



April 2017 – SUPPORT Summary of a systematic review

What are the effects of interprofessional education on professional practice and healthcare outcomes?

Delivering effective, high-quality patient care is complex and requires that health and social care professionals work together effectively. Interprofessional education – training or learning initiatives that involve more than one profession in joint, interactive learning with the explicit purpose of improving interprofessional collaboration or patient care – is a possible strategy for improving how professionals work together as well as improving professional practice and patient care.

Key messages

- **Interprofessional education may lead to improved outcomes for patients and greater patient satisfaction.**
- **Interprofessional education may improve professionals' adherence to guidelines or standards.**
- **It is uncertain whether interprofessional education improves collaborative behaviours among professionals, the competencies of professionals to work together in delivering care or clinical processes.**
- **None of the included studies was conducted in low-income countries. The extent to which these findings are applicable to these settings is uncertain.**



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-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, Perrier L, Goldman J, Freeth D, Zwarenstein M. Interprofessional education: effects on professional practice and healthcare outcomes. Cochrane Database Syst Rev. 2013 Mar 28; 3:CD002213

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

Good communication and collaboration between health and social care professionals is seen as important to the provision of effective and high quality healthcare.

Improved interprofessional collaboration may improve care delivery, health outcomes and patient safety and may help ensure that the skills of healthcare team members are used optimally. Interprofessional education has generated a great deal of interest amongst policymakers, educators and researchers as a mechanism for facilitating collaborative practices and improving professional practice and patient care.

Interprofessional education has been defined as initiatives that involve more than one profession in joint, interactive learning with the explicit purpose of improving collaboration between professionals, as well as patient care and patient health and well-being.

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 effects of interprofessional education on professional practice and healthcare outcomes

Types of	What the review authors searched for	What the review authors found
Study designs & Interventions	Randomised trials, controlled before-after studies and interrupted time-series studies of interprofessional education interventions. These included all types of educational, training, learning or teaching initiatives involving more than one profession in joint, interactive learning with the explicit purpose of improving interprofessional collaboration or the health and well-being of patients	15 studies: randomised trials (8), controlled before-after studies (5) and interrupted time series studies (2). The interprofessional education interventions assessed were varied, and included (among others): communication skills training, teamwork and team planning interventions, and behaviour change training (interactive workshops).
Participants	Health and social care professionals	A range of health and social care professionals including (among others): physicians, nurses, nutritionists, optometrists, social workers, physician assistants, psychiatrists, mental health workers, medicine residents, pharmacy students, obstetricians and anaesthetists
Settings	Any health or social care setting	Countries: USA (12), UK (2), Mexico (1) Health care settings: hospital emergency departments, community mental health provider organisations, primary care clinics, and a health maintenance organisation
Outcomes	Objectively measured or self-reported patient/client outcomes, healthcare process outcomes	Patient outcomes, guideline adherence rates, patient satisfaction, clinical process outcomes, collaborative behaviour, medical error rates, professionals competencies

Date of most recent search: August 2011

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

Reeves S, Perrier L, Goldman J, Freeth D, Zwarenstein M. Interprofessional education: effects on professional practice and healthcare outcomes (update). Cochrane Database Syst Rev. 2013 Mar 28; 3:CD002213

Summary of findings

This review included 15 studies assessing the effectiveness of interprofessional education interventions compared to no educational interventions. The studies varied in terms of the objectives and format of the educational intervention, the presence of other interventions in addition to the educational intervention, and the clinical areas and settings in which the interventions were delivered. The interprofessional education component in these studies ranged from a few hours or days to longitudinal programmes that were delivered over one year or more.

- **Interprofessional education may lead to improved outcomes for patients and greater patient satisfaction. The certainty of this evidence is low.**
- **Interprofessional education may improve the adherence of different professionals to guidelines or standards. The certainty of this evidence is low.**
- **It is uncertain whether interprofessional education improves collaborative behaviours among professionals, the competencies of professionals to work together in delivering care or clinical processes. The certainty of this evidence is very low.**
- **It is uncertain whether interprofessional education reduces errors in medical practice. 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.

Interprofessional education to improve professional practice and healthcare outcomes			
People	Health and social care professionals involved in interprofessional education interventions		
Settings	Mexico, UK and the USA		
Intervention	Use of interprofessional education to improve collaboration and patient care		
Comparison	No education intervention*		
Outcomes	Impact	Number of studies	Certainty of the evidence (GRADE)
Patient outcomes	Interprofessional education may improve care outcomes for patients	6	⊕⊕○○ Low
Adherence rates	Interprofessional education may improve the adherence of different professionals to clinical guidelines or standards	3	⊕⊕○○ Low
Patient satisfaction	Patients may be more satisfied with the care provided by professionals who have participated in an interprofessional education intervention	2	⊕⊕○○ Low
Clinical process outcomes	It is uncertain whether interprofessional education improves clinical processes (e.g. shared decision on clinical procedures among professionals) because the certainty of this evidence is very low	1	⊕○○○ Very low
Collaborative behaviour	It is uncertain whether interprofessional education improves the extent to which different professions behave collaboratively in the delivery of patient care because the certainty of this evidence is very low	3	⊕○○○ Very low
Medical error rates	It is uncertain whether interprofessional education decrease errors in medical practice because the certainty of this evidence is very low	1	⊕○○○ Very low
Professional competencies	It is uncertain whether interprofessional education changes the competencies (e.g. skills, knowledge) of professionals to work together in the delivery of care because the certainty of this evidence is very low	1	⊕○○○ Very low
<p>*Although the review searched for studies comparing interprofessional education to both separate, profession-specific interventions and to no education interventions, all of the included studies compared interprofessional education with no education intervention.</p> <p>GRADE: GRADE Working Group grades of evidence (see above and last page)</p>			

Relevance of the review for low-income countries

→ Findings	▷ Interpretation*
APPLICABILITY	
→ The included studies were conducted in the USA, UK and Mexico in varied settings (hospital emergency departments, health maintenance organisations, community mental health provider organisations, primary care practices). None of the studies were conducted in low income countries.	<p>▷ The impact of interprofessional education interventions in low-income settings is uncertain.</p> <p>▷ Differences in health system resources and functioning, clinical and organizational contexts, the resources available for health professional education, the range of professionals involved, gender relationships, the social status of different health professions and the extent to which health profession leaders are supportive of interprofessional working may influence the effectiveness of interprofessional education across different settings.</p>
EQUITY	
→ No information was reported on the differential effects of the intervention on different population groups.	▷ The additional resource requirements, as well as the need for the reorientation and reorganisation of professional development systems and work processes, may be a barrier to effective implementation in poorly resourced settings. Such settings may therefore not benefit from these interventions, including in terms of improvements in patient satisfaction, the way that care is delivered and care outcomes.
ECONOMIC CONSIDERATIONS	
→ None of the included studies reported information on costs or cost-effectiveness.	<p>▷ The cost of interprofessional education is likely to be highly variable and needs to be estimated in the settings in which these interventions are being considered</p> <p>▷ Costs may include developing interprofessional training programmes, bringing together different professionals during their education and reinforcing such training once professionals are in service. Future studies of interprofessional education should include economic evaluations.</p>
MONITORING & EVALUATION	
<p>→ Evidence on the impacts of interprofessional education interventions in low-income settings is lacking.</p> <p>→ Few studies have evaluated the effects of interprofessional education interventions on clinical process outcomes (such as interprofessional decision-making), errors in medical practice and the competencies of professionals.</p>	<p>▷ Further studies are needed of the effectiveness of interprofessional education interventions compared to both separate, profession-specific interventions and no education intervention. These studies should assess measures of collaborative behaviour or team-working, clinical process outcomes, patient outcomes, errors in medical practice, the competencies of professionals and professionals' satisfaction with interprofessional working.</p> <p>▷ Future studies should incorporate qualitative evaluations of how interprofessional education is implemented and received, and its impacts on working relations between professionals and on their professional practices, and should explore causal pathways for change.</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

Rodger S, Hoffman S (on behalf of the World Health Organization Study Group On Interprofessional Education And Collaborative Practice). Where in the world is interprofessional education? A global environmental scan. *Journal of Interprofessional Care* 2010; 24: 479–491.

Sunguya BF, Hinthong W, Jimba M, Yasuoka J. Interprofessional Education for Whom? — Challenges and Lessons Learned from Its Implementation in Developed Countries and Their Application to Developing Countries: A Systematic Review. *PLoS ONE* 2014; 9(5): e96724.

World Health Organization. Framework for action on interprofessional education and collaborative practice, 2010. Available at: whqlibdoc.who.int/hq/2010/WHO_HRH_HPN_10.3_eng.pdf

Zwarenstein M, Goldman J, Reeves S. Interprofessional collaboration: effects of practice-based interventions on professional practice and healthcare outcomes. *Cochrane Database of Systematic Reviews* 2009, Issue 3. Art. No.: CD000072.

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Conflict of interest

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

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This review should be cited as

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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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