



September 2009 – SUPPORT Summary of a systematic review

# Does interprofessional education improve professional practice and health care outcomes?

Patient care is a complex activity which demands that health and social care professionals rendering services work together in an effective manner. Prior research suggests that health professionals may not communicate or collaborate well together in providing health care. Interprofessional education (IPE) is seen as an opportunity to enhance communication and collaboration between professionals to ultimately improve professional practice and health care outcomes.

## Key messages

- Studies conducted in high income countries provide low quality evidence on the effects of interprofessional education (IPE).
- IPE may improve departmental culture, collaborative team behaviour, and health professional competencies, as well as reduce clinical error rates.
- The effect of IPE on patient satisfaction, the quality of care and clinical outcomes is uncertain.
- Factors that may need to be considered in the applicability of IPE in LMIC settings include resource and time requirements to implement such interventions.
- Further rigorous research is needed to demonstrate evidence of the impact of this type of intervention on professional practice and/or healthcare outcomes.



## Who is this summary for?

People making decisions about education of health professionals

### ! This summary includes:

- Key findings from research based on a systematic review
- Considerations about the relevance of this research for low- and middle-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:

Reeves S, Zwarenstein M, Goldman J, Barr H, Freeth D, Hammick M, Koppel I. Interprofessional education: effects on professional practice and health care outcomes. Cochrane Database of Systematic Reviews 2008, Issue 1. Art. No.: CD 002213.

## 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** – an international collaboration funded by the EU 6th Framework Programme to support the use of policy relevant reviews and trials to inform decisions about maternal and child health in low- and middle-income countries. [www.support-collaboration.org](http://www.support-collaboration.org)

**Glossary of terms used in this report:** [www.support-collaboration.org/summaries/explanations.htm](http://www.support-collaboration.org/summaries/explanations.htm)

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

# Background

Interprofessional education (IPE) has generated a great deal of interest amongst policy makers, educators and researchers as a means to cultivate collaborative practice and enhance patient care. Despite the need for good interprofessional communication and collaboration to help coordinate patient care in an effective manner, research has found that achieving this is problematic.

This summary is based on a systematic review published in 2008 by Reeves and colleagues on the effectiveness of IPE in improving interprofessional collaboration and patient care. A previous review in 2000 by the same authors found no IPE studies employing randomised control trials (RCTs), controlled before and after studies (CBA), or interrupted time series studies (ITS) to provide good quality evidence. Numerous studies with a broader methodological approach have since been undertaken. The 2008 review therefore provides an update on the available evidence on IPE.

## 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- and middle-income countries. The methods used to assess the quality of the review and to make judgements about its relevance are described here:

[www.support-collaboration.org/summaries/methods.htm](http://www.support-collaboration.org/summaries/methods.htm)

## Knowing what's not known is important

A good quality review might not find any studies from low- and middle-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.

## About the systematic review underlying this summary

**Review objective:** To assess the effectiveness of interprofessional education (IPE) interventions in improving professional practice and patient outcomes

	What the review authors searched for	What the review authors found
<b>Interventions</b>	RCTs, CBAs and ITS studies assessing IPE interventions where two or more health and/or social care professions learn interactively together to achieve improved interprofessional collaboration and patient care	4 RCTs and 2 CBAs which assessed IPE interventions such as communication skills training, teamwork and team planning interventions, behaviour change training and support. These were implemented over different time periods ranging from four hours to one year.
<b>Participants</b>	Health and social care professionals	Health and social care professionals including physicians, nurses, optometrists, social workers, health administrators, clerks, physician assistants, psychiatrists, and mental health workers amongst others
<b>Settings</b>	Not specified	Hospital emergency departments, community mental health provider organisations, primary care clinics, and a health maintenance organisation in the US (5) and the UK (1)
<b>Outcomes</b>	Objectively measured or self reported healthcare process measures and patient outcomes	A range of outcomes including system change indicators, observed team behaviours, changes in professional practice, patient satisfaction and clinical care outcomes

**Date of most recent search:** September 2006

**Limitations:** This is a good quality systematic review

Reeves S, Zwarenstein M, Goldman J, Barr H, Freeth D, Hammick M, Koppel I. Interprofessional education: effects on professional practice and health care outcomes. Cochrane Database of Systematic Reviews 2008, Issue 1. Art. No.: CD 002213. DOI:10.1002/14651858.CD002213.pub2.

# Summary of findings

The review included six studies which compared the effectiveness of IPE interventions to control groups which received no interventions. All the studies focused on work-place or postqualification education interventions. The IPE interventions, study designs and outcomes measured differed widely and the review was unable to do a meta-analysis of the results. As few common outcomes measures were used in the six studies, a summary of the results is therefore limited to the broad categories of professional practices and patient outcomes. Where positive outcomes were found, these gains were sustained over time, ranging from eight to 21 months.

Six studies assessed the effects of IPE on various aspects of professional practice such as departmental culture and systems changes (e.g. appropriate protocols, checklists, availability of referral information, staff training), collaborative team behaviour, clinical error rates, case recognition or finding, management of care, and professional competencies. Two studies assessed the effects of IPE on patient satisfaction and one assessed its impact on clinical outcomes. These studies show that:

- **Interprofessional education may improve professional practice**
- **The effect of Interprofessional education on patient satisfaction is uncertain**
- **The effect of interprofessional education on clinical outcomes is uncertain**

## About the quality of evidence (GRADE)

⊕⊕⊕⊕

**High:** Further research is very unlikely to change our confidence in the estimate of effect.

⊕⊕⊕○

**Moderate:** Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

⊕⊕○○

**Low:** Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

⊕○○○

**Very low:** We are very uncertain about the estimate.

For more information, see last page

Professional practise, clinical outcomes and patient satisfaction			
<b>Patients or population:</b> Health and social care professionals <b>Settings:</b> Health service providers in US (5) and UK (1) <b>Intervention:</b> Interprofessional education interventions <b>Comparison:</b> No education intervention			
Outcomes	Impact	Number of participants (studies)	Quality of the evidence (GRADE)
<b>Professional practice</b>	4 studies reported a positive outcome in at least one aspect of professional practice, and 2 studies found no significant effect on any of the outcomes. There was a lot of heterogeneity in the outcomes studies and the results.	6 studies	⊕⊕○○ Low
<b>Clinical Outcomes</b>	No significant effect on clinical outcomes	1 study	⊕⊕○○ Low
<b>Patient Satisfaction</b>	One study found that IPE significantly improved patient satisfaction scores (P<0.0001); and the other that it did not improve patient satisfaction scores.	2 studies	⊕⊕○○ Low
p: p-value GRADE: GRADE Working Group grades of evidence (see above and last page)			

# Relevance of the review for low- and middle-income countries

## → Findings

## ▷ Interpretation\*

### APPLICABILITY

→ The studies settings were in the United States and United Kingdom ranging from hospital emergency departments, health maintenance organisations, community mental health provider organisations, to primary care practices.

▷ *Differences in the health system contexts, gender relationships and comparable social status of different health professions may influence the effectiveness of IPE in different settings. Further rigorous studies of IPE are needed in low- and middle-income countries before widescale implementation.*

### EQUITY

→ Studies found that IPE required systems changes , facilitated by additional resources, time and supportive leadership within organisations.

▷ *The additional resource requirements, as well as reorientation and reorganisation of work processes and professional development systems, may be a barrier in poorly resourced settings in low- and middle-income countries.*

### ECONOMIC CONSIDERATIONS

→ Economic evaluations were not included in any of the studies

▷ *The cost of IPE is likely to be highly variable and must be estimated based on specific local conditions. Further studies of IPE should also include economic evaluations.*

### MONITORING & EVALUATION

→ Evidence of effectiveness is not available in resource poor settings.

▷ *The impact and cost-effectiveness of IPE in resource-poor settings should be monitored using objective measures of professional practice and healthcare outcomes, to ensure that intended improvements in practice are achieved.*

\*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- and middle-income countries. For additional details about how these judgements were made see: <http://www.support-collaboration.org/summaries/methods.htm>

# Additional information

## Related literature

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## Conflict of interest

None. For details, see: [www.support-collaboration.org/summaries/coi.htm](http://www.support-collaboration.org/summaries/coi.htm)

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## Keywords

*All Summaries:* evidence-informed health policy, evidence-based, systematic review, health systems research, health care, low- and middle-income countries, developing countries, primary health care.

## About quality of evidence (GRADE)

The quality of the evidence is a judgement about the extent to which we can be confident that the estimates of effect are correct. These judgements are made using the GRADE system, and are provided for each outcome. The judgements are based on the type of study design (randomised trials versus observational studies), the risk of bias, the consistency of the results across studies, and the precision of the overall estimate across studies. For each outcome, the quality of the evidence is rated as high, moderate, low or very low using the definitions on page 3.

### For more information about GRADE:

[www.support-collaboration.org/summaries/grade.htm](http://www.support-collaboration.org/summaries/grade.htm)

## SUPPORT collaborators:

**The Alliance for Health Policy and Systems Research (HPSR)** is an international collaboration aiming to promote the generation and use of health policy and systems research as a means to improve the health systems of developing countries. [www.who.int/alliance-hpsr](http://www.who.int/alliance-hpsr)

**The Cochrane Effective Practice and Organisation of Care Group (EPOC)** is a Collaborative Review Group of the Cochrane Collaboration: an international organisation that aims to help people make well informed decisions about health care by preparing, maintaining and ensuring the accessibility of systematic reviews of the effects of health care interventions. [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. Focusing on low- and middle-income countries, EVIPNet promotes partnerships at the country level between policy-makers, researchers and civil society in order to facilitate both policy development and policy implementation through the use of the best scientific evidence available. [www.evipnet.org](http://www.evipnet.org)

### For more information:

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