

## Review title

Evaluating the evidence linking interprofessional education interventions to improving the delivery of safe and effective patient care: A scoping review.

## Authors

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## Background

Inter-professional education (IPE) is the process wherein healthcare professionals learn from one another to further increase collaboration in the work environment and to improve qualitative measures for more efficient patient care services. (1) IPE is defined as circumstances wherein students from two or more disciplines learn together as well as from and about one another to further enhance their collaborative skills and to promote a higher quality of care. (2) In 2010, Blue wrote, Interprofessional teams enhance the quality of patient care, lower costs, decrease patients' length of stay, and reduce medical errors. (3). There is an abundance of literature supporting the IPE of healthcare students but there has not been much written that links direct patient quality outcome measures to IPE. The effectiveness of IPE, in relation to direct patient care is hard to quantify or qualify.

Center for Medicare & Medicaid Services (CMS) defines Quality Measures as tools that help us measure or quantify healthcare processes, outcomes, patient perceptions, and organizational structure and/or systems that are associated with the ability to provide high-quality health care and/or that relate to one or more quality goals for health care. These goals include: effective, safe, efficient, patient-centered,

equitable, and timely care. (4) These measures include length of stay, medication errors, medical errors, patient satisfaction scores, safe transition of care or care coordination, medication adherence, improved patient and caregiver education, improved hospice usage, decreased mortality rates, lower infection rates and reduced readmission rates.

This scoping review will search the literature for articles and studies that relate quality health outcome measures to the interprofessional education intervention of the healthcare provider.

## **Objective and Review question**

The overall objective of this scoping review is to assess the impact of interprofessional education (IPE) on direct patient care. This scoping review will look at the published literature linking IPE to direct improvement in quality of patient care and other health outcomes.

The question of this review is: Has the inclusion of interprofessional education in healthcare curriculums had a direct impact on quality of patient care?

## **Keywords**

Interprofessional education; interprofessional practice, effectiveness, quality of healthcare; quality outcomes

## **Methods**

### **Inclusion criteria**

#### **Participants/Population**

This scoping review will consider studies that include healthcare professionals, students or practitioners who have experienced interprofessional education or training. All types of interventions that target any type of health or social care professional will be included. Podiatrists, complementary therapists, dentist, dieticians, doctors, hygienist, midwives, nurses, occupational therapists, pharmacists, physician assistants, physical therapists, psychotherapists, radiographers, respiratory therapists, workers or speech therapist will all be included.

#### **Concept**

The concept or intervention will be interprofessional based practice or collaboration, between two or more

collaborators, to improve patient's outcome measures and the IPE exposure must have been included within their coursework or education.

### **Context**

This scoping review will consider studies that have been conducted that look at the direct effect the IPE intervention has on quality patient care.

### **Outcome**

Articles that discuss skills, professional practice or behavior changes that were attributed to IPE and are assessed in direct patient care using health outcome measures such as length of stay and other quality measurements.

### **Study types**

This scoping review will consider both experimental and quasi-experimental study designs including randomized controlled trials, non-randomized controlled trials, before and after studies and interrupted time-series studies. In addition, analytical observational studies including prospective and retrospective cohort studies, case-control studies and analytical cross-sectional studies will be considered for inclusion. This scoping review will also consider descriptive observational study designs including case series, individual case reports and descriptive cross-sectional studies for inclusion.

Quantitative and qualitative and mixed methods studies will all be included in order to consider different aspect of linking IPE to healthcare outcome measures. A PRISMA Flowchart(5) will be maintained during the research process.

Studies published in English will be included. Studies published since 2015 to 2020 will be included.

## **Search strategy**

The search strategy will aim to find both published and unpublished studies. An initial limited search of MEDLINE and CINAHL has been undertaken to identify articles on this topic, followed by analysis of the text words contained in the titles and abstracts, and of the index terms used to describe these articles. This informed the development of a search strategy including identified keywords and index terms which will be tailored for each information source. A full search strategy for MEDLINE the relevant is detailed in Appendix 1. The reference list of all included studies will be screened for additional studies.

The databases to be searched include:

MEDLINE, CINAHL, EBSCOHost, Cochrane Central Registry of Controlled Trials (Central), Clinical Trials.gov, Science Direct, Scopus, Joanna Briggs Institute

The search for unpublished studies will include:

Dissertations, The World Health Organization, Interprofessional Education Collaborative National Association Members webpages:

- Academy of Nutrition and Dietetics (ACEND)
- American Association of Colleges of Nursing (AACN)
- American Association of Colleges of Osteopathic Medicine (AACOM)
- American Association of Colleges of Pharmacy (AACP)
- American Association of Colleges of Podiatric Medicine (AACPM)
- American Association for Respiratory Care (AARC)
- American Council of Academic Physical Therapy (ACAPT)
- American Dental Education Association (ADEA)
- American Occupational Therapy Association (AOTA)
- American Psychological Association (APA)
- American Speech-Language Hearing Association (ASHA)
- Association of Academic Health Sciences Libraries (AAHSL)
- Association of American Medical Colleges (AAMC)
- Association of American Veterinary Medical Colleges (AAVMC)
- Association of Chiropractic Colleges (ACC)
- Association of Schools and Colleges of Optometry (ASCO)
- Association of Schools and Programs of Public Health (ASPPH)
- Association of Schools of Allied Health Professions (ASAHP)
- Council on Social Work Education (CSWE)
- National League for Nursing (NLN)
- Physician Assistant Education Association (PAEA)

Hand searching key journals Journal of Interprofessional Education & Practice,

- The Journal of Research in Interprofessional Practice and Education and Journal of Interprofessional Care

## **Data extraction**

At least two or more reviewers will review the titles and abstracts retrieved in the searches, to identify those articles that meet the review's inclusion criteria.

The full text will be obtained of all remaining articles to determine if all inclusion criteria is met. Data will be extracted from papers included in the scoping review using the draft data extraction tool listed in Appendix II by two independent reviewers. The data extracted will include specific details about the populations, concept, context, and study methods of significance to the scoping review question and specific objectives. Any disagreements that arise between the reviewers will be resolved through discussion, or with a third reviewer. The draft data extraction tool will be modified and revised as necessary during the process of extracting data from each included study. Modifications will be detailed in the full scoping review report.

## **Data mapping**

The extracted data will be presented in tabular form in a manner that aligns to the objective/s and scope of this scoping review. The tables and charts will report on distribution of studies by year or period of publication, countries of origin, area of practice (clinical, profession, educational etc.), interprofessional intervention and quality health indicator.

A narrative summary will accompany the tabulated and/or charted results and will describe how the results relate to the reviews objective and question/s.

## **Conflicts of interest**

A statement which either declares there are no conflicts of interest or which describes any specified or potential conflicts of interest should be made here.

## **References**

1. Steinert Y. Learning together to teach together: interprofessional education and faculty development. *J Interprof Care*. 2005;19 Suppl 1:60-75.
2. World Health Organization. Framework for action on interprofessional education and collaborative practice. Geneva, Switzerland; 2010. Contract No.: WHO/HRH/HPN/10.3.
3. Blue AV, Mitcham M, Smith T, Raymond J, Greenberg R. Changing the future of health professions: embedding interprofessional education within an academic health center. *Acad Med*. 2010;85(8):1290-5.

4. U.S. Centers for Medicare & Medicaid Services. CMS Quality Measures Baltimore Maryland 2020 [Available from: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityMeasures/index>].
5. Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med. 2009;6(7):e1000097.

## Appendix I: Search Strategy for Medline (Ovid)

1. exp Interprofessional relations/ and (collaborat\$ or team\$).tw.
2. exp patient care team/and collaborat\$ or team\$).tw.
3. ((interprofession\$ or inter-profession\$ or inter profession\$) adj (collaborat\$ or team\$)).tw.
4. ((interdisciplin\$ or inter-disciplin\$) adj (collaborat\$ or team\$)).tw.
5. ((Interoccupation\$ or inter-occupation\$) adj (collaborat\$ or team\$)).tw.
6. ((multiprofessional\$ or multi-profession\$) adj (collaborat\$ or team\$)).tw.
7. ((multidisciplin\$ or multi-disciplin\$) adj (collaborat\$ or team\$)).tw.
8. ((multioccupation\$ or multi-occupation\$) adj (collaborat\$ or team\$)).tw.
9. ((transdisciplin \$ or trans-disciplin\$) adj (collaborat\$ or team\$)).tw.
10. (team\$ adj collaborat\$).tw.
11. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10
12. exp Quality indicators, Healthcare/
13. exp Length of stay/
14. exp medication errors/
15. exp medical errors/
16. exp patient satisfaction/ or patient satisfaction scores.tw.
- 17 exp care transition/ or transition of care.tw. or care coordination.tw.
18. exp medication adherence/
19. exp patient education/ and caregiver education.tw.
20. exp hospice care/ or improved hospice usage.tw. or hospice referral.tw.
21. exp mortality/ or mortality rates.tw. or decreased mortality rates.tw.
22. exp infection control/ or lower infection rates.tw.
23. exp patient readmission/ or reduced readmission rates.tw.
24. 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 22 or 23
25. 11 AND 24
26. Limit to English
27. Animals/ not humans/
28. Limit 27 to yr = "2015 – Current"

## APPENDIX II – DATA EXTRACTION TOOL

Reference author & year	Type of Student	Number of Participants	IPE Intervention	Quality Health Measurement	Comments

