

# Mapping evidence on community-based clinical education models for undergraduate physiotherapy students: a scoping review protocol

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## Protocol

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## Abstract

**Background:** Community-based clinical training has been advocated as an excellent approach to transformation in clinical education. Clinical education for undergraduate physiotherapy students is a hands-on practical experience that aims to provide a student with skills to be fit to practice independently. However, in many countries, including South Africa, this training has been conducted in large urban academic hospitals. Such hospitals are not a true reflection of the environment that these students will be faced with as practicing healthcare professionals. The purpose of this scoping review was to map out existing evidence on community-based clinical education models for undergraduate physiotherapy students globally.

**Methods:** A systematic scoping review will be based on the 2005 Arksey and O'Malley framework. Studies involving students and stakeholders in clinical education will be included. This review will not be limited by time. An electronic search of relevant literature, including peer-reviewed primary studies and grey literature, will be conducted from PubMed, Google Scholar, Medline, CINAHL, and the Cochrane Library. The search strategy will include keywords such as "education," "physiotherapy," "undergraduate," "community-based," "training," "decentralized," and "distributed." Boolean logic will be used for each search string. Two independent reviewers will conduct screening of titles, abstracts, and full text before extracting articles. A predesigned data-charting table will supplement the extraction of data. Version 12 NVIVO software will aid in the thematic analysis of data.

**Discussion:** The evidence obtained from the extracted data will assist in the development of a model of community-based clinical education for undergraduate physiotherapy students in South Africa, and serve as a basis for future research. The discussion of this evidence will be guided by the research question utilizing a critical narrative approach to explore emerging themes. The enablers and barriers identified from the reviewed studies can guide the development of a community-based clinical education model.

## Background

Clinical education is the integration of theory into practice in the health care environment, aiming to develop clinically competent health science practitioners. This type of training is imperative in health science professions as it provides hands-on practical experience with real patients in a real clinical environment(1–3). Traditionally this training has been centered around well-resourced academic hospitals, mainly in the cities closer to the universities (4). However, a global shift towards community-based clinical practice conducted away from the university, and large academic hospitals necessitate a change towards rural and peri-urban clinical placements(5). This type of training is also known as decentralized clinical training(6,7).

The primary health care approach has been identified as a "*first level of contact in a health system*" (8). It is, therefore, essential for a curriculum to address the primary health care needs of the population, which are social responsiveness, inclusiveness, and participation (9). This transformation prepares undergraduate students to be socially responsive to the needs of the communities they serve, giving them the confidence to become health advocates for their patients (4,10,11).

Physiotherapy is one of the few health science professions that manage patients from the acute hospital phase in the intensive care unit. To a chronic rehabilitation phase in the primary health care setting in the communities in which patients live. Therefore, diversified clinical training of physiotherapy students is essential for a curriculum that aims to provide clinical competence and social accountability (3,12–15). While this is also true for medical students (6,16), global debates regarding practical placements and their effectiveness in producing graduates who are prepared for the changing health needs in the developing world (5,17–20). The primary purpose of a school of physiotherapy is to develop graduates that have both the clinical reasoning and practical skills required to function as competent practitioners in all levels of care (21).

Global research on health education programs (2,3,19,20,22,23) concurs that community-based clinical training that uses decentralized clinical training platforms is an excellent approach. This approach aims to achieve transformative learning, which enhances ethical and social accountability (17). Decentralized clinical training in this context is defined as training closer to the community, away from the university and the large academic hospitals. The changes in health education, including an increase in student intake and health systems requirements, are a driving force to ensure that students are well prepared to meet the demands of the communities. This will require an improvement, review, or change in the curriculum to ensure the preparedness of graduates to be competent professionals who can implement knowledge, skills, and values practically(3,7).

A scoping literature review by De Villiers et al. 2017 (6) confirmed that medical training in Sub Saharan Africa conducted at different clinical settings away from the large academic hospitals is beneficial in improving core competencies for students and in retaining these graduates in rural settings. However, less is known about other health science undergraduate programs in this regard, specifically the discipline of physiotherapy. There is, therefore, a need for the evaluation of existing community-based clinical education models globally to contribute towards the development of a community-based primary healthcare training model in the South African context. This scoping review aims to examine and map evidence related to community-based clinical education models for undergraduate physiotherapy students and highlight their ability to produce socially responsive graduates. The results of this review will contribute towards the development of a community-based primary healthcare training model for the undergraduate physiotherapy students in the South African context.

## Methodology

### Study design

This methodology adopted a five-stage framework developed by Arksey and O'Malley, which Levac and colleagues further elaborated by including aspects of quality appraisal. These stages are described in more detail below, in specific relation to this study's aim (24,25).

## Stage 1: Identifying the research question

The main question that will guide this review is, "What are existing models of community-based clinical education for undergraduate physiotherapy students?"

The subsequent sub-questions that will pave the way for the review are as follows:

1. What are the clinical education models that exist for physiotherapy discipline? What is/has been the practice?
2. How have community-based clinical education models been put to practice?
3. What are the enablers and barriers of the identified clinical education models?
4. Does any clinical education model utilize decentralized training platforms to ensure clinical competence through community engagement and social learning?

### Eligibility criteria

The study will adopt the Participants Concept Context (PCC) model to determine the eligibility of the research question (28).

## Stage 2: Identifying relevant literature

A comprehensive search strategy will be developed for this review to harness related studies. The electronic databases will include PubMed, Pedro, MEDLINE and CINAHL, Google scholar, academic search using EBSCOhost via the University of KwaZulu-Natal and Cochrane library. Keywords will be separated by Boolean terms "AND," "OR," "NOT." The final step will be the search of the reference lists. The initial list of keywords will include, but not limited to: "clinical education," "training," "teaching and learning," "undergraduate physiotherapy education," "decentralized" or "distributed," "community-based," "community-engaged," "primary health care," "physiotherapy" / "physical therapy" and "curriculum." A pilot study was conducted to determine the feasibility of the study (Table 2).

## Stage 3: Study selection

### Eligibility criteria

The study research question will be utilized to guide the development of the inclusion and exclusion criteria for the proper selection of the relevant studies.

### Inclusion criteria:

Peer-reviewed articles published in English that focus on the following theory will be included:

- Studies published in English
- Models of undergraduate physiotherapy community-based clinical education
- Undergraduate physiotherapy curricula on clinical education
- Decentralized clinical training: training conducted away from the university and central training academic hospitals (including rural sites, primary health clinics, or community health centers, district hospitals, and regional hospitals.)

### Exclusion criteria

- Opinion papers on community-based clinical education for undergraduate physiotherapy students
- Commentaries on community-based clinical training for undergraduate physiotherapy students

### Charting of Data

A data-extracting tool (Table 3) will be created to organize and keep all data retrieved from studies during the scoping review.

Two independent reviewers utilizing the sample of the included studies will evaluate this tool. The information from studies will consist of: author, year of publication, site location, study population, institution description (CHC, Primary health clinic, hospital, community, home), site description (rural, peri-urban or urban), duration of the training at the site, aim or purpose of the study, methodology, essential results, model aspects, and recommendations. This information will be continuously updated throughout the scoping review process. All eligible studies will be uploaded on to Mendeley referencing software, and replicate studies will be removed. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Fig.1) will be used to report the screening results (26).

### Collating, summarizing and reporting results

This review will adopt a mixed-method analysis of the results of the selected studies, qualitative and quantitative analysis. Extracted data that will be analyzed quantitatively include numerical summaries of article type, duration of rotation, site description, location (rural, urban, peri-urban), and the aspects of the model. A descriptive-analytical method will be conducted using the Statistical Package for Social science Version 23. Thematic analysis will be used for the qualitative data from the reviewed studies to synthesize and interpret critical issues and themes arising from the included studies.

## Quality appraisal

The Mixed Method Appraisal Tool (MMAT) (Appendix 1) version 2018 will be used to appraise the quality of the selected studies, as recommended by Levac et al., 2010 (25). Three reviewers (NCT, VC, and SC) will be involved in the critical appraisal process. Two reviewers will capture methodological quality criteria, according to MMAT (27). A third reviewer who is an expert in MMAT application will oversee the complete process, adding rigor to the process. The MMAT allows a concomitant appraisal of methodological quality of five study categories: qualitative research, randomized controlled trials, non-randomized studies, quantitative descriptive studies, and mixed methods studies (28).

## Discussion

This scoping review aims to map out existing models of community-based clinical education and highlight their ability to produce socially responsive graduates. There is a global shift towards community-based clinical training of health care professionals with evidence supporting this in undergraduate medical education (20,23).

The undergraduate physiotherapy curriculum needs to produce graduates who possess the competencies of a health practitioner, professional, scholar, health advocate, collaborator, communicator, and leader. Decentralized clinical training has been reported as the best method of developing competent undergraduate students who will be socially accountable and able to advocates for their patients (6,29).

This scoping review will synthesize the evidence and reveal knowledge gaps to contribute towards the development of a community-based clinical education model for undergraduate physiotherapy students in a South African context.

Clinical education stakeholders, physiotherapist clinical supervisors in different hospital settings, and academics involved in the training of undergraduates stand to benefit from this scoping review. The review will produce consolidated evidence of various models of community-based clinical education for undergraduate students. This evidence can be employed by the stakeholders to design future programs and also form a basis for future research.

## Conclusions

This scoping review will clearly describe the global community-based clinical education models used for the training of undergraduate physiotherapy students. The empirical evidence obtained from this review will be beneficial to stakeholders in health science education, including academics, clinicians, and policymakers, contributing to the ongoing transformation of clinical training.

## Declarations

### Competing interest

The authors declare that they have no conflict of interest

### Acknowledgments

Not applicable

### Availability of data material

Any data collected and analyzed in this study will be published in the scoping review.

### Authors' contributions

NC Conceptualised this study planned methodology and prepared the draft manuscript under the guidance and supervision of VC and SC. All reviewed the manuscript and approved for submission to the journal

### Ethics

The study is part of a PhD study in Health Sciences at UKZN (Ethical clearance no. HSS/0575/018D)

### Consent for publication

Not applicable

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## Abbreviations

CBPHCT-Community-based Primary health education

DCT- Decentralised clinical Training

CHC- Community Health Centre

MMAT: Mixed method Appraisal Tool

PCC: Population Concept Context

UKZN: University of Kwa-Zulu Natal

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## Tables

**TABLE 1: PCC framework for eligibility of the research question**

Criteria	Determinants
P- Participants	Physiotherapy students at the undergraduate level of study, academics, clinical supervisors Models of community-based clinical education.
C- Concept	Global
C- Context	

**Table 2: Results of a Pilot Search**

Keywords Searched	Database	Date of Search	Number of Publications Retrieved
<p>((((("Physiotherapy" OR "Physical Therapy")) AND ("Training" OR "Education" OR "Teaching" OR "Teaching and Learning" OR "Curriculum"))) OR (((("education") AND "physiotherapy") AND "undergraduate" AND (Humans[Mesh])) AND (Humans[Mesh]))) OR (((("Decentralized" OR "Distributed" OR "Community- based" OR "Community engaged")) OR "on the job" AND rural AND ") OR " AND primary health care AND (Humans[Mesh])) AND (Humans[Mesh])</p> <p>((((("Physiotherapy" OR "Physical Therapy")) AND ("Training" OR "Education" OR "Teaching" OR "Teaching and Learning" OR "Curriculum"))) OR (((("education") AND "physiotherapy") AND "undergraduate" AND (Humans[Mesh])) AND (Humans[Mesh]))) OR (((("Decentralized" OR "Distributed" OR "Community- based" OR "Community engaged")) OR "on the job" AND rural AND ") OR " AND primary health care AND (Humans[Mesh])) AND (Humans[Mesh])</p>	PubMed	27/09/2019	118
	EBSCOhost	27/09/2019	16 616 <i>With filters of human, (Full text, scholarly (peer-reviewed ) journal</i>

**TABLE 3: Data extracting tool categories from literature**

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**Title of Study:**

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Author(s),  
Year of publication  
Site location—country, town or region  
Study population (what was evaluated?)  
Institution description :  
(CHC, Primary health clinic, hospital, community, home)  
Site description: (rural, peri-urban or urban)  
Duration of the training at the site  
Aim or purpose of the study  
Study methodology  
Important results  
Model aspects  
Gaps  
Recommendation

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## Figures

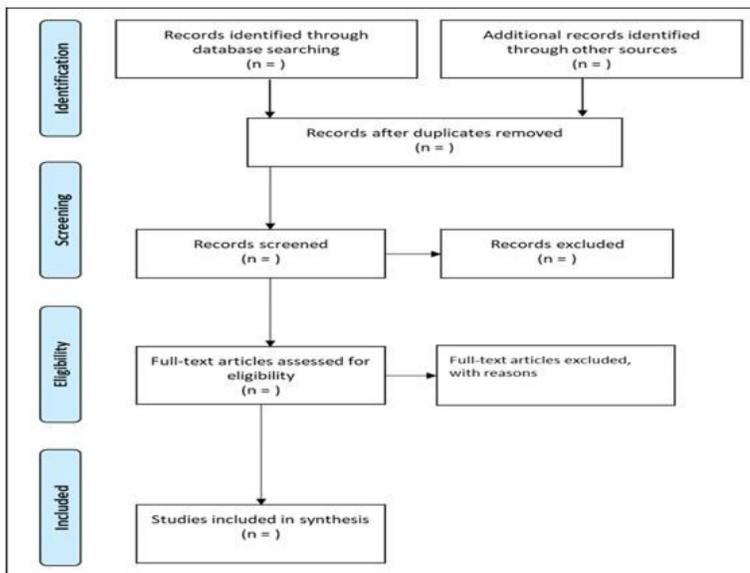


Figure 1

PRISMA 2009 flow diagram

## Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [APPENDIX1PRISMAcRNCTCHEMANE.pdf](#)