Systematic Reviews

PROTOCOL

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Choice of primary healthcare providers among population in urban areas of low- and middle-income countries—a protocol for systematic review of literature

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Abstract

Introduction Strengthening and reforming the urban primary healthcare (PHC) system is essential to efficiently deliver need-based healthcare services to the rapidly increasing urban poor population. Such reforms of PHC system need to emphasize the opinion of patients in co-designing services in order that delivery of services can be accessed effectively by the urban population in a timely and low-cost way. Hence, it is important to identify the preference of urban population while choosing healthcare providers. The aim of this proposed protocol is to summarize a planned systematic review of existing evidence on the attributes considered for choosing PHC providers in urban settings of low- and middle-income countries (LMICs), as classified by the World Bank.

Methods and analyses An inclusive literature search will be conducted in electronic databases including Pubmed/MEDLINE, Embase, Global Health, Cochrane Library, Web of Science, and Scopus. Databases will be searched from the earliest date of entry until March 30, 2024. Database search will be supplemented by manual search of citations, reference lists, and grey literature sources. Following the pre-set inclusion and exclusion criterion, two researchers will independently screen all the retrieved studies in Covidence. Any discrepancies will be resolved through a discussion between two researchers, and if disagreements persist, a third reviewer will be consulted. The methodological quality of included studies will be appraised using checklist for Conjoint Analysis studies and the Mixed Methods Appraisal Tool (MMAT). An Excel-based data extraction table will be developed, piloted, and refined during the review process. Preference attributes will be identified and analyzed according to their types. The systematic review will be reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.

Discussion The identification of attributes, their influence on preference, and heterogeneity with socioeconomic characteristics of the population will help the policymakers and researchers to design targeted PHC interventions. Such evidence will be also useful to design choice experiment studies to quantify the preferred attributes of PHC providers in urban context of LMICs.

Systematic review registration PROSPERO CRD42023409720.

Keywords Preference, Stated preference, Primary healthcare, Low- and middle-income countries, Urban

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Background

Primary healthcare (PHC) is considered the best platform for providing basic healthcare services to the population and performing essential public health functions. It is one of the key elements of a country's health systems and provides various types of services as per the needs of the population including health promotion to disease prevention, treatment, rehabilitation, palliative care, and more. PHC also ensures that healthcare is delivered in a way that is centered on people's needs and respects their preferences [1]. It provides a framework for building the backbone of an effective healthcare system and improving population health at lower costs and reduce inequality [2]. In the 1978 Alma-Ata Declaration, PHC was set as a global priority to protect and promote the health for all the people of the world [3]. More recently, the 2018 Astana Declaration on PHC made a similar call for universal coverage of basic healthcare for the population throughout their life, essential public health functions, community engagement, and a multisectoral approach to health [4].

Rapid and uncontrolled urbanization imposes challenges to urban PHC systems in many low- and middle-income countries (LMICs) to meet the increased healthcare demand of the urban population, especially for the low-income urban population [5]. Among the existing qualified urban PHC providers, a high percentage are likely to be engaged in private practice, limiting the capacity of poor people to access them. The situation is worse in countries where the urban PHC system is not well structured and there are fewer public PHC providers in urban areas compared to rural counterparts [6]. Demographic transition and the rising prevalence of non-communicable diseases are increasing the demand for healthcare services in both rural and urban areas [7]. A considerable proportion of urban population live in the slum areas lacking the most basic of human needs such as access to improved water supply, sanitation, and adequate housing. These populations are more vulnerable to illness and frequently experience worse health outcomes than their rural counterparts [8].

In many LIMCs, PHC has been identified as a major priority to the health system planners to reorient existing PHC systems to achieve universal health coverage (UHC): prioritizing the delivery of efficient PHC, strengthening effective and patient-centered care, and reducing inequalities in healthcare [9]. In response to the greater need of PHC healthcare services, especially for the poor and vulnerable urban communities, reformation of the urban PHC system is essential to efficiently deliver need-based healthcare services. Such reforms of urban PHC system need to emphasize the opinion of patients in co-designing services in order that delivery of services can be accessed effectively by the urban population in a timely and low-cost way. In this context, it is of relevance for the policymakers to know patients' choices and preferences for different aspects of PHC services for designing and delivering these services for the urban poor communities. A systematic review of the preferences, either stated or revealed, of the urban poor population for PHC providers in urban areas, may help to understand the key drivers of provider selection, and to design more responsive health service delivery models.

Two systematic reviews on the patient preference in PHC services have been conducted so far [10, 11]. However, both reviews considered literature on conjoint analysis only. The first review conducted by Kleij et al. (2017) included 18 studies conducted between 2006 and 2015 and summarized a list of attributes examined in the included studies. The authors categorized the identified attributes into structure, process, and outcome and did not consider any preference heterogeneity by examining factors (e.g., socioeconomic factors) those influenced the preferences. The second review conducted by Lim et al. (2022) included studies conducted from inception until 15th December 2021 and included 35 studies. In the later review, the authors examined preference heterogeneity along with the list of attributes. However, neither of these two studies included literature on revealed preferences (e.g., non-stated preference quantitative, qualitative, or mixed methods studies) or made a comparison of the attributes/characteristics between revealed preference and stated preference.

Furthermore, these two reviews did not specifically focus on the preference for PHC in LMICs; instead, they assessed preference in a general global context. It is evident that urban healthcare system is different from the rural healthcare system in context, and preferences may be distinctive due to the social, informational, and economic aspects of the population [12]. Thus, findings from the previous two reviews may not be specific to the urban population as well. A synthesis of evidence for PHC attributes for urban health system will help future research and policy decisions for effectively designing and delivering healthcare services to the urban population. To address such gaps, this systematic review aims to explore the patient's preferences for PHC providers in urban areas to identify lists of attributes specific to the urban population. This review will be conducted as a part of a PhD project under the large project of Community-led Responsive and Effective Urban Health Systems (CHORUS) consortium that aims to generate evidence and design interventions for building resilient and responsive urban PHC systems in LMICs.

Research questions

This systematic review will look at the studies which examined patients' or the population's preferences, revealed or stated, for urban PHC providers in LMIC settings. The specific research questions are:

(1) What are the preference attributes/characteristics of urban PHC providers that influence whether the population use their services?
(2) What attributes/characteristics of PHC providers are identified as important to the population?

These research questions will be answered through searching and identifying the available relevant literature in the context of LMICs.

Methods

This systematic review will be reported in accordance with the Preferred Reporting Items in Systematic Reviews and Meta-Analyses (PRISMA) guidelines [13]. This protocol has been registered in the International Prospective Register of Systematic Reviews (PROSPERO) database (CRD42023409720).

Inclusion and exclusion criteria

The inclusion and exclusion criteria for this review were developed according to the Participants, Interventions, Comparisons and Outcomes (PICO) model as follows:

Participants: people aged 18 years or older living in urban areas or mixed urban–rural areas of LMICs
Intervention and Comparator: will not be a specific criterion for this systematic review
Outcome: preference attributes or choice attributes for primary healthcare provider

The literature will include studies on the revealed or stated choices or preferences of population for PHC providers in LMIC settings. We will include studies based on the following inclusion and exclusion criteria listed in Table 1.

Search strategy for identifying literature

We will search electronic databases including Medline, EMBASE, PsycINFO, Web of Science, Global Health database, and Scopus to identify relevant studies. We will explore relevant studies and reports from ProQuest Dissertations and Theses, Google Scholar, Social Science Research Network (SSRN), Global Index Medicus,

Table 1 Inclusion and exclusion criteria for the selection of studies

Inclusion and exclusion criteria
Population
■ Primary studies conducted among general participants aged 18 years and older ■ Participants shared their preferences related to health condition requiring PHC, irrespective of disease types
Comparator
■ No specific comparison criteria are set for this systematic review, as the focus will be on identifying the attributes that influence the choice of PHC providers, making direct comparisons between groups or interventions are not applicable
Outcome
■ Studies that report people's preference attributes such as distance to healthcare facility, qualification of healthcare providers ■ Attribute levels such as longer distance/ shorter distance and qualified providers/non-qualified providers ■ Factors influencing these preferences such as age, income, education, perceived severity of illness ■ Studies that do not report specific preference attributes or attribute levels related to PHC providers will be excluded ■ Studies that consider shared decision-making for preference (include providers in the process) will be excluded ■ Studies that assessed the preference of alternative treatment options in PHC settings such as treatment A versus treatment B will be excluded
Types of studies
■ Studies utilizing stated preference methods such as discrete choice experiments (DCE), conjoint analysis ■ Cross-sectional studies applying either quantitative or qualitative approaches to explore preference ■ Mixed-method studies combining qualitative and quantitative approaches to explore preference ■ Studies published in English in any year ■ Study protocols, newspaper articles, letters, editorials, personal communications, and commentaries, conference papers, systematic reviews, and scoping reviews will be excluded
Context or settings
■ Studies conducted in LMICs ■ Studies focusing on urban populations, or those comparing preferences of choosing healthcare provider between urban and rural populations ■ Studies conducted focusing on PHC preference either at community or at healthcare facility settings ■ Studies focusing on the preference for higher-level healthcare / specialized care will be excluded ■ Studies that exclusively focus on rural populations without a comparative urban component will be excluded, as the primary interest is in the urban context

3ie, and World Bank. Additionally, we will manually review the bibliographies of included studies to identify relevant articles that will meet the inclusion criteria. We will develop a comprehensive search strategy with the help of an information specialist to identify the relevant literature in accordance with our specific objectives of the systematic review. Initially, the search strategy will be developed for Medline and will be translated into other relevant databases. We will use a combination of Medical Subject Headings (MeSH), keywords, and text words based on the key concepts listed in Table 2. The search terms will be adapted from the previously published systematic reviews on preferences for PHC providers [10, 11] as well as other reviews on PHC in LMICs [14, 15], and preference studies [16]. The preliminary search terms will be reviewed by an information specialist in finalizing the search strategy (Additional file 1). We will manually verify the effectiveness of the developed search strategy in identifying relevant articles for this review. To do this, we will select a set of key studies and cross-check whether these studies are retrieved in our search.

Study selection

We aim to use the Covidence software for screening and study selection, as this includes features designed to enhance collaboration and consistency among reviewers, such as blinded assessment [17]. It also provides several metrics on interrater reliability measures such as random agreement probability and Cohen's Kappa score. We will follow a three-stage screening process for selecting studies for reviewing and extracting information. The studies will be selected based on the inclusion and exclusion criteria to ensure consistency among the reviewers (a selection checklist will be developed later). Firstly, two reviewers will independently examine the titles and abstracts obtained from the search to identify potentially relevant studies. Secondly, full-text articles or documents will be retrieved and reviewed for finalizing potentially relevant studies. Any disagreement between the two reviewers will be resolved by discussion and consensus. If disagreements are unresolvable, a third reviewer will be consulted. The selection process will be recorded and reported using a PRISMA flow diagram (Additional file 2).

Data extraction

We will develop a data extraction template in Microsoft Excel during the review of the identified literature and pilot the template with a sample of eligible studies that will be selected for full-text review. After piloting, the template will be reviewed by another researcher for finalization. From the eligible quantitative and qualitative studies, data will be extracted and abstracted with common information such as study population, study settings (e.g., rural–urban or urban), country where the study was conducted, types of studies (e.g., DCE, quantitative, qualitative, mixed-methods), type of healthcare visit (e.g., inpatient or outpatient), context of the health system, methods of data collection, authors, and year of publication.

For quantitative and quantitative component of mixed methods studies, data extraction will also include reported different attributes/ characteristics (e.g., distance, waiting time) related to the preference of PHC providers, levels of the examined attributes, which attributes / characteristics were reported as most important attributes / characteristics, and heterogeneous factors affecting the preferences of population. In addition to this, for quantitative DCE studies, we will extract the methods used to identify the attributes and their corresponding levels, methods used to generate choice sets, and types of analyses (e.g., what statistical model was used) reported. We will also extract the direction of association and statistical significance at $p < 0.05$ of the attributes / characteristics for both revealed preference and stated preference quantitative studies.

For qualitative studies and the qualitative component of mixed methods studies, themes or subthemes relevant to the review questions will be extracted and supported with illustrations (i.e., a direct quotation from a participant, an observation, or other supporting data from the reviewed studies) to preserve the context of the findings. We will assign a level of credibility to each of the findings based on the consistency of the findings with supporting

Table 2 Concepts and keywords for searching literature

Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6
Population	**Outcome**	**Regional settings**	**Local settings**	**Healthcare settings**	**Type of studies**
"age 18","adults"	"population preference" "patient preference" "choices,""public preference,""preference"	"low-and-middle income countries"	"urban,""semiurban," "peri-urban,""cities," "slum"	"primary care" "primary healthcare" "essential healthcare" "comprehensive healthcare" "preventive health-care service" "general practice"	"discrete choice,""discrete choice experiment""DCE,""choice modelling,""stated choice," "best worst scaling,""ranking," "Q-methodology,""decision-making,""preference-based method," "maximum difference"

evidence. The credibility will be reported in three levels, e.g., Unequivocal—relates to evidence beyond reasonable doubt, credible—relates to those interpretations of data within the theoretical framework, not supported—findings not backed by the data [18].

Data analysis

Data extraction will be followed by data analysis. We will synthesize the quantitative and qualitative evidence separately and interpret the results in the discussion following a convergent segregated approach following JBI methodology for mixed methods systematic reviews [19]. The process will include separate syntheses of quantitative and qualitative data, followed by the integration of the findings from both types of evidence. The key outcome measure of our review will include different types of attributes and their corresponding levels while choosing PHC providers as well as the importance of such attributes as reported in the studies. Given the focus of this review, the research questions can be addressed by both quantitative and qualitative studies. For instance, factors that determine the preference for choosing PHC providers can be explored through both quantitative and qualitative studies. However, they will address the topic in very different ways and the retrieved qualitative evidence will complement the quantitative evidence. The separate analysis of both quantitative and qualitative studies will help to avoid transforming the findings by using a so-called qualitized or quantitized approach (e.g., converting qualitative findings into quantitative form or vice versa) [20] and avoid any error during such transformation.

The quantitative studies including DCE and conjoint analysis will be synthesized using a narrative approach focusing on the demand side attributes of healthcare seeking such as distance, travel time, and costs (e.g., consultation, medication). The identified attributes from different studies will be presented in bar diagram, and their frequency and percentage will be reported in table. Reported factors on preference heterogeneity will also be tabulated to identify what characteristics of the participants influenced in shaping their preference for different attributes and the direction of influence of such characteristics. We assume that a meta-analysis in this systematic review will not be feasible due to the heterogeneity in methods and types of analysis across the included studies as well as the focus on different types of attributes (such as distance, travel time, costs) rather than a single outcome.

We will analyze the included qualitative studies using thematic synthesis methods [21]. The outcome of both research questions, e.g., types of attributes and which attributes were most important will be analyzed using thematic analysis. In the qualitative studies, themes will be identified from the reported reasons that shaped the preferences of respondents for choosing particular healthcare providers during an event of illness. For example, if travel time was cited as an important reason for choosing PHC providers, this will be categorized under the theme "distance/proximity." The findings from different qualitative studies will be pooled where possible. This process will involve aggregating and organizing the findings under different themes based on similarity in meaning. If pooling the data is not possible, the findings will be presented in a narrative format.

The integration of findings from two separate syntheses will involve combining quantitative and qualitative evidence to create a clear argument for the overall analysis following JBI methodology for mixed methods systematic reviews [19]. The argument will follow how the results from quantitative and qualitative studies complement each other. We will use one type of evidence to understand or explain the findings of the other and check if there are any attributes not reported in quantitative evidence. If integration is not possible, the findings will be presented in a narrative format. The integration will also include to categorize the identified attributes or themes into three levels of PHC system including structure, process and outcome, each consisting of several dimensions [22], and the components of health system determinants, e.g., structure and inputs [23]. The level "structure" refers to the system / organizational structure related to the health system. "process" denotes all kinds of activities taking place during health service delivery such as consultation, diagnosis, and interpersonal aspects. The level "outcomes" represents the effect of received health services which include health status improvement, recovery from illness, or preventive knowledge of patients related to illness [24].

Quality assessment of included studies

We expect that we will have to appraise both revealed and stated preference studies. To critically appraise the validity and identify potential sources of bias in the included revealed preference studies (e.g., quantitative, qualitative, and mixed method studies), we will use MMAT (Mixed Methods Appraisal Tool) (Additional file 3). The MMAT is a general tool that evaluates quantitative, qualitative, and mixed-methods studies [25]. However, it does not deal with the stated preference studies (e.g., DCE, conjoint analysis) as these studies require specific steps to be followed during implementation. Thus, we will use the ISPOR (International Society for Pharmacoeconomics and Outcomes Research) checklist for Conjoint Analysis [26] (Additional file 4) to evaluate the stated preference studies. Prior to the assessment, reviewers

will be familiarized with and calibrated on these tools to ensure consistent application.

The ISPOR checklist evaluates the stated preference studies in terms of study design, data collection, analysis, and relevance of conclusions. The checklist is made up of ten items, each comprising three criteria. Each criterion will be evaluated as "Yes," "Partial," or "No" by independent reviewers. The MMAT tool includes two screening questions, five criteria for each type of study that is scored on a categorical scale as either "yes," "no," or "cannot tell." All the included revealed preference studies will be appraised using the initial two screening questions: (a) whether the study had clear research questions, and (b) whether the collected data allowed to address their respective research questions, which would indicate whether further methodological quality appraisal is feasible or appropriate. If responses to both questions are either "no" or "cannot tell," they will be excluded from further evaluation. The total percentage of quality score for each study will be calculated based on the MMAT scoring guide. Only the number of items scored "yes" is summed for an overall score [27].

For the purposes of this review, scores of ≤60% will be regarded as "low quality," while a score in the range of 61–80% will be regarded as "average quality." A score in the range of 81–100% will be considered "high quality." Critical appraisal requires judgment; hence, quality appraisal of the included studies will be independently considered by the two researchers. Potential disagreements will be resolved through reaching a consensus, and if needed, through consulting a third researcher. The reviewers will compare their results, and any disagreement between two reviewers will be resolved by discussion and consensus. If disagreements are unresolvable, a third reviewer will be consulted.

Discussion

To achieve UHC, many LMICs have taken the initiative to reform their health systems so that it can respond to the needs of population by providing quality healthcare services in a low-cost way. Such reform may be more effective when it puts emphasis on the patients' view in designing of health interventions / service delivery. Through this systematic review, the identification of attributes, their influence on preference, and preference heterogeneity with socioeconomic characteristics of the population will help the policymakers and researchers to design targeted PHC interventions that meet the expectations of the urban poor population, ensuring their voices are heard and considered in the policy decision-making process. Such evidence will also be useful to design DCE studies to determine which attributes of PHC providers should be included when examining the preference in urban context of LMICs. The identified attributes will be analyzed from various aspects of health systems to understand their impact on service delivery, financing, utilization, and quality of care. Additionally, studies will be assessed and discussed in terms of their strengths and limitations along with their context. The most preferred attributes will be discussed to understand in which context these were prioritized. It is expected that the findings from this review will help policymakers and researchers in taking decision considering patients' perspective to increase the utilization of health services among them. We plan to publish the findings of our review in a peer-reviewed journal to ensure rigorous academic scrutiny and wide dissemination. The results of our review will be instrumental in developing choice sets for conducting DCEs in urban areas of LMICs. By publishing our findings, we aim to contribute to the existing body of knowledge and provide valuable insights for policymakers, researchers, and practitioners involved in planning and development of urban health systems. Additionally, we will present our results at relevant conferences and seminars to engage with the academic community and stakeholders, fostering discussions and collaborations that can further enhance the practical application of our work.

Abbreviations

CHORUS	Community-led Responsive and Effective Urban Health Systems
DCE	Discrete Choice Experiment
LMICs	Low- and middle-income countries
MeSH	Medical Subject Headings
MMAT	Mixed Method Appraisal Tool
PHC	Primary healthcare
PRISMA	Preferred Reporting Items in Systematic Reviews and Meta-Analyses
PROSPERO	International Prospective Register of Systematic Reviews
UHC	Universal Health Coverage

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s13643-024-02714-x.

Additional file 1: Preliminary search strategy.

Additional file 2: Selection of studies following PRISMA flow diagram.

Additional file 3: Mixed method meta-analysis appraisal tool (MMAT).

Additional file 4: ISPOR checklist for appraisal of conjoint analysis studies.

Additional file 5: PRISMA-P 2015 Checklist.

Authors' contributions

MZH, EW, ZQ, and TE contributed to conceptualize the systematic review idea. MZH drafted the systematic review protocol. EW, ZQ, and TE critically reviewed the draft protocol and contributed to writing, revising, and finalizing. All authors read and approved the final version of the protocol.

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Data availability
Not applicable.

Declarations

Ethics approval and consent to participate
The overall PhD project has received ethical clearance from School of Medicine Research Ethics Committee, University of Leeds (MREC 22–038). Informed consent is not applicable as this is a review study.

Consent for publication
Not applicable.

Competing interests
The authors declare that they have no competing interests.

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