

Title: Protocol Registration: Climate Change and Health: Intercultural Dialogue Strategies between Primary-Care Physicians and Patients – A Systematic Review

Accepted

Registry: OSF Registries

Contributors: Nidia Ponte, Fátima Alves, Diogo Guedes Vidal

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Associated project: <https://osf.io/d4b9g>

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Update: Aug 29, 2025².

¹ Intended use

This Generalized Systematic Review Registration Form is intended as a general-purpose registration form. The form is designed to be applicable to reviews across disciplines (i.e., psychology, economics, law, physics, or any other field) and across review types (i.e., scoping review, review of qualitative studies, meta-analysis, or any other type of review). That means that the reviewed records may include research reports as well as archive documents, case law, books, poems, etc. This form, therefore, is a fall-back for more specialized forms and can be used if no specialized form or registration platform is available.

Citation

Van den Akker, O. R., Peters, G. Y., Bakker, C., Carlsson, R., Coles, N. A., Corker, K. S., Feldman, G., , Moreau, D., Nordström, T., Pickering, J. S., Riegelman, A., Topor, M., Veggel, N., Yeung, S., Mellor, D., & Pfeiffer, N. Generalized Systematic Review Registration Form. MetaArXiv.. <https://doi.org/g5fj>.

² Reason for update:

During a consistency check between this OSF registration and the pre-specified PROSPERO record, I noticed wording drift that could introduce ambiguity at screening. I have therefore made editorial, non-substantive amendments so that the OSF text mirrors the protocol and improves clarity and reproducibility, without changing the study's aims or analytic approach. What changed and why Primary research questions / P–E–O definitions (overview section): The descriptions of Population, Exposure, and Outcome were rewritten to match PROSPERO verbatim in substance. This removes ambiguity around (i) the requirement that Population comprises both primary-care physicians and adult patients, (ii) the scope of Exposure (including food insecurity and forced displacement, and its recognition/response in face-to-face doctor–patient communication), and (iii) the Outcome focus on intercultural communication strategies, including cultural competence education and equity-oriented approaches linked to adaptation and community resilience. Inclusion criteria: The P, E, and O items were rectified to align with PROSPERO and an explicit Context criterion was added (preference for primary healthcare; hospital/community studies included only when findings are directly transferable to the doctor–patient relationship at the first level of care). This criterion was present in PROSPERO but missing from the OSF inclusion block. Exclusion criteria: A context-based exclusion was added (non-transferable settings), derived from the Context clause in PROSPERO, to ensure consistent application at full-text assessment. Used exclusion criteria (operational list): An exclusion related to Context was added to the screening checklist so that transferability to primary care is assessed consistently at this stage as well. Impact. These edits are clarificatory only: they align the

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Internet archive link : <https://archive.org/details/osf-registrations-axydw-v1>

Registration DOI: 10.17605/OSF.IO/AXYDW

Description

This systematic review aims to map and understand the intercultural dialogue strategies developed between primary healthcare doctors and users from different socio-cultural backgrounds, in the context of the health impacts of climate change. The aim is to identify how these strategies have been conceptualised and described in the literature, and to what extent they can promote community resilience and reduce health inequalities.

The rationale for this review lies in the recognition that climate change is a major global threat to public health, with disproportionate effects on socioeconomically and culturally vulnerable populations. At the same time, health systems—particularly at the primary-care level—face persistent challenges in responding equitably to the needs of increasingly diverse communities. While intercultural communication is acknowledged as a key dimension of care quality, its role in climate-sensitive health adaptation remains poorly understood and insufficiently integrated into public health planning.

By adopting a critical and reflexive approach, this review will systematically identify and synthesise studies that intersect three thematic domains: healthcare, intercultural dialogue, and climate change. It will include empirical (qualitative, quantitative, mixed-methods), conceptual and review-based contributions published between 2007 and April 2025 in English, Portuguese or Spanish. Studies must address at least two of the three core domains to be eligible. A multilingual and cross-disciplinary search strategy has been developed based on the PEO framework (Population, Exposure, Outcome).

Data management will involve Rayyan for screening and de-duplication, Zotero for bibliographic curation, and MAXQDA 24 for thematic coding. The synthesis will be qualitative, structured around inductive themes emerging from the included studies, and will highlight conceptual, methodological, and contextual contributions to the

registry with the registered protocol, tighten eligibility wording, and enhance inter-rater reliability in screening. No research questions, outcomes, or analytic methods were changed.

development of culturally responsive strategies for climate-related health equity and resilience.

Expected outcomes include:

- (1) a conceptual map of intercultural dialogue strategies in climate-health contexts;
- (2) identification of key gaps and underrepresented perspectives in the literature;
- (3) recommendations to inform culturally inclusive adaptation practices and public health policy.

The protocol has been developed in line with PRISMA-P and PRISMA-S guidelines and is also registered with PROSPERO (ID: CRD420251038912). All supporting materials will be made publicly available via this OSF project.

Tags

- | | |
|-------------------------|-----------------------------|
| climate and health | health inequalities |
| climate change | intercultural communication |
| climate justice | intercultural dialogue |
| community resilience | migration |
| critical health studies | PEO framework |
| cultural competence | Portugal |
| general practice | PRISMA-P |
| global health | PRISMA-S |
| health | public health |
| health adaptation | sociocultural diversity |
| health communication | systematic review |

Review Methods

In this section, you register the general type, background and goals of your review.

Type of review

This is a qualitative and integrative systematic review designed to map and synthesise strategies of intercultural dialogue in primary healthcare settings. It focuses on two interrelated challenges: (1) the health impacts of climate change, and (2) communication between doctors and patients from diverse sociocultural backgrounds. By addressing these domains jointly, the review aims to explore how intercultural communication practices can contribute to climate-resilient and culturally responsive care. The protocol was prepared using the PRISMA-P (Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols) 2015 checklist and the PRISMA-S (Extension for Reporting Literature Searches) 2020 guidance. The review also follows the PEO (Population, Exposure, Outcome) framework to structure the research questions and search strategy. Tools and platforms used include Rayyan for screening and de-duplication, Zotero for bibliographic management, and MAXQDA 24 for qualitative thematic analysis. This review has been prospectively registered with PROSPERO (ID: CRD420251038912).

Review stages

The review will be conducted in the following stages: Preparation – Completion of protocol design and development of multilingual search vocabulary, following PRISMA-P and PRISMA-S guidelines. The protocol has been prospectively registered with PROSPERO (ID: CRD420251038912). Search – Execution of the search strategy across six sources: PubMed, Scopus, Web of Science, SciELO, RCAAP, and Google Scholar. Targeted consultation of institutional and grey literature sources (e.g., WHO, DGS, IPCC) will also be carried out. Pilot Screening (100 records) – Initial testing of inclusion and exclusion criteria using Rayyan to ensure consistency and alignment with review objectives. Screening – Systematic screening of titles, abstracts, and full texts in Rayyan, with verification of exclusions by the supervisory team. A record of reasons for exclusion will be maintained in Excel. Pilot Data Extraction (10 sources) – Testing of the Excel data extraction template to ensure clarity, coherence, and usability. Data

Extraction – Full data extraction for included studies using a pre-defined Excel matrix. Bibliographic references will be managed in Zotero. Critical Appraisal – Reflective quality assessment using the MMAT (2018), complemented by epistemological and contextual relevance criteria for conceptual and theoretical studies. Thematic Synthesis – Inductive coding and thematic categorisation in MAXQDA 24, structured around three core domains: climate change, healthcare, and intercultural dialogue. Reporting – Narrative presentation of results, supported by descriptive mapping and visual summaries. The process will follow PRISMA 2020 reporting standards and include a flow diagram. Update (if necessary) – Monitoring via alerts and, if needed, a re-run of search strategies prior to manuscript submission. Further methodological detail is provided in the full protocol document uploaded to this OSF registration.

Current review stage

At the time of this registration, the review is at the protocol finalisation stage. The protocol has already been registered with PROSPERO (ID: CRD420251038912), and no database searches have yet been conducted. The search strategies are being finalised and will be executed after this registration is completed. This constitutes the first preregistration of the review. Screening, data extraction, and synthesis have not yet begun. A pilot screening phase is planned as the next step, and any substantial updates will be documented in a linked OSF project.

Start date

Planned start date: 17 June 2025 Preliminary scoping activities were conducted in early May 2025, including manual searches in PROSPERO and Epistemonikos to verify the originality of the review focus. However, the formal review process — including the implementation of the full search strategy and study screening — has not yet begun. This OSF registration marks the official launch of the systematic review, with the literature search scheduled to start during the week of 17 June 2025.

End date

Planned end date: 30 November 2025 According to the current timeline, data extraction and quality appraisal are expected to be completed by September 2025, followed by thematic synthesis in October. The final manuscript is scheduled for

submission to a peer-reviewed journal by the end of November 2025. This registration will be updated if major delays or extensions arise.

Background

Climate change represents one of the most pressing global threats to public health, with increasingly evident impacts on morbidity, mortality, and health inequalities. These effects are unevenly distributed, disproportionately affecting individuals and communities with greater social and cultural vulnerability. At the same time, health systems—particularly primary care—are facing growing challenges in responding effectively to the needs of diverse sociocultural populations. Although intercultural communication is widely recognised as a critical component of care quality, there remains a notable gap in the literature regarding how intercultural dialogue strategies are conceptualised and applied in the context of climate-related health challenges. Existing studies often treat healthcare, interculturality, and climate change as separate domains, without exploring their intersection or combined implications for equity and community resilience. This review addresses that fragmentation by adopting a thematic mapping approach focused on three interconnected domains: healthcare, intercultural dialogue, and climate change. By bringing these axes into conversation, the review aims to provide a structured synthesis of existing contributions, identify overlooked areas, and highlight integrative opportunities across disciplines and contexts. To our knowledge, no previous systematic review has examined the intersection of these three themes. This work therefore offers a novel contribution by developing an analytical cartography that is epistemologically inclusive, methodologically diverse, and oriented towards informing climate-resilient and culturally responsive healthcare practices.

Primary research question(s) Updated

This review is guided by the following primary research questions, formulated using the PEO (Population, Exposure, Outcome) framework: - What intercultural dialogue strategies have been developed between doctors and patients from different sociocultural backgrounds in primary healthcare settings? - How can these strategies—or their underlying principles—be adapted and mobilised to address the health impacts of climate change and enhance community resilience? These questions underpin the review's inclusion criteria, search strategy, and thematic synthesis. Specifically:

Population (P): primary healthcare physicians particularly general and family medicine physicians (general practitioners) and adult patients (aged 18 and over) from diverse sociocultural backgrounds. Exposure (E): Impacts of climate change on health, addressed directly or indirectly, including phenomena such as heat stress, extreme weather events, food insecurity, forced displacement, or other forms of ecological vulnerability. This includes consideration of how these exposures are recognised and responded to through face-to-face communication between healthcare professionals and patients. Outcome (O): intercultural dialogue strategies developed, and/or implemented—including cultural competence education and equity-oriented approaches—that contribute to climate adaptation and community resilience and are relevant to the doctor–patient relationship in primary healthcare (or demonstrably transferable to it).

Secondary research question(s)

No formal secondary research questions were defined at the protocol stage. The review is guided exclusively by its primary questions, which shape the search, screening, extraction, and synthesis phases.

Expectations / hypotheses

This review adopts a critical and reflexive perspective, grounded in the assumption that intercultural dialogue plays a key role in delivering culturally responsive care in the face of climate-related health challenges. However, we expect to find that the existing literature approaches healthcare, intercultural communication, and climate change as largely disconnected domains, with limited efforts to explore their intersection in a systematic or integrated manner. We anticipate a high degree of thematic and methodological fragmentation, with relevant contributions dispersed across disciplines such as public health, medical anthropology, and social sciences. We also expect that many strategies of intercultural dialogue may appear in applied or practice-based contexts without being explicitly theorised as such. These might include actions grounded in trust-building, cultural mediation, or mutual understanding, even if not labelled as "intercultural dialogue". Given the likely underrepresentation of integrated approaches, the review is expected to reveal critical gaps in current knowledge—particularly in terms of how primary healthcare systems are preparing to

address both sociocultural diversity and climate vulnerability. We also anticipate that many studies will address health inequalities or community resilience indirectly, requiring careful interpretative work during the synthesis. These expectations inform the choice of a thematic synthesis approach, with particular attention to epistemological diversity and context-specific practices.

Dependent variable(s) / outcome(s) / main variables

This is a descriptive and interpretative review, not based on statistical associations between variables. The main variables of interest are: Intercultural dialogue strategies developed, proposed, or implemented in primary healthcare settings; Contextual features of these strategies, including target populations, healthcare environments, and sociocultural settings; Climate-related health issues addressed directly or indirectly, such as heat stress, respiratory conditions, or environmental vulnerabilities; Conceptual or theoretical frameworks underpinning the strategies; Reported or expected outcomes, including improved communication, trust, health equity, or community resilience. As the review follows a qualitative and reflexive approach, additional variables or analytical categories may emerge inductively during full-text analysis and thematic coding using MAXQDA 24. These emergent dimensions will be considered part of the knowledge-building process.

Independent variable(s) / intervention(s) / treatment(s)

This review does not examine statistical associations or experimental interventions and therefore does not involve independent variables in the conventional sense. However, it focuses on real-world strategies and practices that may function as interventions in primary healthcare settings—specifically, intercultural dialogue strategies designed to improve communication between doctors and culturally diverse patients. These strategies may include cultural mediation, interpreter services, training in intercultural communication, participatory care models, trust-building practices, or context-adapted protocols. While not always explicitly labelled as “interventions,” such actions are treated as situated communicative responses to sociocultural complexity and climate-related health risks. No control or comparison groups are expected, although some studies may include before–after comparisons or describe implementation challenges and impacts. The focus remains on characterising these strategies in terms of

their principles, application, and potential to inform inclusive and climate-resilient healthcare practices.

Additional variable(s) / covariate(s)

No additional variables, covariates, moderators, or mediators were defined for this review. As this is a qualitative and exploratory synthesis, the focus is on describing and interpreting intercultural dialogue strategies without testing associations or statistical relationships.

Software

The following software tools will be used throughout the review process: Zotero (v.6.0.34, Windows 11) – for bibliographic management, reference organisation, and citation tracking. Rayyan (web-based, last accessed June 2025) – to manage search results, remove duplicates, and facilitate independent screening of titles and abstracts. Microsoft Excel (Microsoft 365, Windows 11) – for data extraction, screening logs, and tabular organisation of study-level variables. MAXQDA 24 Analytics Pro (Windows 11) – for inductive thematic coding and qualitative synthesis of full texts. These tools were selected for their flexibility, user-friendliness, and suitability for conducting a critical, qualitative synthesis aligned with the protocol’s epistemological orientation.

Funding

This review is funded by a doctoral research grant awarded to the lead reviewer, Nídia Ponte, by the Foundation for Science and Technology – FCT, I.P. (Portugal) under the **reference 2024.01003.BD**. This work was supported by national funds through the FCT - Foundation for Science and Technology, I.P., under the project UIDB/04004/2025 - Functional Ecology Centre - Science for People and the Planet.

Conflicts of interest

The author declares no conflicts of interest. The review is conducted independently as part of a publicly funded doctoral research project, and no personal, financial, or institutional interests are expected to influence the outcomes of this review.

Overlapping authorships

No overlapping authorships are expected. None of the individuals involved in this review are known to be co-authors of any studies likely to be included, based on the scope and preliminary scan of the literature. The review is conducted independently by the lead researcher (Nídia Ponte), and any unforeseen cases of authorship overlap will be transparently disclosed and managed through independent verification of screening, extraction, and synthesis decisions.

Search Strategy

In this section, you register your search strategy: the procedures you designed to obtain all (potentially) relevant sources to review (e.g., articles, books, preprints, reports, case law, policy papers, archived documents).

Databases

The following databases will be searched as part of the systematic review: PubMed Scopus Web of Science (Core Collection) SciELO RCAAP (Repositório Científico de Acesso Aberto de Portugal) Google Scholar These sources were selected to ensure thematic breadth, language diversity, and inclusion of both indexed and grey literature relevant to the review's interdisciplinary focus.

Interfaces

The following interfaces will be used to search each database: PubMed – native NCBI interface Scopus – Elsevier Scopus interface Web of Science – Clarivate Web of Science Core Collection interface SciELO – SciELO.org native interface RCAAP – RCAAP.pt platform (managed by FCT|FCCN) Google Scholar – scholar.google.com (native interface) Each database will be accessed via its respective public interface, without the use of commercial aggregators such as EBSCOhost or Ovid. Search strategies will be adapted to the syntax and filtering options available in each case.

Grey literature

To ensure the inclusion of grey literature, the following strategies will be employed: Searching RCAAP (Repositório Científico de Acesso Aberto de Portugal), which includes Portuguese university theses, dissertations, and institutional reports; Conducting targeted searches in Google Scholar, which is known to index a wide range of non-peer-reviewed academic material, including preprints, conference papers, and local publications; Consulting selected institutional and organisational sources, including the World Health Organization (WHO), Direção-Geral da Saúde (DGS Portugal), and Intergovernmental Panel on Climate Change (IPCC), to identify relevant reports, technical documents, and policy papers; Screening reference lists of included studies and relevant review articles to identify additional grey sources not captured through standard database queries. These strategies aim to capture diverse and context-

relevant knowledge, particularly on culturally embedded practices and local health interventions that may not be represented in peer-reviewed journals.

Inclusion and exclusion criteria Updated

This review applies inclusion and exclusion criteria based on the PEO framework (Population, Exposure, Outcome), adapted to suit a qualitative and interdisciplinary synthesis. Inclusion criteria: Studies will be included if they meet the following conditions: Population (P): Involve both primary healthcare physicians (with an emphasis on general/family medicine) and adult patients/service users (≥ 18 years) from diverse sociocultural backgrounds. Exposure (E): address climate-related health impacts explicitly or implicitly (e.g., heat stress/heatwaves, extreme weather, air pollution, vector-borne diseases, food insecurity, forced displacement, or other forms of ecological vulnerability), including how these exposures are recognised and responded to in face-to-face clinical communication Outcome (O): describe, analyse, implement, or evaluate intercultural communication strategies—including cultural competence education and equity-oriented approaches—that support climate adaptation and community resilience and are relevant to the doctor–patient relationship in primary healthcare (or demonstrably transferable to it).; Context: Preferably conducted in primary healthcare. Studies in hospital or community-based services will be included only if their findings are directly transferable to the doctor–patient relationship at the first level of care. Published between January 2007 and May 2025, reflecting the timeline since the first IPCC report that linked climate change to public health; Written in English, Portuguese, or Spanish; Types of documents: peer-reviewed journal articles, reviews, book chapters, conference papers, doctoral theses, and technical reports. Exclusion criteria: Editorials, opinion pieces, letters, errata, or short surveys; Studies that do not address intercultural dialogue or sociocultural diversity explicitly or implicitly; Studies focused exclusively on clinical or biomedical aspects without reference to communication, sociocultural context, or climate-related issues; Insufficient interaction detail / no clinician–patient interaction: Studies that do not explicitly or implicitly explore interactions between health professionals and service users—particularly in primary care—or that provide insufficient information to infer relevant aspects of clinical dialogue in culturally diverse settings. Duplicates, non-retrievable full texts, and inaccessible grey literature outside the inclusion scope. These criteria were used to define the search strategy and

will guide screening and full-text eligibility assessment. The critical and reflexive orientation of the review will allow for thematic flexibility when evaluating conceptual and contextual relevance.

Query strings

At the time of registration, the final search strings have not yet been run. Full queries will be constructed and adapted to each database/interface combination based on an iterative refinement of the three core thematic blocks: Climate change and health impacts Primary healthcare and frontline services Intercultural communication and sociocultural diversity Search strategies will combine controlled vocabulary (e.g., MeSH terms in PubMed) with free-text terms (title/abstract), using Boolean operators. The queries will be structured around the PEO model and reflect the inclusion criteria defined in the protocol. A pilot search was previously conducted in PubMed using the following structure: ("climate change"[MeSH Terms] OR "global warming" OR "heatwaves" OR "environmental exposure") AND ("primary health care"[MeSH Terms] OR "family medicine" OR "community health services") AND ("intercultural communication" OR "cultural competence" OR "cross-cultural dialogue") Full search strings will be appended to this OSF registration and made publicly available upon completion of the first formal search cycle (planned for June 2025).

Search validation procedure

An iterative validation procedure will be employed to ensure the adequacy and sensitivity of the search strategy. Initial pilot searches were conducted in PubMed and Scopus to test combinations of descriptors related to climate change, primary healthcare, and intercultural dialogue. These exploratory searches allowed for refinement of syntax, Boolean operators, and field-specific constraints. During the formal search phase, the strategy will be validated by verifying whether a set of pre-identified, thematically relevant studies are successfully retrieved. These studies—identified through prior knowledge and preliminary reading—will serve as “known items” for testing the sensitivity of the search strings. Additionally, terms and indexing patterns from relevant studies retrieved during the pilot phase will be used to adjust and enrich the final query strings. This iterative process will be documented and reported in the final protocol update and manuscript. No external peer review of the search strategy

is planned at this stage, but adjustments will be made based on thematic relevance and database-specific performance.

Other search strategies

In addition to database and grey literature searches, the following supplementary strategies will be used: Reference list screening (ascendancy approach): The bibliographies of included studies will be manually examined to identify additional relevant sources that may not have been captured through electronic database searches. Cited-by searching (descendancy approach): Citation tracking of key included studies will be conducted using Google Scholar and Scopus to identify newer sources building upon relevant work. Institutional searches: Websites of major public health and environmental organisations (e.g., WHO, IPCC, DGS Portugal) will be searched for relevant technical reports and unpublished materials. Thematic alert monitoring: Alerts will be set up in Google Scholar and PubMed to identify new publications during the course of the review. These strategies aim to ensure thematic saturation and to capture relevant contributions beyond traditional academic indexing systems.

Procedures to contact authors

At this stage, no author contact is planned as part of the review process. All data extraction and eligibility assessments will be conducted based on publicly available documents retrieved through database searches and institutional repositories. Should any exceptional case arise—such as the identification of a highly relevant document lacking sufficient information or full-text access—contact may be considered on a case-by-case basis. In such situations, explicit permission will be requested before citing any content obtained through personal communication.

Results of contacting authors

No author contact is currently planned, and therefore no results from such procedures are expected to be reported. If, in exceptional cases, authors are contacted to obtain clarifications or missing information, any outcomes will be noted descriptively in the final report, with prior consent.

Search expiration and repetition

This is not a living review, and no full repetition of the search is planned beyond the initial cycle. However, database alerts (e.g., in PubMed and Google Scholar) will be activated to monitor for newly published studies during the review process. Should relevant publications appear before final synthesis or manuscript submission (planned for November 2025), they may be incorporated into the review following the same eligibility criteria. The original search will be considered valid for inclusion decisions made within six months of the initial run, based on the expected pace of publication in this interdisciplinary area.

Search strategy justification

The search strategy was designed to balance epistemological inclusiveness with thematic focus, acknowledging the interdisciplinary and emergent nature of the field. The following decisions were made: Database selection: Six databases were chosen to ensure thematic breadth (PubMed, Scopus, Web of Science), linguistic inclusivity (SciELO, RCAAP), and access to non-indexed materials (Google Scholar). This combination allows the review to include global and local perspectives, as well as academic and grey literature. Interfaces: Each database will be searched via its native interface, allowing direct control over syntax and filters and ensuring accurate retrieval aligned with the inclusion criteria. Grey literature: Institutional repositories (e.g., RCAAP) and international organisations (e.g., WHO, IPCC) will be consulted to capture reports, theses, and policy documents. Reference list screening and citation tracking will complement database searches. Query design: Search strings will be developed using the PEO framework, structured around three thematic axes: climate change, primary healthcare, and intercultural dialogue. Controlled vocabulary (e.g., MeSH) and free-text terms will be combined using Boolean logic, with adjustments tailored to each database. Author contact: No systematic author contact is planned. All eligibility and extraction decisions will rely on publicly available materials unless exceptions arise. Search repetition: This is not a living review. Alerts will be used to monitor for new publications, but the main search will not be repeated unless justified by significant delays. This approach allows for flexibility and transparency while maintaining consistency with the review's qualitative, critical, and exploratory orientation.

Miscellaneous search strategy details

The search strategy will be structured around three interrelated thematic blocks: (1) Climate Change (2) Intercultural Dialogue (3) Primary Healthcare These blocks reflect the core analytical axes of the review and will be searched both independently and in combination. This approach will allow the mapping of existing contributions within each axis, as well as the identification of overlaps, gaps, and potential for integration. Document-type filters will be applied when available (e.g., excluding editorials, errata, letters), and searches will be limited to sources published in English, Portuguese, or Spanish. Descriptors and Boolean combinations will be developed iteratively to ensure lexical coherence across databases. No AI-generated term expansions will be used; all terminology will be grounded in the conceptual framework established in the protocol. The full search process will be documented in a transparent, reproducible manner, with decisions adapted to the specific indexing features of each database.

Screening

In this section, you register your screening procedure: the procedure you designed to eliminate all irrelevant sources from the results of the search strategy (and retain the relevant sources).

Screening stages

Screening will be conducted in three stages, as follows: Deduplication: All retrieved records will be imported into Rayyan, where both automatic and manual deduplication will be performed to remove duplicate entries across databases. Title and abstract screening: Initial screening will be performed manually by the lead reviewer (Nidia Ponte) using Rayyan, following the predefined inclusion and exclusion criteria. Doubtful cases will be flagged for joint discussion with the project supervisor. Full-text screening: Full texts of potentially eligible studies will be retrieved and assessed in detail by the lead reviewer. A random subset (at least 10%) will be independently verified by the supervisor to ensure consistency and reliability of the screening process. All inclusion/exclusion decisions will be logged in Microsoft Excel, including reasons for exclusion. Screening will be entirely human-led, with no use of AI or automated decision tools.

Screened fields / blinding

During both title/abstract and full-text screening, the following bibliographic fields will be visible to the reviewer: title, abstract, authors, journal, publication year, and keywords. No blinding will be applied at any stage of the screening process. This decision reflects the qualitative and interpretative nature of the review, which requires contextual reading and awareness of disciplinary orientation, authorship, and publication venues. The review will be conducted by the lead researcher with partial supervisory verification, minimising risk of bias without the need for formal blinding procedures.

Used exclusion criteria Updated

The following exclusion criteria will be applied during the screening process: Studies that do not address at least two of the three core thematic blocks of this review: (1) climate change, (2) intercultural dialogue, (3) primary healthcare; Studies that do not

explicitly or implicitly explore interactions between health professionals and users—particularly in the context of primary care—or that provide insufficient information to infer relevant aspects of clinical dialogue in culturally diverse settings. Studies that focus exclusively on biomedical, technical, or clinical content, without engagement with communicative, cultural, or ecological dimensions; Publications that do not explore any intersection between the thematic blocks (e.g., studies limited solely to climate change impacts in general, without reference to health or culture); Non-substantive formats such as editorials, letters, errata, short surveys, or press releases; Duplicate records, or studies whose full texts are unavailable after reasonable efforts; Studies published before January 2007 or after May 2025; Sources not written in English, Portuguese, or Spanish. All exclusion decisions will be logged with reasons, and studies that meaningfully engage with any two of the three blocks will be retained for full-text assessment.

Screener instructions

The screening will be conducted by the lead reviewer (Nidia Ponte), with independent cross-checking of at least 10% of decisions by the project supervisor. Screener instructions are included in the protocol document (Protocol PRISMA P + S.pdf), which is available as a supplementary file in this OSF project. This document outlines: The inclusion and exclusion criteria based on the PEO framework; The requirement that eligible studies must address at least two of the three thematic blocks: (1) climate change, (2) intercultural dialogue, (3) primary healthcare; The screening process: deduplication, title/abstract screening, and full-text assessment; Use of Rayyan for screening and Microsoft Excel for recording decisions and reasons for exclusion; Procedures for resolving uncertainties and involving the supervisor when needed. A future update will be added to this OSF registration once the main review phases are completed. This update will include the finalised search strings and documentation of any methodological adaptations that occurred during the screening and analysis.

No files selected

Screening reliability

Screening will be led by a single reviewer (Nidia Ponte), using Rayyan for record management. To ensure transparency and internal consistency, the following reliability

procedures will be implemented: Each exclusion decision at the full-text stage will be independently verified by a second reviewer, specifically one of the academic supervisors of the doctoral project; A random sample of exclusion decisions from the title and abstract screening phase will also be cross-checked by the supervisor to enhance consistency and detect potential bias or oversight; The search strategy will be internally reviewed and validated by both academic supervisors prior to its full implementation; Any disagreement or uncertainty will be resolved through discussion, ensuring alignment with the inclusion/exclusion criteria and the conceptual framework of the review. No formal inter-rater reliability statistics (e.g., Cohen's kappa) will be calculated, as the review follows a qualitative and interpretative approach grounded in thematic and contextual relevance.

Screening reconciliation procedure

In cases where discrepancies arise between the lead reviewer and the academic supervisor during the cross-checking of screening decisions: The disagreement will be resolved through discussion and mutual reflection, based on the predefined inclusion/exclusion criteria and the requirement that eligible studies address at least two of the three thematic blocks: (1) climate change, (2) intercultural dialogue, (3) primary healthcare; The reconciliation process will prioritise thematic relevance and conceptual fit over rigid application of methodological filters, in line with the qualitative and exploratory nature of the review; No third reviewer will be involved at this stage. This approach supports critical engagement, transparency, and consistency across screening stages.

Sampling and sample size

This review will not implement any post-screening sampling. All studies that meet the inclusion criteria will be included in the analysis. As this is a qualitative, exploratory, and abductive synthesis, no sample size calculation or statistical power analysis is applicable. The aim is not to reach representativeness, but to develop a conceptual mapping of how intercultural dialogue strategies are articulated with climate-related health challenges in primary care settings. Should the final number of included studies be limited, conclusions will remain analytically nuanced and situated,

rather than generalisable. The review will prioritise thematic richness and contextual insight, even in the case of a small evidence base.

Screening procedure justification

The screening procedure was designed to ensure epistemological consistency, thematic focus, and methodological rigour within a qualitative and exploratory framework. The following principles guided its development: Three screening rounds (deduplication, title/abstract, full-text) allow for progressive refinement, balancing breadth and depth; No blinding was applied, as disciplinary context, authorship, and publication venue are considered analytically relevant in qualitative synthesis; Inclusion and exclusion criteria were operationalised based on the PEO model, with a specific requirement that studies must address at least two of the three thematic blocks: (1) climate change, (2) intercultural dialogue, (3) primary healthcare; A single reviewer conducts all screening, supported by independent validation: all full-text exclusions will be reviewed by an academic supervisor, and a random sample of exclusions from earlier phases will be cross-checked. The screening process will be supported by dedicated tools: Rayyan (for structured screening) and Microsoft Excel (to track inclusion/exclusion decisions and document justifications). Discrepancies will be resolved through discussion between the reviewer and supervisor, reinforcing consistency and critical reflection. This procedure strikes a pragmatic balance between transparency, accountability, and theoretical sensitivity, suited to the interdisciplinary and emergent nature of the topic.

Data management and sharing

All references retrieved from the database searches will be managed in Rayyan and exported as a BibTeX or RIS file. Screening decisions, including inclusion/exclusion justifications, will be documented in a Microsoft Excel (XLSX) file. These datasets will be made available via the Open Science Framework (OSF) repository linked to this registration. Specifically, the following files will be shared: The complete list of retrieved references (BibTeX / RIS); A structured record of screening decisions (XLSX), including reasons for exclusion; The final PRISMA flow diagram (PDF or image format), to be uploaded upon review completion. All files will be deposited in open access format. If the main manuscript is still under review at the time

of OSF update, an embargo period may apply until formal publication, after which the materials will be fully accessible. No sensitive or personal data are involved. All outputs will comply with ethical and transparency standards aligned with open science principles.

Miscellaneous screening details

The screening process will adopt a thematic and iterative logic, informed by the conceptual framework of the review rather than rigid keyword matching alone. Relevance will be assessed not solely by the presence of specific descriptors, but by the substantive engagement with at least two of the three thematic blocks (climate change, intercultural dialogue, primary healthcare). While peer-reviewed journal articles will be prioritised, other publication formats—including book chapters, conference proceedings, or technical reports—may be retained if they meet the inclusion criteria and offer relevant insights. Given the qualitative and abductive nature of the review, the screening process will remain reflexive and flexible, with space for continuous interpretation and critical adjustment. Documentation of decisions will ensure transparency throughout this evolving process. The full protocol, including finalised search strings and any methodological updates, will be made available in the associated OSF project once the review progresses.

Extraction

In this section, you register your plans for data extraction: the procedures you designed to extract the data you are interested in from the included sources. Examples of such data are text fragments, effect sizes, study design characteristics, year of publication, characteristics of measurement instruments, final verdicts and associated penalties in a legal system, company turnovers, sample sizes, or prevalences.

Entities to extract

The following entities will be extracted from each included source: Bibliographic metadata: Author(s); Year of publication; Country or region of focus; Type of publication (e.g., peer-reviewed article, book chapter, report). Study-level descriptors: Study design (qualitative, quantitative, mixed methods, or theoretical); Sample characteristics (target population, sociocultural background); Healthcare setting (e.g., primary care, community health, hospital); Professional group(s) involved (e.g., general practitioners, nurses). Conceptual and thematic content: Explicit or implicit reference to climate change-related health impacts (e.g., heat stress, displacement, environmental exposure); Reference to intercultural dialogue strategies, including mediation, trust-building, or cultural competence practices; Main outcomes or conclusions relevant to adaptation, resilience, and equity in health. Theoretical and conceptual foundations: Analytical frameworks or models used (if any); Definitions or interpretations of intercultural communication or climate-related health risks. Qualitative data fragments: Synthesised themes or quotes, where available and relevant; Coded categories emerging from MAXQDA analysis. Other relevant variables: Suggested policy implications or recommendations (if applicable); Reflections on health equity or social justice dimensions. All extracted data will be recorded in a piloted Excel spreadsheet and, where applicable, further coded and analysed in MAXQDA.

Extraction stages

The data extraction process will be conducted in the following stages: Initial piloting stage (human): A structured Excel spreadsheet will be piloted using a small sample of included studies to ensure clarity and relevance of the extraction categories. Primary data extraction (human): The lead reviewer (Nídia Ponte) will extract bibliographic, methodological, and thematic data from all included studies using the

piloted Excel template. Reliability verification (human): A minimum of 10% of the extracted entries will be independently cross-checked by the academic supervisor to ensure consistency and minimise human error. Discrepancies will be resolved through discussion. Qualitative coding and synthesis (human): All full-text documents will be imported into MAXQDA for inductive thematic coding and analytical annotation. This stage will follow an iterative and abductive logic, allowing the emergence of new categories during the process. No automated tools or AI-assisted systems will be used during the extraction. The process is human-led, critically guided, and reflexively documented at each stage.

Extractor instructions

All data extraction will be conducted by the lead reviewer (Nídia Ponte), using a piloted Excel template specifically developed for this review. The extraction procedure is described in detail in the protocol document (to be made available in the associated OSF project, not at the time of registration). Instructions include: A list of key variables to be extracted from each included source, such as authorship, year, country, study design, population, setting, conceptual and theoretical references, references to climate-related health issues, and identified or proposed intercultural dialogue strategies; Guidance on how to systematically populate the Excel template and record justifications for ambiguous entries; Procedures for the qualitative coding stage in MAXQDA, which will involve inductive thematic coding, analytical memos, and a reflexive-abductive approach to allow emergent categories to shape the synthesis. Any uncertainties during data extraction will be noted and discussed with the academic supervisor. The full instructions are integrated into the protocol and will be uploaded to the linked OSF project once the search and screening stages are completed.

No files selected

Extractor masking

No masking procedure will be applied. All data extraction will be conducted by the lead reviewer, who is also the author of the protocol and fully familiar with the research questions, conceptual framework, and analytical aims of the review. Given the qualitative, exploratory, and reflexive nature of this synthesis, masking would not be appropriate. Rather than aiming to reduce bias through blinding, the review relies on

transparency, interpretative rigour, and supervisory validation to ensure consistency and analytical depth.

Extraction reliability

All data extraction will be conducted by a single reviewer (Nídia Ponte). To enhance reliability and consistency: A minimum of 10% of the extracted data entries will be independently cross-checked by the academic supervisor; Any discrepancies or uncertainties will be discussed and resolved collaboratively; No formal inter-rater agreement statistics (e.g., Cohen's kappa) will be calculated, as the review follows a qualitative, exploratory, and interpretative approach. This strategy aims to ensure analytical consistency while preserving the flexibility required for abductive reasoning and theme development across diverse study types.

Extraction reconciliation procedure

In cases where discrepancies arise during the independent cross-check of extracted data: The differences will be discussed and resolved collaboratively between the lead reviewer and both academic supervisors, who are also co-authors of the review; Resolution will be guided by the predefined extraction categories and the thematic and epistemological framework of the study; The approach prioritises interpretative consistency, transparency, and analytical coherence rather than statistical agreement; No formal arbitration or external adjudicator is foreseen. Any adjustments will be documented to maintain an internal audit trail of decisions.

Extraction procedure justification

The extraction procedure was designed to balance pragmatic feasibility and scientific rigour within a qualitative and interpretative review framework. Variables were selected to ensure the capture of conceptual, methodological, and contextual diversity, including publication metadata, healthcare settings, climate-related health issues, and intercultural dialogue strategies. A two-stage approach will be used: structured extraction in Excel, followed by qualitative coding in MAXQDA. Both academic supervisors will independently review at least 10% of extracted entries. Discrepancies will be resolved through discussion. Additionally, a critical appraisal of included studies will be embedded in the extraction and synthesis process. The Mixed

Methods Appraisal Tool (MMAT, 2018) will be used as the primary reference for empirical studies, applied reflectively rather than rigidly, and verified by one supervisor. For theoretical or conceptual literature, an alternative framework will be used, based on internal coherence, conceptual clarity, epistemological positioning, and thematic relevance. Rather than excluding studies based on quality scores, the review will interpret findings in light of their contextual credibility and epistemological stance, embracing analytical nuance and inclusive reflexivity.

Data management and sharing

The full dataset of extracted entities will be shared through the OSF project associated with this registration. The following materials will be made available: A structured Microsoft Excel (.xlsx) file containing all extracted metadata, variables, and thematic information from each included study; A read-only export of the thematic coding structure developed in MAXQDA, if technically feasible, or a textual summary of emergent categories and their definitions; A final summary table linking extraction variables to their interpretative contribution in the synthesis. These files will be uploaded to the OSF repository upon completion of the review and submission of the manuscript. If needed, an embargo will be applied until the article is published. All efforts will be made to ensure data are FAIR-compliant, well-documented, and reusable. No personal or sensitive data are involved. Any reuse conditions (e.g., citation or attribution) will be clearly indicated in the OSF metadata.

Miscellaneous extraction details

The extraction process is designed to be flexible, context-sensitive, and responsive to the epistemological diversity of the included literature. In addition to the structured variables defined in the Excel sheet, the lead reviewer will annotate interpretative notes and analytic insights during full-text reading, using MAXQDA's memo function. Thematic categories will not be predetermined but will emerge inductively during the coding stage, with adjustments documented to support transparency. For theoretical or conceptual works, extraction will focus on analytical relevance, conceptual positioning, and potential to connect the review's three thematic domains (intercultural dialogue, primary healthcare, and climate change). These texts will not follow the same template as empirical studies, but will instead be analysed using a tailored appraisal framework

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developed within the review. Finally, decisions made during the pilot extraction phase (e.g., refinements of variable definitions or adaptations to category structure) will be logged and integrated into the audit trail of the OSF project.

Synthesis and Quality Assessment

In this section, you register the procedure for the review's synthesis: the procedure you designed to use the data that was extracted from each source to answer your research question(s). This often includes transforming the raw extracted data, verifying validity, applying predefined inference criteria, interpreting results, and presenting results. Additionally, you register procedures you designed to assess bias in individual sources and the synthesis itself.

Planned data transformations

Given the qualitative and integrative nature of the review, no inferential statistical transformations will be conducted. However, the following data transformations are planned: Qualitative transformations: Extracted text fragments and variables will be thematically coded using inductive analysis in MAXQDA 24; Categories will emerge progressively, shaped by the review's analytical focus on primary healthcare, intercultural dialogue, and climate change; Conceptual sources will be mapped interpretatively to identify theoretical contributions and bridge gaps across domains. Descriptive quantitative transformations: A basic descriptive summary will be generated using Microsoft Excel to characterise the included studies by: Methodological design; Year of publication; Geographic focus; Type of health professionals involved; Sociocultural profile of the studied population; Thematic focus (e.g., intercultural mediation, climate-health impacts, etc.); These variables will be tabulated and visualised to support the interpretation of patterns and knowledge gaps. All transformations will be transparently documented and will inform both the synthesis and the final presentation of results.

Missing data

When specific data points cannot be extracted from a given source, and no sufficient information is available in the publication, these will be recorded as missing, without imputation or substitution. No direct contact with study authors is planned. This decision reflects both the exploratory nature of the review and the inclusion of theoretical and grey literature, for which author contact may not be feasible or appropriate. Rather than being treated solely as a technical issue, missing data will be interpreted analytically, as it may reveal important silences or absences in the

literature—particularly in relation to sociocultural diversity, climate vulnerability, or systemic asymmetries in healthcare reporting. These gaps will be documented and critically examined in the synthesis.

Data validation

Data validation will be carried out through multiple complementary strategies tailored to the qualitative and integrative nature of this review: A subset (minimum 10%) of the extracted data will be independently reviewed by both academic supervisors to ensure internal consistency and accuracy; Studies will be examined for coherence between aims, methods, and conclusions, and for contextual and thematic relevance in relation to the review’s guiding framework; Sources will be screened for known retractions or integrity concerns, and, where necessary, excluded from the final synthesis; In theoretical and grey literature, data “validity” will be assessed through critical appraisal of argument structure, conceptual clarity, and epistemological positioning, rather than empirical metrics; In cases where studies present conflicting data or ambiguous framing, the review will triangulate findings conceptually by comparing across sources and explicitly noting contradictions or inconsistencies in the final synthesis. Rather than enforcing rigid exclusion criteria, the validation process will serve to contextualise and qualify the interpretative weight of each source, in line with the reflexive and critical goals of the review.

Quality assessment

A flexible and critical approach will be adopted to assess the quality and risk of bias of the included studies. The Mixed Methods Appraisal Tool (MMAT, 2018) will be used as the primary reference for empirical literature. This tool will be applied reflectively rather than rigidly, in line with the interdisciplinary and exploratory nature of the review. All appraisal decisions will be recorded in MAXQDA and independently verified by one of the academic supervisors. In addition, a set of qualitative appraisal criteria will be applied, including: the positionality of authors, coherence between research aims and methods, and the contextual relevance of findings—particularly in relation to power asymmetries, sociocultural dynamics, and representation. Given the inclusion of qualitative, theoretical, and grey literature, no formal assessment of reporting bias (e.g., publication bias) will be conducted. Instead, the synthesis will

reflect critically on omissions, silences, and overrepresented perspectives, especially those shaped by dominant biomedical paradigms and Global North epistemologies. For theoretical and conceptual works, a bespoke appraisal framework will be employed, drawing on established principles of conceptual and critical analysis. Criteria will include: internal coherence and logical consistency; conceptual clarity and precision; relevance to the review's guiding questions; epistemological positioning; and potential to connect the three thematic domains (healthcare, intercultural dialogue, and climate change). This appraisal process will not be used for exclusion, but rather to inform the interpretation and synthesis of the included literature in a transparent and reflexive manner.

Synthesis plan

Given the qualitative and integrative nature of the review, a quantitative synthesis (e.g., meta-analysis) is not appropriate and will not be conducted. Instead, a thematic and narrative synthesis will be undertaken. The synthesis will be structured around three interconnected thematic blocks: healthcare, intercultural dialogue, and climate change. Using inductive thematic analysis in MAXQDA 24, the included studies will be coded and grouped into emerging analytical categories. These categories will then be interpreted in relation to the review objectives, with particular attention to sociocultural, epistemological, and contextual dimensions. In addition, a descriptive quantitative summary will be provided, including counts of studies by methodology, year of publication, geographic setting, and other relevant characteristics such as thematic focus, type of health professionals involved, and sociocultural profiles of the populations studied. This mapping will support the interpretation of patterns and knowledge gaps within literature. Findings will be presented narratively and, where appropriate, summarized in thematic tables and visual overviews. No formal subgroup or sensitivity analyses are planned, but the synthesis will include a reflexive examination of contrasting perspectives and underrepresented voices.

Criteria for conclusions / inference criteria

As this is a qualitative and exploratory review, no inferential statistical criteria (e.g., effect sizes or significance thresholds) will be applied. Instead, conclusions will be drawn based on: The emergence of robust analytical categories through inductive

thematic analysis; The recurrence, diversity, and interpretative depth of the themes identified across studies; The contextual, conceptual, and epistemological relevance of each contribution in relation to the review's guiding questions; Where applicable, a flexible notion of conceptual saturation will guide the thematic synthesis — i.e., when no substantially new insights emerge from additional data; Attention will also be given to contradictions, silences, and underrepresented perspectives, which will be critically discussed rather than excluded. The review will privilege analytical coherence, reflexivity, and inclusiveness over rigid thresholds, consistent with its aim to explore the intersection of climate change, health, and intercultural dialogue in primary care contexts.

Synthesist blinding

No formal blinding procedure will be implemented for the synthesis phase. The lead reviewer (Nídia Ponte) will conduct the full synthesis process, with analytical categories emerging inductively from the data. As this is a qualitative, exploratory, and critically reflexive review, synthesist blinding is not applicable in the conventional sense. However, potential bias will be mitigated through the following measures: Transparent documentation of analytical decisions in MAXQDA, including coding memos and audit trails; Collaborative validation with both academic supervisors, who will review and discuss emerging themes and interpretations; Reflexive engagement with the data, including attention to the positionality of the synthesist and the influence of dominant paradigms. Rather than aiming for mechanical neutrality, the review adopts a reflexive approach to synthesis, acknowledging and critically examining the influence of values, perspectives, and contextual framing on interpretation.

Synthesis reliability

The synthesis will be conducted by a single lead reviewer (Nídia Ponte). No formal procedure for independent synthesis will be implemented. However, synthesis reliability will be strengthened through collaborative validation, as both academic supervisors (also co-authors) will: Review a sample of the coded data and emerging themes; Participate in critical discussions to refine analytical categories and ensure interpretative consistency; Provide oversight on the integration of empirical and theoretical sources. All coding and synthesis decisions will be documented in

MAXQDA, including coding memos and thematic matrices, to enhance transparency and facilitate auditability. The process prioritises reflexive rigour, analytical coherence, and epistemological awareness over procedural standardisation.

Synthesis reconciliation procedure

As the synthesis will be conducted by a single reviewer, formal reconciliation between independent synthesists is not applicable. However, interpretative discrepancies and analytical ambiguities will be addressed collaboratively through regular discussions with the two academic supervisors (who are also co-authors of the review). These discussions will serve to: Refine emerging themes and category boundaries; Ensure epistemological coherence across sources; Clarify areas of interpretative tension or divergence. All modifications resulting from these discussions will be documented in MAXQDA coding memos and reflected in the final synthesis narrative. This approach reinforces reflexive consistency and critical engagement with the material, rather than seeking mechanical agreement.

Publication bias analyses

No formal analysis of publication bias will be conducted. This decision reflects the qualitative, critical, and exploratory nature of the review, which includes not only empirical studies but also theoretical and grey literature. As such, standard publication bias tests (e.g., funnel plots, Egger's regression) are not applicable. Instead, the review will integrate a reflexive discussion of potential structural biases, including: The underrepresentation of Global South contexts or culturally marginalised perspectives; The prevalence of biomedical framings over culturally grounded or community-centred approaches; The relative absence of interdisciplinary and practice-based contributions. These dimensions will be critically addressed in the synthesis, contributing to a broader understanding of epistemological and representational imbalances in the field.

Sensitivity analyses / robustness checks

No formal sensitivity analyses or statistical robustness checks will be conducted, as this is a qualitative and integrative review. However, the robustness of the synthesis will be supported through: Iterative coding and the refinement of themes during the inductive analysis in MAXQDA; Collaborative discussion of interpretative tensions

with the academic supervisors; Reflexive engagement with divergent findings, omissions, and inconsistencies across studies; Documentation of critical silences and overrepresented voices, particularly regarding sociocultural diversity and climate-health interactions. This approach is consistent with the review's epistemological orientation and its emphasis on conceptual richness, inclusiveness, and analytical transparency.

Synthesis procedure justification

The synthesis procedures were designed to balance pragmatic feasibility with analytical and epistemological rigour, in alignment with the qualitative and critical nature of the review. Planned transformations include inductive thematic coding of extracted qualitative data using MAXQDA 24, complemented by a descriptive mapping of study characteristics in Excel. These transformations are justified by the review's aim to explore intersecting themes across diverse types of literature and methodologies. Missing data will not be imputed, and the absence of information will be treated as analytically meaningful, with attention to patterns of silence, exclusion, or representational imbalance. Inference criteria will be based on the emergence and interpretative richness of themes, their relevance to the review questions, and conceptual coherence across sources. No pre-specified thresholds or quantitative cut-offs will be used, consistent with the review's reflexive and exploratory orientation. Blinding procedures will not be implemented, given that the synthesis is conducted by a single reviewer. However, reflexivity and bias mitigation will be ensured through collaborative validation with two academic supervisors, who will review and discuss emerging categories and help interpret conflicting or ambiguous data. While formal synthesis reliability tests or reconciliation protocols are not planned, thematic refinement will occur iteratively through coding rounds and supervisor input. This strategy supports transparency, coherence, and fidelity to the review's interdisciplinary aims. In sum, the synthesis process is designed to support methodological transparency, conceptual depth, and epistemological inclusivity, prioritising insight and critical engagement over mechanical reproducibility.

Synthesis data management and sharing

All synthesis outputs will be managed and stored using MAXQDA 24 for qualitative analysis and Microsoft Excel (.xlsx) for descriptive mapping and data

tabulation. The following synthesis materials are planned for sharing via the associated OSF project repository: Thematic coding frameworks and matrices (exported from MAXQDA in .xlsx or .pdf format); Coding memos and analytical notes (.docx or .txt); Descriptive summary tables of included studies (.xlsx); Narrative synthesis outputs (.pdf). These files will be uploaded following the completion of the review and subject to a temporary embargo until the related scientific publication is finalised. Once published, access will be unrestricted under a CC BY-NC-SA 4.0 licence. No analysis scripts or statistical models are used, as the synthesis is qualitative and interpretative. However, all outputs will be documented in a transparent format to support reuse, verification, and future secondary analysis.

Miscellaneous synthesis details

This review adopts a three-block thematic mapping strategy, organised around the axes of primary healthcare, intercultural dialogue, and climate change. This structure facilitates the identification of both isolated contributions and areas of thematic intersection, supporting an integrative and context-sensitive synthesis. Special attention will be paid to the dialogue between empirical and conceptual sources, allowing theoretical insights to inform the interpretation of practice-based findings. Literature that bridges epistemological traditions or proposes alternative framings of health, vulnerability, or adaptation will be highlighted. Furthermore, the synthesis will incorporate a critical reflection on the review process itself, including how inclusion and exclusion decisions, coding categories, and thematic clusters may have been shaped by broader structural and disciplinary dynamics. Where relevant, tensions and ambiguities will be preserved rather than resolved, in order to foreground complexity and encourage further scholarly engagement.