle-income countries with a comparison such as before and after programme implementation, control groups, control programmes or comparison with accepted benchmarks of success	24 studies of 16 health voucher programmes; including 19 observational studies (pre/post design, cross-sectional intervention/comparison or before-after with controls design), 1 case control study, 2 economic modelling studies, 1 clinical record review, and 1 evaluation using a simulated patient
<b>Participants</b>	Populations that would potentially use vouchers for health goods and services in low- and middle-income countries	Reproductive health programmes for pregnant women and adolescents that provided maternity services, family planning (FP) and treatment for sexually transmitted infections (STI) (9 studies); Insecticide-treated bed net (ITN) distribution programmes for households, pregnant women and infants (6 studies); General health services payment programme (1 study)
<b>Settings</b>	All studies conducted in low- and middle-income countries	Bangladesh (3 maternity studies), Cambodia (1 maternity study), India (2 maternity studies), Mozambique (1 ITN study), Nicaragua (5 reproductive health and 2 STI studies), Niger (1 ITN study), Senegal (1 ITN study), Taiwan (1 FP study), Tanzania (4 ITN studies), Uganda (1 STI study), Zambia (1 ITN and 1 health services)
<b>Outcomes</b>	Targeting specific populations, utilisation and quality of health goods/services, efficiency in delivery of health services and health outcomes	Studies provided data on targeting specific groups (6 studies), utilisation (16 studies), quality of goods/services (6 studies), efficiency in delivery (1 study), and health impact (6 studies).

**Date of most recent search:** October 2010

**Limitations:** This review has important limitations due to uncertainty in risk of bias assessments and how the results were synthesised.

Brody CM, Bellows N, Campbell M, Potts M. The Impact of vouchers on the use and quality of health care in developing countries: A systematic review. *Global Public Health* 2013; 8:(4)363-88.

# Summary of findings

The review found 24 studies of 16 voucher programmes for health goods and services. Of the 16 programmes, eight were located in Africa, five were in Asia and three were in Latin America (all about one programme in Nicaragua).

Nine programmes included some aspect of reproductive health such as maternity services, family planning, treatment for sexually transmitted infections and cervical cancer screening. Six programmes were for insecticide-treated bed net distribution.

## 1) Reproductive health services

15 studies assessed the effects of vouchers on different aspects of reproductive health services: maternity services, treatment for sexually transmitted infections, cervical cancer screening and family planning.

- ➔ **Vouchers may improve the utilization of reproductive health services, targeting specific populations, quality of care, and health outcomes. The certainty of this evidence is low.**
- ➔ **The cost-effectiveness of vouchers for reproductive health services is uncertain. 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.

<b>Effects of voucher programmes for reproductive health services</b>			
<b>People</b>	Women and adolescents		
<b>Settings</b>	Low- and middle-income countries		
<b>Intervention</b>	Vouchers for health goods and services		
<b>Comparison</b>	Women and adolescents receiving reproductive health services with and without vouchers		
<b>Outcomes</b>	<b>Impact</b>	<b>Number of participants (studies)</b>	<b>Certainty of the evidence (GRADE)</b>
<b>Utilisation</b>	<ul style="list-style-type: none"> <li>- There was a positive effect for 10 out of 15 outcomes, including: % of deliveries attended by skilled providers, % of facility-based deliveries, % attending antenatal care more than once, % of women using ultrasound services, % of women receiving cervical cancer screening, and % of adolescents using reproductive health services.</li> <li>- No evidence of an effect was found on the % of women receiving postnatal care, the % of adolescents using modern family planning methods, the % using condoms in last sex act, or on the % of people seeking treatment for sexually transmitted infections (STIs).</li> </ul>	8 studies	⊕⊕○○ Low
<b>Quality</b>	<ul style="list-style-type: none"> <li>- A positive effect was found on the reliability of detection of papilloma virus through cervical cancer screening, patient satisfaction with the programme, % facility deliveries as caesarean, % services delivered during antenatal care (ANC), % providers performing well on quality indicators at ANC visits, and mean score of doctors' knowledge of contraceptive use and STI prevention and treatment.</li> <li>- An effect was not found on the % of appropriate family planning treatment, appropriate STI/HIV prevention, appropriate organisation of the clinic, or on doctors' attitudes towards sexual and reproductive health accessibility and contraceptive use.</li> </ul>	6 studies	⊕⊕○○ Low
<b>Targeting</b>	<ul style="list-style-type: none"> <li>- One study showed a positive effect of vouchers in the % of women with a "below poverty line" card using maternity services (16.7% of non-beneficiary women vs. 32.4%).</li> <li>- A study found a positive effect in the % of high-risk women receiving cervical cancer screening (3.7%) compared to standard benchmarks (0.2%–1.5%).</li> </ul>	2 studies	⊕⊕○○ Low
<b>Health Impact</b>	<ul style="list-style-type: none"> <li>- One study showed a positive effect in the % of women not experiencing life-threatening complications during pregnancy (an increase from 27% to 75%), delivery (41% to 75%), and post-partum (44% to 70%). Another study showed no effect on the % of complications during postnatal period.</li> <li>- There was no evidence of an effect on the prevalence of syphilis (3% to 3%) or on the self-reported STI symptoms (42% to 40%) (1 study). There was a positive linear relationship in prevalence of STIs with time lag between voucher distributions as explanatory variable.</li> <li>- There was evidence of a positive effect in reduction of live births per 1,000 voucher acceptors of intra-uterine devices (80% among cases compared to 48% among matched controls, 1 study).</li> </ul>	5 studies	⊕⊕○○ Low
<b>Cost-effectiveness</b>	Positive reduction of costs per STI case cured (estimated cost of \$118 STI effectively cured vs. \$200 in the absence of the programme).	1 study	⊕○○○ Very Low

GRADE: GRADE Working Group grades of evidence (see above and last page).

## 2) Insecticide-treated bed net

Nine studies assessed the effects of voucher programmes on the possession and utilization of insecticide-treated bed nets, and impacts on the prevalence of malaria and anaemia.

- Vouchers may lead to an increase in insecticide-treated bed net utilization and may improve targeting of specific (disadvantaged) populations. The certainty of this evidence is low.
- The effect of vouchers on the health outcomes (prevalence of malaria, anaemia) is uncertain. The certainty of this evidence is very low.
- No studies were found that evaluated the effect of vouchers on the quality of care or the cost-effectiveness of vouchers for insecticide-treated bed nets.

Effects of insecticide-treated bed net voucher programmes			
<b>People</b>	Households, pregnant women and infants		
<b>Settings</b>	Low- and middle-income countries		
<b>Intervention</b>	Providing vouchers for the purchase of insecticide-treated bed nets		
<b>Comparison</b>	Household ownership of insecticide-treated bed nets before and after a voucher programme		
Outcomes	Impact	Number of participants (studies)	Certainty of the evidence (GRADE)
<b>Utilisation</b>	All of 11 reported outcomes showed a positive effect on the % of households owning and using an insecticide-treated bed net (ITN) or any type of bed net, knowledge of voucher scheme as a predictor of net ownership, ITN ever treated, and ITN effectively treated.	6 studies	⊕⊕○○ Low
<b>Targeting</b>	<ul style="list-style-type: none"> <li>- Positive effects were found on the % of insecticide-treated nets purchased with a voucher in infants under one (increment from 7% to 50%); in children under five (3.5% to 33.5%) and in pregnant women 6.3% to 23.6%) (1 study). Likewise, positive effects were found among infants for ITNs purchased with a voucher (1 study). There was evidence of a positive effect on equity ratios of ITN ownership between high and low quintiles (1 study).</li> <li>- There was evidence of a negative effect of the impact of vouchers targeting poor pregnant women. 60% of the least poor pregnant women received and redeemed vouchers compared to 39% of the poorest. No evidence of an effect was found when targeting infants across socioeconomic levels (1 study).</li> </ul>	4 studies	⊕⊕○○ Low
<b>Health Impact</b>	No evidence of an effect was found on the prevalence of malaria, on mean haemoglobin levels, or on the prevalence of anaemia in children under five years and pregnant women (1 study).	1 study	⊕○○○ Very Low
p: p-value GRADE: GRADE Working Group grades of evidence (see above and last page)			

# Relevance of the review for low-income countries

→ Findings	▷ Interpretation*
APPLICABILITY	
<b>→ All of the studies were from low- and middle-income countries.</b>	<i>▷ In several low-income countries, the level of education and access to information is precarious for poor and rural people. In this context, purchasing power does not mean on its own that the most vulnerable people would have access to more and better health goods and services.</i>
EQUITY	
<b>→ Voucher programmes may improve targeting of disadvantaged populations.</b> <b>→ In the few studies that evaluated the effect of voucher programmes on equitable access and utilization of health goods and services, negative effects or no evidence of an effect was found.</b>	<i>▷ Voucher programmes may reduce inequitable access by targeting disadvantaged populations, but it is uncertain whether vouchers effectively increase the relative utilization by the poorest or most vulnerable people in comparison with the less poor or vulnerable people.</i>
ECONOMIC CONSIDERATIONS	
<b>→ This review analyzed voucher programmes delivered by public and private for-profit and not-for-profit providers, but it did not evaluate the performance and outcomes of private versus public providers.</b> <b>→ Voucher programmes aim to use market mechanisms for the delivery of health services in order to stimulate demand for health services and goods, reduce costs, and improve quality and health.</b>	<i>▷ Comparisons of investments in the private for-profit sector to improve access and quality of care must be made with investments in the public sector. The ability of these investments to promote the quality of public services should be analyzed.</i> <i>▷ Further studies of the cost-effectiveness of voucher programmes compared to other supply-side strategies are needed.</i>
MONITORING & EVALUATION	
<b>→ The certainty of the evidence is low or very low.</b>	<i>▷ The successful implementation of voucher programmes might depend on local factors such as the organization and coordination of healthcare providers, health promotion strategies, and the ability to generate timely information in an accessible language to the population about their rights and health duties.</i> <i>▷ Effects on quality of care and costs might depend on the ability of the targeted populations and their access to necessary information to choose the provider that best meets their needs and preferences, in order to promote a level of competition among providers that could lower prices and increase quality.</i> <i>▷ Monitoring and evaluation is needed to ensure that voucher programmes adequately address the health needs of targeted populations and improve their health outcomes.</i>

\*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](http://www.supportsummaries.org/methods)

# Additional information

## Related literature

Bellows N, Bellows B, Warren C. The use of voucher for reproductive health services in developing countries: systematic review. *Tropical Medicine and International Health* 2011; 16:(1)84-96.

Bhatia MR, Gorter AC. Improving access to reproductive and child health services in developing countries: are competitive voucher schemes an option? *Journal of International Development* 2007; 19:975.

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Murray SF, Hunter B, Bisht R, Ensor T, Bick D. Demand-side financing measures to increase maternal health service utilisation and improve health outcomes: a systematic review of evidence from low- and middle-income countries. *JBI Library of Systematic Reviews*, 2012; 10(58):4165-567.

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## This summary was prepared by

Lucy Kuhn-Barrientos, National Commission of Health Technology Assessment (HTA), Division of Health Planning, Undersecretary of Public Health, Ministry of Health, Chile.

## Conflict of interest

None declared. For details, see: [www.supportsummaries.org/coi](http://www.supportsummaries.org/coi)

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This summary has been peer reviewed by: Ben Bellows and Carinne Brody.

## This review should be cited as

Brody CM, Bellows N, Campbell M, Potts M. The Impact of vouchers on the use and quality of health care in developing countries: A systematic review. *Global Public Health* 2013; 8:(4)363-88.

## The summary should be cited as

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## Keywords

evidence-informed health policy, evidence-based, systematic review, health systems research, health care, low and middle-income countries, developing countries, primary health care, vouchers, aid resources, targeting, utilisation, efficiency, quality, health impact

## 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](http://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](http://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](http://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](http://www.who.int/alliance-hpsr)

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