

# Cultivating cultural humility through healthcare simulation-based education: a scoping review protocol

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## ABSTRACT

### **Background:**

Healthcare disparities within developed nations remain a critical concern, with ethnic minorities and marginalized groups experiencing pronounced inequalities. Cultural humility has emerged as a means to mitigate these disparities and enhance healthcare delivery. Simulation-based education is one of the most widely utilized pedagogical approaches in healthcare curricula across disciplines and specialities. It is recommended in the literature as an ideal strategy for teaching cultural humility to healthcare professionals. However, it is not clear what is known about integrating cultural humility into simulation-based education. This scoping review protocol provides the procedures we will take to explore the breadth of literature to explore how cultural humility is considered and incorporated in simulation-based and to identify current practices and knowledge gaps.

### **Methods and analysis:**

The review will synthesize data following the PRISMA-ScR guidelines for scoping reviews. A comprehensive database (MEDLINE, CINAHL Plus with Full Text, APA PsycINFO and Scopus), grey literature and reference screening will be conducted to identify eligible literature to answer the research question. The quality of the included literature and the risk of bias will be carried out using The Mixed Method Appraisal Tool (MMAT) for primary research papers and the ACCODS (Authority, Accuracy, Coverage, Objectivity, Date, Significance) checklist will be used to assess the quality of grey literature. The data will be analysed using descriptive statistics and basic qualitative content analysis.

## Introduction

Health disparities in developed countries, such as the United Kingdom and the United States, have been well documented in the literature [1–3]; these inequalities in healthcare are particularly pronounced for ethnic minorities and marginalized groups. The recent COVID-19 pandemic has further highlighted the impact of these disparities, with evidence demonstrating a significant difference in healthcare outcomes for individuals from ethnic minorities and marginalized groups (e.g. age, gender, disability, mental health) [1,4,5]. Recent thinking is that an increase in awareness of cultural humility could address these inequalities by teaching healthcare professionals how to deliver care to a diverse population [6,7]. Simulation-based education presents an opportunity to integrate cultural humility into healthcare, as simulation-based education is the most widely used teaching–learning methodology used in training healthcare professionals [8]. This

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Scoping Review protocol aims to provide the procedures on how to comprehensively investigate how cultural humility is considered and integrated within simulation-based education for healthcare professionals.

## Background

Culture is defined as a set of distinctive spiritual, material, intellectual and emotional features of society or a social group which influence behaviour, lifestyles, ways of living together, value systems, traditions and beliefs [9]. Traditionally, the term culture is used to refer to specific ethnic, racial, religious or geographically socially bounded groups in society; however, it now encompasses additional areas such as language, sexual orientation, class and professional status [10,11]. Culture plays a pivotal role in shaping individuals' health and well-being. Cultural health beliefs can influence individuals' perceptions of health, attitudes towards health issues, choices regarding healthcare providers, the timing of seeking care, and reactions to advice on lifestyle modifications, medical interventions and adherence to treatment protocols [12].

The idea of educating healthcare professionals to be culturally aware and competent started in the 1980s, and the term 'cultural humility' evolved from the concept of cultural competency [13]. Tervalon and Murray-Garcia [14] coined the concept of cultural humility. They identified that culture could not be viewed from a competency perspective as it would imply an endpoint where the learner gains mastery of a theoretical body of knowledge; therefore, cultural humility was introduced as a more reasonable goal for healthcare education. Foronda et al. [15] conducted a concept analysis of the term 'cultural humility', revealing it as a process of being open, self-aware, being egoless, and the practice of self-reflection and critique after willingly interacting with individuals from diverse backgrounds in a multicultural world where imbalances exist.

Simulation-based education is an education or training approach grounded in learning theories [8] that recreates real-life tasks 'in a safe learning environment, for the acquisition of skills, knowledge and behaviours' [16]. Simulation as a science and a teaching modality has evolved over the years with a recorded history in healthcare professional education that stretches over 1500 years [17]. It is acknowledged in the literature [18] as a promising avenue for enhancing patient safety by improving knowledge of technical and non-technical skills among healthcare professionals in a secure and educationally focused manner. Moreover, beyond its role in enhancing individual or team-based performance, simulation can serve non-pedagogical purposes, such as improving system performance, testing interventions and evaluating systems in healthcare, now termed transformative simulation [19]. Simulation's interactive and experiential modalities can provide cross-cultural education to healthcare professionals' understanding of healthcare's cultural and behavioural aspects to inform future practice, promote patient-centred care and

ultimately improve the outcome for patients, families and the wider community.

Simulation is widely accepted as a useful teaching method across healthcare disciplines and specialties [20], and it is also used in place of clinical placement opportunities in nursing education in the United Kingdom and the United States [21,22]. Therefore, simulation provides the ideal setting for undergraduate and postgraduate healthcare professionals to learn and be mentored in cultural humility. Historically, cultural humility hasn't been prioritized in the design of simulation, which led to manikins and other simulation trainers only representing certain groups in society. Studies by Foronda et al. [23] demonstrated an under-representation of diversity in manikins, body parts/task trainers, standardized patients and simulation facilitators globally, an issue that still exists today.

Before commencing this work, a preliminary search was conducted for existing scoping and systematic reviews addressing how cultural humility is considered and incorporated into healthcare simulation using EBSCOhost Health Science Research databases (MEDLINE, CINAHL Plus, APA PsycINFO). While we acknowledge the presence of literature addressing cultural humility, we did not find any works with a similar scope to this review. An integrative review by Foronda et al. [6] explored what is known about cultural competence and cultural humility in simulation-based education. The previous review focused on literature from 2010 to 2015, excluding data before 2010 and after 2015. This limited timeframe doesn't fully capture the evolving nature of cultural humility. To address this limitation and gain a more comprehensive understanding, our contemporary review will encompass earlier foundational works and recent literature up to 2024. The other reviews identified focused on equity, diversity, and inclusion (EDI) [24,25] and racial and ethnic disparities [26], where cultural humility was recommended to promote EDI in healthcare education and improve simulation experiences related to healthcare disparities but not as the focus of the review.

## Research aim

This scoping review aims to systematically identify and map a range of literature to answer the following research question: How is cultural humility being considered and incorporated into simulation-based education for healthcare professionals?

## Objectives

- To Identify current practices and strategies employed in integrating cultural humility within healthcare simulation.
- To discern literature-derived recommendations and practices for enhancing cultural humility in healthcare simulation-based education programmes.
- To identify existing knowledge gaps in the literature, offering insights required to advance the field's understanding of cultural humility within healthcare simulation.

## Methods

The scoping review will align with the methodological guidelines outlined by the Joanna Briggs Institute (JBI) for scoping reviews [27]. These guidelines will be rigorously followed to conduct and thoroughly document the review process, maintaining a meticulous and academic approach to the study. Additionally, this protocol conforms to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) [28]. The PCC (population, concept context) framework (27) was used as a guide to formulate the review question and to convert the research question into a comprehensive search strategy.

### Eligibility criteria

Scoping reviews assess the scope of literature on a topic, synthesize evidence and identify gaps in the literature [28]. Therefore, the scoping review must encompass diverse literature to address the research question effectively. The eligibility criteria will be applied to identify relevant literature relating to population, concept, context and type of studies.

#### Population

We will include papers that focus on healthcare professionals and trainee healthcare professionals. A healthcare professional is defined as 'a person associated with either a speciality or a discipline who is qualified and allowed by regulatory bodies to provide a healthcare service to a patient' [29]. Healthcare professionals may include nurses, doctors, midwives, psychiatrists, pharmacists and allied healthcare professionals. Unregulated healthcare workers (such as healthcare assistants and auxiliary staff) and all other non-healthcare workers will be excluded.

#### Concept

Articles involving all healthcare simulation-based education modalities will be included. Traditional teaching methods (such as lectures) and studies involving non-healthcare simulation modalities (e.g. mathematical modelling and flight simulators) will be excluded. Healthcare-only studies and other sectors will also be excluded.

#### Context

Articles exploring cultural humility and other related terminologies used in the literature to describe cultural humility (cultural competence, cultural awareness and cultural sensitivity) for healthcare professional training will be included in this review; all other articles will be excluded.

#### Types of studies

This review will include literature from all primary peer-reviewed papers (qualitative, quantitative and mixed-method research), peer-reviewed non-research articles, grey literature (such as thesis/dissertation, in-practice reports, essays, and opinion papers) and book chapters. Excluded literature includes posters, conference abstracts, letters to the editor and literature reviews. However, we intend to utilize literature reviews for background information in this review.

No limits will be placed on time, geographical location or languages; however, papers may be excluded if translation cannot be obtained. The selection of eligible articles will be carried out by two reviewers, with the third reviewer overseeing the process and resolving areas of disagreement.

### Information sources

The following databases will be systematically searched to identify relevant literature: MEDLINE, CINAHL Plus with Full Text, APA PsycINFO (via EBSCOhost Health Science Research Database) and Scopus. Additionally, a hand search of the reference lists of eligible articles will be conducted to identify additional studies worthy of inclusion. Grey literature will be explored through searching the National Grey Literature Collection, GreyNet International, and the Nursing and Midwifery Council (NMC). By adopting this multifaceted approach, the research ensures a thorough and diverse examination of published and unpublished materials.

#### Search strategy

A search string was developed from the key terms and their synonyms outlined in [Table 1](#). See [Appendix 1](#) for details of the search string used in each database.

#### Data management

The literature search results will be stored in the research collaborative AI platform, Rayyan [30]. Rayyan will be used as a central storage repository for all search results to aid researchers in identifying and resolving duplicates and sorting the literature in the first and second phases of the selection process.

#### Selection process

The data selection process will be done in two phases. In the first phase, the articles' titles and abstracts will be screened against the eligibility criteria; this will be done by two reviewers. In the second phase, two reviewers will independently read the full articles, and selection will be made against the eligibility criteria. After the full-text review, the selected eligible papers will be critically appraised. Any discrepancies between reviewers in the inclusion/exclusion process will be discussed between the reviewers, and if not settled, then the third author will assess and decide.

### Data extraction

The data extraction process involves using a data extraction form (Microsoft Excel spreadsheet) developed by all the reviewers to analyse and extract key information from eligible articles to answer the research question. To ensure that relevant results can be extracted, Peters et al. [27] recommended that the data extraction form be piloted with two or three sources; two reviewers will carry out this pilot step. Data to be extracted will include the author, year of publication, country of publication, title, aims/purpose, healthcare discipline, methodology (if applicable), setting, clinical focus, simulation modality, findings, outcome measured (if applicable) and terminology used (e.g. cultural humility, cultural competence, cultural awareness). Additional data will also be extracted on the current practice

**Table 1:** Search terms Aligned with the PCC elements of the review question

PCC Framework category	Search terms
<b>Population</b>	health profession*, healthcare, doctor, nurse*, clinician, medical practitioner, health care, physician, pharmacist*, midwi*, dieti*, occupational therap*, paramed*, dentist, radiograph*, health worker, hospital, surg*, operating department practitioner*, ODP, operating room technician, anaesthe*, physiotherap*, psycholog*
<b>Concept</b>	simulat*, part-task trainer, scenario-based learning, virtual reality, augmented reality, role play“ mannikin*, mannequin, clinical skills, skills-based learning, simulated patient, mock*, standardi* patient, actor*, patient educators, immersion room, Immers* facilities, virtual world, gaming, gamification, problem-based learning, experiential learning, in-situ, insitu, in situ, simulation, simulation-based education, simulation-based training, interprofessional education, distributed simulation
<b>Context</b>	cultural* humility, cultural* humble, cultural* competence, cultural* aware*, cultural* competency, cultural* sensitivity

of cultural humility in healthcare simulation and strategies for best practices.

### *Risk of bias in individual studies*

The quality appraisal will be carried out on research-based papers by two reviewers, with the third reviewer overseeing the process and resolving areas of disagreement. We anticipate a diverse selection of research articles as well as grey literature. The Mixed Method Appraisal Tool (MMAT) [31] will appraise the quality of the eligible research article's validity and methodological soundness. MMAT is designed for mixed-method systematic reviews and can be used to appraise the methodological quality of qualitative, quantitative and mixed-method studies [31]. We will use the ACCODS (Authority, Accuracy, Coverage, Objectivity, Date, Significance) [32] checklist to assess the quality of grey literature.

### **Data synthesis**

The data extracted in this scoping review will be analysed quantitatively using descriptive statistics (quantifying texts from the data extraction and doing frequency counts) and qualitatively using basic qualitative content analysis. Basic qualitative content analysis is a descriptive approach that involves open coding to allocate concepts or categories [33]. This method aligns with JBI guidance for scoping reviews and can be applied to various evidence sources or study designs [33,34]. An inductive extraction approach will be employed, requiring the development of a coding framework during the analysis process. In this scoping review, the coding framework cannot be established until the types of articles are identified. The data analysis will be carried out by two reviewers, with the third reviewer addressing and managing any unresolved discrepancies encountered during the data analysis. The quantitative and qualitative results will be presented in tabular format, accompanied by a narrative synthesis.

### **Limitations**

As a diverse research team with varied cultural backgrounds, we acknowledge the potential influence of our identities and experiences on our perspectives in conducting this scoping review. Recognising potential biases, we are committed to mitigating them by following the rigorous methodology outlined, using reflexivity, and having an open dialogue with our research team. Given the review's explicit

focus on cultural humility in simulation-based education, it will not account for the broader literature in healthcare disciplines. It will also not capture the full literature on racism and other related concepts.

### **Conclusions**

In conclusion, this scoping review protocol will capture and identify how cultural humility is integrated into healthcare simulation-based education, particularly in response to observed health disparities affecting ethnic minorities and marginalized groups. We aim to systematically search the breadth of literature to explore how cultural humility is considered and incorporated into simulation-based education across various healthcare disciplines. Our rigorous search process ensures a thorough examination of the available evidence to answer the research question. The data will be analysed using descriptive statistics and basic qualitative content analysis. The results from this scoping review will identify current practice, knowledge gaps and inform future research to enhance healthcare practice and patient-centred care. This review will contribute to a more profound understanding of cultivating cultural humility through healthcare simulation, ultimately benefiting a diverse and ever-evolving patient population.

### **Declarations**

#### **Authors' contributions**

None declared.

#### **Funding**

None declared.

#### **Availability of data and materials**

This study did not generate any new data.

#### **Ethics approval and consent to participate**

This study did not involve human or animal participants; hence, ethical approval was not sought.

#### **Competing interests**

The authors declare no conflicts of interest. This systematic scoping review protocol was registered on the Open Science Framework (OSF): <https://doi.org/10.17605/OSF.IO/DQX4T>.

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## APPENDIX 1: EXPANDED SEARCH STRATEGY

Research Question: How is cultural humility being considered and incorporated into simulation-based education for healthcare professionals?

P – healthcare professionals

C – simulation

C – cultural humility

### Medline

AB (“health profession\*” OR healthcare OR doctor OR nurs\* OR clinician OR “medical practitioner” OR “health care” OR physician OR pharmac\* OR midwi\* OR dieti\* OR “occupational therap\*” OR paramed\* OR dentist OR radiograph\* OR “health worker” OR hospital OR surg\* OR “operating department practitioner\*” OR ODP OR “operating room technician” OR anaesthe\* OR physiotherap\* OR psycholog\*) AND AB (simulat\* OR “part-task trainer” OR “scenario-based learning” OR “virtual reality” OR “augmented reality” OR “role play” OR mannikin\* OR mannequin OR “clinical skills” OR “skills-based learning” OR “simulated patient” OR “standardi\* patient” OR actor\* OR “patient educators” OR “immersion room” OR “Immers\* facilities” OR “virtual world” OR gaming OR gamification OR “problem-based learning” OR “experiential learning” OR in-situ OR insitu OR “in situ” OR simulation OR “simulation-based education” OR “simulation-based training” OR “interprofessional education” OR “distributed simulation” OR mock\*) AND AB (“cultural\* humility” OR “cultural\* humble” OR “cultural\* competence” OR “cultural\* aware\*” OR “cultural\* competency” OR “cultural\* sensitivity”)

### CINAHL Plus with full text

“AB (“health profession\*” OR healthcare OR doctor OR nurs\* OR clinician OR “medical practitioner” OR “health care” OR physician OR pharmac\* OR midwi\* OR dieti\* OR “occupational therap\*” OR paramed\* OR dentist OR radiograph\* OR “health worker” OR hospital OR surg\* OR “operating department practitioner\*” OR ODP OR “operating room technician” OR anaesthe\* OR physiotherap\* OR psycholog\*) AND AB (simulat\* OR “part-task trainer” OR “scenario-based learning” OR “virtual reality” OR “augmented reality” OR “role play” OR mannikin\* OR mannequin OR “clinical skills” OR “skills-based learning” OR “simulated patient” OR “standardi\* patient” OR actor\* OR “patient educators” OR “immersion room” OR “Immers\* facilities” OR “virtual world” OR gaming OR gamification OR “problem-based learning” OR “experiential learning” OR in-situ OR insitu OR “in situ” OR simulation OR “simulation-based education” OR “simulation-based training” OR “interprofessional education” OR “distributed simulation” OR mock\*) AND AB (“cultural\* humility” OR “cultural\* humble” OR “cultural\* competence” OR “cultural\* aware\*” OR “cultural\* competency” OR “cultural\* sensitivity”)

### APA PsycInfo

AB (“health profession\*” OR healthcare OR doctor OR nurs\* OR clinician OR “medical practitioner” OR

“health care” OR physician OR pharmac\* OR midwi\* OR dieti\* OR “occupational therap\*” OR paramed\* OR dentist OR radiograph\* OR “health worker” OR hospital OR surg\* OR “operating department practitioner\*” OR ODP OR “operating room technician” OR anaesthe\* OR physiotherap\* OR psycholog\*) AND AB (simulat\* OR “part-task trainer” OR “scenario-based learning” OR “virtual reality” OR “augmented reality” OR “role play” OR mannikin\* OR mannequin OR “clinical skills” OR “skills-based learning” OR “simulated patient” OR “standardi\* patient” OR actor\* OR “patient educators” OR “immersion room” OR “Immers\* facilities” OR “virtual world” OR gaming OR gamification OR “problem-based learning” OR “experiential learning” OR in-situ OR insitu OR “in situ” OR simulation OR “simulation-based education” OR “simulation-based training” OR “interprofessional education” OR “distributed simulation” OR mock\*) AND AB (“cultural\* humility” OR “cultural\* humble” OR “cultural\* competence” OR “cultural\* aware\*” OR “cultural\* competency” OR “cultural\* sensitivity”)

### Scopus

(TITLE-ABS-KEY(“health profession\*” OR healthcare OR doctor OR nurs\* OR clinician OR “medical practitioner” OR “health care” OR physician OR pharmac\* OR midwi\* OR dieti\* OR “occupational therap\*” OR paramed\* OR dentist OR radiograph\* OR “health worker” OR hospital OR surg\* OR “operating department practitioner\*” OR ODP OR “operating room technician” OR anaesthe\* OR physiotherap\* OR psycholog\*) AND TITLE-ABS-KEY(simulat\* OR “part-task trainer” OR “scenario-based learning” OR “virtual reality” OR “augmented reality” OR “role play” OR mannikin\* OR mannequin OR “clinical skills” OR “skills-based learning” OR “simulated patient” OR “standardi\* patient” OR actor\* OR “patient educators” OR “immersion room” OR “Immers\* facilities” OR “virtual world” OR gaming OR gamification OR “problem-based learning” OR “experiential learning” OR in-situ OR insitu OR “in situ” OR simulation OR “simulation-based education” OR “simulation-based training” OR “interprofessional education” OR “distributed simulation” OR mock\*) AND TITLE-ABS-KEY(“cultural\* humility” OR “cultural\* humble” OR “cultural\* competence” OR “cultural\* aware\*” OR “cultural\* competency” OR “cultural\* sensitivity”))

### Grey literature

The revised search string below will be used for Grey Literature sites (NMC, GreyNet international and National Grey Literature Collection) where the entire search string cannot be entered. Each combination of search terms will be run separately, and papers found will be added to the combined search results for screening.

simulation AND “cultural humility”  
simulation AND “cultural competence”  
simulation AND “cultural competency”  
simulation AND “cultural awareness”