



August 2016 – SUPPORT Summary of a systematic review

Which interventions increase the recruitment and retention of health professionals practising in underserved and rural areas?

Shortages of health professionals in many geographic regions, especially in underserved and rural areas, challenge equitable healthcare delivery and pose an important obstacle to the achievement of health goals.

Key messages

→ It is uncertain whether any of the following types of interventions to recruit or retain health professionals increase the number of health professionals practising in underserved areas

- Educational interventions (e.g. student selection criteria, undergraduate and postgraduate teaching curricula, exposure to rural and urban underserved areas)
- Financial interventions (e.g. undergraduate and postgraduate bursaries or scholarships linked to future practice location, rural allowances, increased public sector salaries)
- Regulatory strategies (e.g. compulsory community service, relaxing work regulations imposed on foreign medical graduates who are willing to work in rural or urban underserved areas)
- Personal and professional support strategies (e.g. providing adequate professional support and attending to the needs of the practitioners family)



Who is this summary for?

People making decisions concerning the recruitment and retention of health workers practising in underserved areas

! 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:

Grobler L, Marais BJ, Mabunda S. Interventions for increasing the proportion of health professionals practising in rural and other underserved areas. Cochrane Database of Systematic Reviews 2015, Issue 6. Art. No.: CD005314.

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

There is an imbalance in the distribution of health professionals between underserved and well-served areas in most parts of the world. Most health professionals practice in urban rather than rural areas. Fewer healthcare professionals work in underserved rural and urban communities. The reasons for this include: more demanding working conditions, substandard medical equipment and facilities, inadequate financial remuneration, inadequate opportunities for personal and professional growth, safety concerns, a lack of job opportunities for spouses, and the limited educational opportunities available to children. Addressing the maldistribution of health professionals is critical in order to ensure greater equity and the achievement of health goals.

This summary addresses the effects of different interventions to increase the number of health professionals practising in rural and other underserved areas in low-income countries. It summarises a broad review of interventions designed to increase the proportion of health professionals practising in underserved communities.

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 effectiveness of interventions to increase the proportion of healthcare professionals working in rural and other underserved areas

Types of	What the review authors searched for	What the review authors found
Study designs and interventions	Randomised trials, non-randomised trials, controlled before-after studies and interrupted time series studies of any intervention to increase the recruitment or retention of health professionals in underserved areas.	1 interrupted time series study from Taiwan of the effects of National Health Insurance on the equality of distribution of healthcare professionals
Participants	Qualified healthcare professionals of any cadre or specialty	Physicians, doctors of Chinese medicine and dentists
Settings	All settings	Taiwan
Outcomes	Recruitment of health professionals: the proportion of health professionals who initially choose to work in rural or urban underserved communities as a result of being exposed to the intervention. Retention: the proportion of healthcare professionals who continue to work in rural or urban underserved communities as a consequence of the intervention	Equality of geographic distribution of healthcare professionals measured using the Gini coefficient
Date of most recent search: April 2014		
Limitations: This is a well-conducted systematic review with only minor limitations.		

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Summary of findings

The review identified one study conducted in Taiwan. This study assessed the impacts of the introduction of a mandatory national health insurance scheme, using time series observations over 32 years. The scheme had multiple components including a single-payer system and comprehensive benefits for allopathic and Chinese medicine and dental care.

- It is uncertain whether the introduction of a mandatory national health insurance scheme improves the equality of the distribution of health professionals because the certainty of this evidence is very low.
- No other studies meeting the reviews inclusion criteria were found for any of the following types of interventions for recruiting and retaining health professionals in underserved areas:
 - Educational interventions (e.g. student selection criteria, undergraduate and postgraduate teaching curricula, exposure to rural and urban underserved areas)
 - Financial interventions (e.g. undergraduate and postgraduate bursaries or scholarships linked to future practice location, rural allowances, increased public sector salaries)
 - Regulatory strategies (e.g. compulsory community service, relaxing work regulations imposed on foreign medical graduates who are willing to work in rural or urban underserved areas)
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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.

Introduction of a mandatory national health insurance scheme, including a single-payer system and comprehensive benefits for allopathic and Chinese medicine and dental care			
People	Healthcare professionals		
Settings	Taiwan		
Intervention	Mandatory national health insurance scheme		
Comparison	No national health insurance scheme		
Outcomes	Impact	Number of participants (Studies)	Certainty of the evidence (GRADE)
Equality of distribution of healthcare professionals	The equality of geographic distribution increased as follows: <ul style="list-style-type: none"> Physicians: 0.4% (SE: -0.004, 0.00; p<0.01) Doctors of Chinese medicine: 0,3% (SE: -0.003, 0.002; p<0.05) Dentists: 1,3% (SE: -0.013, 0.003; p<0.01) 	(1 study)	⊕○○○ Very low
p: p-value, SE – standard error GRADE: GRADE Working Group grades of evidence (See above and last page)			

Relevance of the review for low-income countries

→ Findings	▷ Interpretation*
APPLICABILITY	
→ Some observational studies, mostly from high-income countries, suggest that some interventions, such as selecting students from rural areas, exposing students to clinical rotations in rural areas, or financial incentive programmes might increase the number of health professionals in underserved areas. However, the certainty of this evidence is very low.	▷ Economic and cultural differences, differences between health system structures, and differences in state and educational institutional capacity to regulate and manage various types of interventions may limit the applicability of findings from high to low-income countries.
EQUITY	
→ The one included study suggested that a mandatory national insurance scheme might slightly reduce the inequitable distribution of health professionals, possibly by removing financial disincentives.	▷ Any intervention that increases the proportion of health professionals in underserved areas would improve equitable access to healthcare.
ECONOMIC CONSIDERATIONS	
→ Only one study was included and it did not provide evidence cost or cost-effectiveness.	▷ The cost and cost-effectiveness of different interventions for recruiting or retaining health professionals in underserved areas is uncertain.
MONITORING & EVALUATION	
→ Although many different interventions are used to recruit and retain health professionals in underserved areas, the effectiveness of these interventions is uncertain.	▷ The effects, including possible adverse effects, and costs of any intervention that is implemented to recruit or retain health professionals in underserved areas should be monitored and, if possible, the impact on the number of health professionals practicing in underserved areas should be evaluated using randomized trials or interrupted time series studies.

*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

World Health Organization. Increasing access to health workers in remote and rural areas through improved retention: Global policy recommendations. Geneva: World Health Organization, 2010. <http://www.who.int/hrh/retention/guidelines/en/index.html>

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Conflict of interest

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

Acknowledgements

This summary has been peer reviewed by: Liesl Nicol, Till Bärnighausen, and Elie Akl.

This review should be cited as

Grobler L, Marais BJ, Mabunda S. Interventions for increasing the proportion of health professionals practising in rural and other underserved areas. *Cochrane Database of Systematic Reviews* 2015, Issue 6. Art. No.: CD005314.

The summary should be cited as

Okwundu CI, Lewin S. Which interventions increase the recruitment and retention of health professionals practising in underserved and rural areas? A SUPPORT summary of systematic reviews. August 2016. www.supportsummaries.org

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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